

## Academic Affairs

203 Bricker Hall, 190 North Oval Mall, 292-5881

### 194 Interdisciplinary Group Studies U 1-5

Study of special or interdisciplinary topics at an introductory level.

Prereq: Open to students who meet instructors stated prerequisites. This course is graded S/U.

## Accounting and Management Information Systems

400 Fisher Hall, 2100 Neil Avenue, 292-9368

### 211 Introduction to Accounting U 5

Preparation and use of accounting reports for business entities; focus on uses of accounting for external reporting, emphasizing accounting as a provider of financial information.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq or concur: Econ 200 or equiv. Not open to students with credit for 201 or 310 or equiv. This course is available for EM credit.

### H211 Honors Introduction to Accounting I U 5

Structure of accounting information; role of accounting and auditing in markets and organizations; preparation and use of accounting reports. Uses distinctive instructor-authored materials and writing assignments, and emphasizes oral class participation.

Au Qtr. 2 2-hr cl. Prereq: Permission of Honors Accounting Director.

### 212 Introduction to Accounting U 5

The uses of accounting reports in management decisions and in control of business operations; focus is on the internal use of accounting information.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 211 or equiv; and Econ 200 or equiv. Not open to students with credit for 201 or 310 or equiv. This course is available for EM credit.

### H212 Honors Introduction to Accounting II U 5

Cost measurement, estimation and control; managerial decision making and evaluation. Emphasizes analytical skill development and relationship of accounting to the economic theory of the firm.

Wi Qtr. 2 2-hr cl. Prereq: B or better in H211 or permission of Honors Accounting Director.

### 310 Foundations of Accounting U 5

A survey of accounting for non-business students; financial statements and analysis; accounting for assets, liabilities and owners equity; and elements of managerial accounting.

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Math 130; Econ 200 and CS&E 100 or equivalents. Not open to students with credit for Acct&MIS 201, 211 or 212 or to students enrolled in the BSBA program. Credit does not count toward the BSBA degree.

### 493 Individual Studies U 1-10

Individual study projects in selected areas in accounting and management information systems.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

### 494 Group Studies U 1-10

Group study projects in selected areas in accounting and management information systems.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

### 501 Accounting and Cost Analysis U G 3

An introduction to financial statement analysis and cost analysis for planning, decision-making, and control.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: Ind Eng 500 and 504 or permission of instructor.

### H519 Honors Intermediate Accounting U 5

Introduction to intermediate financial accounting topics.

Sp Qtr. 3 cl. Prereq: B or better in H212 or permission of Honors Accounting Director.

### H520 Honors Intermediate Accounting II U 5

Study of theory and practice of financial accounting.

Au Qtr. 3 cl. Prereq: B or better in H519 or permission of Honors Accounting Director. Not open to students with credit for 521, 522, or 523.

### 521 Financial Accounting I U G 3

Introduction to financial accounting theory and practice; determination of asset and liability valuation and income measurement and its relation to market frictions.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 212 and Bus-Mgt 330 and 331; or

permission of instructor.

### 522 Financial Accounting II U G 3

Application of accounting techniques and theory to recording and reporting of financial data; emphasis on collection, summarization, and reporting of data in accordance with generally accepted accounting principles.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 521, Bus Adm 499.

### 523 Financial Accounting III U G 3

Application of accounting theory in complex situations; emphasis on cash flows, leases, error corrections and shareholder's equity.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 522.

### 525 Cost Accounting U G 5

Managerial decision making in organizations with an emphasis on the use of financial data; theory and practice of management control.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 521 (or 212 and Math 152) and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

### H525 Honors Cost Accounting U G 5

Role of accounting in business planning and control; activity costing; strategic cost management.

Wi Qtr. 2 2-hr cl. Prereq: B or better in H520; and Bus-Mgt 330 or 331 or permission of Honors Accounting Director.

### 532 Foundations of Business Information Systems U G 5

Technical foundation in programming interactive business information systems.

Wi Qtr. 2 2-hr cl. Prereq: 212 and Cptr/Inf 214 and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

### 624 Advanced Accounting U G 4

Advanced topics in financial reporting including accounting for multi-corporate business entities, international operations, and government and not-for-profit organizations.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H624 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 523 or equiv.

### 626 Tax Accounting I U G 4

Fundamentals of the federal income tax, and how it influences taxpayer decisions. Emphasis is on individuals and businesses organized as proprietorships, but the rules generally applicable to all taxpayers are covered.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H626 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 521 or equiv and Bus Adm 499.

### 627 Auditing Principles and Procedures U G 4

Basic concepts and standards of auditing; audit procedures and working papers; internal and external audit reports.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H627 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 523 or equiv.

### H628^ Accounting Research and Practice U G 4

Researching accounting concepts and standards underlying corporate and noncorporate financial statements including consideration of typical accounting problems.

4 cl. Prereq: Sr standing and be enrolled in an Honors Program or permission of instructor.

### 631 Introduction to Accounting Information Systems U G 5

The design and control of computer-based accounting information processing systems.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H631 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 212 and Cptr/Inf 200 and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor. Not open to students with credit for 531.

### 634 Topics in Financial Accounting U G 4

Contemporary topics in financial accounting and analysis. Topics may vary.

Sp Qtr. H634 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 634: 522. Prereq for H634: H520.

### 636 Tax Accounting II U G 4

Intensive study of the federal income tax treatment of business corporations and partnerships, with particular attention to tax planning by these businesses and their owners.

Au, Sp Qtrs. 2 2-hr cl. Prereq: 522 and 626 or equiv.

### 646^ Tax Research Seminar U G 3

Case studies requiring an in-depth examination of the tax aspects of situations frequently encountered by businesses and individuals.

3 cl. Prereq: 626 and permission of instructor.

# Accounting and Management Information Systems

## 651\* Analysis and Design of Management Information Systems U G 4

Investigation and application, through real-world projects, of concepts and tools used in the analysis and design of management information systems.  
2 2-hr cl. Prereq: Cptr/Inf 516 and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

## 653 Business Data Communications U G 4

Study of technological, economic, and organizational issues concerning computer based networks for business data communications.  
2 2-hr cl. Prereq: Jr or sr standing as an Information Systems major in BUS and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

## 657 Decision Support and Expert Systems U G 4

Study of computer-based systems designed to support decision-making within the organization.  
Sp Qtr. 2 2-hr cl. Prereq: CS&E 616 and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

## 658 Electronic Commerce U 4

Examination of technical, managerial, and strategic issues that surround the emergence of electronic commerce on the internet.  
Sp Qtr. 2 2-hr cl. Prereq: 532 or CS&E 670; and Bus-Mgt 330 and 331 and Bus Adm 499.

## 659 Information Systems Planning and Management U G 4

Planning and management of the information system function in business organizations with emphasis on the problems involved.  
Au Qtr. 2 2-hr cl. Prereq: CS&E 200 and 214, sr or grad standing, and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

## 693 Individual Studies U G 1-10

Individual study projects in selected areas of accounting and management information systems.  
Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

## 694 Group Studies

Group study projects in selected areas of accounting and management information systems.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

### 694.01 Group Studies U G 1-10

Repeatable to a maximum of 15 cr hrs.

### 694.02 Group Studies U G 1-10

Repeatable to a maximum of 15 cr hrs.

### 694.03 Group Studies U G 1-10

Repeatable to a maximum of 15 cr hrs.

### 694.04 Group Studies U G 1-10

Repeatable to a maximum of 15 cr hrs.

### 694.05 Group Studies U G 1-10

Repeatable to a maximum of 15 cr hrs.

## H783 Honors Research U 1-5

Special topics research in accounting and/or management information systems; research evaluated through papers, thesis, and/or special examinations.  
Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing in business, 3.40 cumulative pt-hr ratio, and permission of instructor. Repeatable to a maximum of 15 cr hrs.

## 803 Foundations of Accounting G 5

Fundamental accounting concepts and theory; emphasis on information content approach by examining the structure, language and comparative advantage of accounting reports as an information source.  
Wi Qtr. 2 2-hr cl. Prereq: Enrollment in Master of Accounting Program or permission of instructor.

## 804 Professional Research in Accounting G 5

Research and communication skills in a professional accounting context; learn to use various accounting information resources; enhance communication and teamwork skills through collaborative exercises.  
Au Qtr. 2 2-hr cl. Prereq: Enrollment in Master of Accounting Program or permission of instructor.

## 821 Accounting and Legal Environments Facing Corporations G 4

Applications to accounting, corporate finance, business strategy, statistics, and securities law theory to issues and problems in corporate governance.  
Sp Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 822 Assurance Services and Information Quality G 5

Examination of the role of assurance services in enhancing the quality of information used for financial decision making, focusing on the perspective of the decision-maker.  
Wi, Sp Qtrs. 2 2-hr cl. Prereq: Enrollment in the Master of Accounting program and completion of 627 or equiv, or permission of instructor.

## 823 Managerial Accounting for Decision Making G 4

Cost systems with emphasis on the appropriate application of system outputs to management decisions.

Sp Qtr. 2 2-hr cl. Prereq: 811 or MBA 801 or 802 or permission of instructor.

## 824 Corporate Financial Reporting G 4

An examination of major aspects of corporate financial reporting by management under generally accepted accounting principles including coverage of disclosures required for traded securities.

Au Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 825 Accounting Information in Markets and Organizations G 5

A conceptual approach to the use of accounting information and management controls in markets and decentralized organizations. Integration of practice and theory.

Wi Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 826 Tax Planning for Managerial Decision Making G 4

Examination of the impact of taxes on several important business decisions; recognition of tax problems and planning opportunities.

Wi Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 827 Information, Incentives, and Control System Design G 4

Aspects of organizations impacting the design, implementation, and revision of management control systems for private and public enterprises including discussion of responsibility centers, transfer pricing, planning, budgetary reporting, incentive compensation, operational auditing, and the impact of taxation on decision-making.

Sp Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 828 Financial Information and Valuation G 4

Valuation of securities, companies and debt using accounting based models of valuation such as price-to-book models, price-to-earnings models, earnings forecasts and EVA.

2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 829 Financial Accounting Analysis G 4

Analyze the ability of accrual accounting to provide relevant statistics in an uncertain economic environment.

Wi Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 834 Corporate Information Systems Management G 4

Case studies of the impacts of information technology on business organizations and its effective planning and control.

Au Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 835 Systems Analysis and Design for Managers G 4

Practical experience in software development for managers of business systems.

Au Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 837 Management of Corporate Data Resources G 4

Investigation of concepts and techniques for data management with emphasis on planning and administrative issues and on the linkage between data and corporate strategy.

Au Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 838 Emerging Technologies and Electronic Commerce G 4

Provide an understanding of the opportunities, potential threats and important issues surrounding electronic commerce and emerging technologies.

Sp Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 841 Accounting for Mergers and Acquisitions G 4

Study of complex financial transactions including business combinations, impairment of acquisition-related intangibles, restructurings, special purpose entities, foreign operations, derivatives and hedges.

Sp Qtr. Prereq: MBA 800 or enrollment in Master of Accounting program or permission of instructor.

## 842 Financial Statement Analysis G 4

Analysis of financial statement information for purposes of valuing a company.

Wi Qtr. 2 2-hr cl. Prereq: 804 or written permission of instructor.

## 845 Controllership G 3

The accounting executive's role in the management of an enterprise; accounting data for planning, coordination, control, and protection.

Sp Qtr. 3 cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor.

## 846 Business Taxation and Tax Planning G 4

Intensive study of the federal income tax treatment of business corporations and partnerships, with particular attention to tax planning by these businesses and their owners.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 626, 826, enrollment in Master of Accounting program, or permission of instructor.

## 847 Securities Law for Graduate Accounting Students G 4

Aspects of law related to financial reporting and the practice of accounting.

Wi Qtr. Prereq: Enrollment in Master of Accounting program or permission of instructor.

## 848 Financial Instruments, Derivatives, and Hedging G 4

Accounting and management aspects of derivative financial instruments including options, forwards and futures.

Sp Qtr. 2 2-hr cl. Prereq: Enrollment in Master of Accounting program or permission of instructor.

## 852 Governmental and Non-Profit Accounting G 4

The application of accounting principles to governments and other not-for-profit entities; problems relating to funds, appropriations, and budgetary controls.

Au Qtr. 2 2-hr cl. Prereq: MBA 800 or 800N or enrollment in Master of Accounting program or permission of instructor. Not open to students with credit for PubPol&M 852. Cross-listed in Public Policy and Management.

## 856 Professional Research in Taxation G 4

In-depth examination of the tax aspects of situations frequently encountered by businesses and individuals.

Sp Qtr. 2 2-hr cl. Prereq: 846 or written permission of instructor.

## 861 Fraud Examination G 4

Study of individual business fraud, weaknesses in business controls, and mechanisms to prevent, detect, and respond to business fraud.

Wi Qtr. Prereq: Enrollment in Master of Accounting program or permission of instructor.

## 862 Financial Fraud Detection G 4

Techniques for detecting financial statement fraud including detection of asset misappropriation and fraudulent financial reporting.

Sp Qtr. Prereq: Enrollment in Master of Accounting program or permission of instructor.

## 866 Advanced Topics in Taxation G 1-4

Examination of tax effects on business transactions. Topics include international and state/local taxation, exempt entities, family tax planning, conglomerates, and choice of tax entity.

Wi, Sp Qtrs. Prereq: 846 or permission of instructor. Repeatable to a maximum of 4 cr hrs.

## 876 Case Studies in Taxation G 1-4

Analysis of case studies from a tax perspective: choice of entity, international transactions, financial and succession planning.

Su, Sp Qtrs. Prereq: 846 and 856, or permission of instructor. Repeatable to a maximum of 4 cr hrs.

## 893 Individual Studies G 1-6

Individual study projects in related areas in Accounting and Information Systems.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Open only to graduate students. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

## 894 Group Studies

Group study projects in selected areas of accounting and management information systems.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

### 894.20 Group Studies G 1-5

Repeatable.

### 894.21 Group Studies G 1-5

Repeatable.

### 894.22 Group Studies G 1-5

Repeatable.

### 894.23 Group Studies G 1-5

Repeatable.

### 894.24 Group Studies G 1-5

Repeatable.

### 894.26 Group Studies G 1-5

Repeatable.

### 894.28 Group Studies G 1-5

Repeatable.

## 894.29 Group Studies G 1-5

Repeatable.

## 894.30 Group Studies G 1-5

Repeatable.

## 894.31 Group Studies G 1-5

Repeatable.

## 894.32 Group Studies G 1-5

Repeatable.

## 900 Seminar in Accounting G 5

Examination of theoretical and empirical research in accounting and management information systems.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Intended for students enrolled in a PhD program.

## 998 Research in Accounting: Thesis G 1-18

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## 999 Research in Accounting: Dissertation G 1-18

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

# Aeronautical and Astronautical Engineering

328 Harold A. Bolz Hall, 2036 Neil Avenue Mall, 292-2691

## 200 Introduction to Aerospace Engineering I U 5

Introduction to aerospace design, with emphasis on aerodynamics and aircraft performance.

Au Qtr. 4 cl, 1 2-hr lab. Prereq or concur: Math 152, Physics 131, and a minimum cumulative pt-hr ratio of 2.00. This course is available for EM credit.

## 201 Introduction to Aerospace Engineering II U 5

Introduction to aircraft stability; propulsion integration; introduction to astronautics.

Wi Qtr. 4 cl, 1 2-hr lab. Prereq: 200 and a minimum cumulative pt-hr ratio of 2.00. This course is available for EM credit.

## 405 Thermodynamics U 4

Introduction to the properties and behavior of aerodynamic fluids from microscopic and macroscopic points of view.

Sp Qtr. 4 cl. Prereq: 201.

## 414 Applications of Differential Equations in Aerospace Engineering U 2

Applications of differential equation methods learned in Math 414 to problems arising in aerospace engineering.

Sp Qtr. 2 cl. Prereq: 201, Math 254. Concur: Math 414. Open only to students who are enrolled in Math 414.

## 510 Aerospace Laboratory

Laboratory demonstrations and experiments in aerodynamics, aeroelasticity, propulsion, and structures of flight vehicles.

1 4-hr lab. Open only to Aero Eng majors.

### 510.01 Aerospace Laboratory I U 2

Laboratory experiments in structures, dynamics and control.

Au Qtr. Prereq: 542, 581 and a second writing course.

### 510.02 Aerospace Laboratory II U 2

Laboratory experiments in gas dynamics and propulsion.

Wi Qtr. Prereq: 530, 550, 560 and a second writing course.

### 510.03 Aerospace Laboratory III U 2

Laboratory experiments in data acquisition, signal processing and aerodynamics.

Sp Qtr. Prereq: 560, 581 and a second writing course.

## 512 Systems Integration I U 1

Integration of material from structures, fluids and dynamics courses by means of industrially relevant design projects.

Au Qtr. 1 2-hr lab. Concur: 520, 530, 542.

## 513 Systems Integration II U 1

Integration of material from structures, fluids and dynamics courses by means of industrially relevant design projects.

Wi Qtr. 1 2-hr lab. Concur: 543, 560.

## 514 Systems Integration III U 1

Integration of material from heat transfer and propulsion courses by means of industrially relevant design projects.

Sp Qtr. 1 2-hr lab. Concur: 550, 570, 581, Elec Eng 300.

# Aeronautical and Astronautical Engineering

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## 515 Preliminary Design of Flight Vehicles I

Beginnings of preliminary design, methodology, case studies, introduction of design software, group planning for subsequent design effort.

Au Qtr. 2 3-hr labs. Prereq: 521, 543, 550, 560. Not open to students with credit for 515.

### 515.01 Preliminary Design of Atmospheric Flight Vehicles I U 3

Design of atmospheric flight vehicles and components.

### 515.02 Preliminary Design of Space Flight Vehicles I U 3

Design of space flight vehicles, systems and components.

## 516 Preliminary Design of Flight Vehicles II

Continuation of preliminary design from 515. Students learn to utilize CAD and other computational tools as a part of the design process.

Wi Qtr. 2 3-hr labs. Not open to students with credit for 516.

### 516.01 Preliminary Design of Atmospheric Flight Vehicles II U 3

Design of a vehicle for atmospheric flight.

Prereq: 515.01.

### 516.02 Preliminary Design of Space Flight Vehicles II U 3

Design of space flight vehicles, systems and components.

Prereq: 515.02.

## 517 Detailed Design of Flight Vehicles

Detailed design of aerospace vehicle components.

Sp Qtr. 2 2-hr labs. Not open to students with credit for 517.

### 517.01 Detailed Design of Atmospheric Flight Vehicles U 2

Detailed design of a vehicle for atmospheric flight.

Prereq: 516.01.

### 517.02 Detailed Design of Space Flight Vehicles U 2

Detailed design of space flight vehicles, systems and components.

Prereq: 516.02.

## 520 Flight Vehicle Dynamics U G 4

Introduction to the concept of dynamic stability and to the dynamics of rigid aircraft and satellite vehicles.

Au Qtr. 4 cl. Prereq: 201, Mech Eng 430.

## 521 Linear Systems Engineering U G 4

Analysis of a flight vehicle from a systems point of view. Free and forced response. Introduction to closed-loop and open-loop systems.

Sp Qtr. 4 cl. Prereq: 520, 581, Elec Eng 300, Elec Eng 309.

## 530 One-Dimensional Gasdynamics U G 4

One-dimensional gasdynamics, including flow with friction and heat conduction, but with an introduction to oblique shocks and Prandtl-Meyer flows.

Au Qtr. 4 cl. Prereq: 201, 405.

## 542 Flight Vehicle Structures I U G 4

Load distributions, temperature distributions, and allowable stresses for flight vehicle structures; derivations of basic equations for analysis of flight vehicle structural components.

Au Qtr. 4 cl. Prereq: Mech Eng 410, MatSc&En 205, concur: 581.

## 543 Flight Vehicle Structures II U G 4

Stress analysis of flight vehicle structures.

Wi Qtr. 4 cl. Prereq: 542.

## 550 Principles of Flight Vehicle Propulsion U G 4

Fundamentals of aerospace propulsion including engine cycles and analysis of various air-breathing engines and rocket engines.

Sp Qtr. 4 cl. Prereq: 530.

## 560 Fundamentals of Aerodynamics U G 4

Fundamentals of low- and high-speed inviscid aerodynamics.

Wi Qtr. 4 cl. Prereq: 530, 581.

## 570 Viscous Flow and Heat Transfer U G 4

Fundamentals of viscous flow, laminar and turbulent boundary layers, aerodynamic heating, effects of body forces and elements of radiative transfer.

Sp Qtr. 4 cl. Prereq: 560, 581.

## 580 Analytical Methods in Aeronautical and Astronautical Engineering U G 4

Application of selected topics in mathematics to analysis in the field of aeronautical and astronautical engineering.

Sp Qtr. 4 cl. Prereq: 201 and Math 415.

## 581 Numerical Methods in Aerospace Engineering U 3

Application of numerical methods to selected topics in the field of aerospace engineering.

Au Qtr. 3 cl. Prereq: En Graph 167, 580.

## 612 Aircraft Flight Test Engineering U G 4

A determination of the performance, stability, controllability, and handling qualities of general aviation aircraft through flight tests.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 520 and 560, or equivs with permission of instructor.

## 615 Introduction to Computational Aerodynamics U G 4

Introduction to computational methods used in aerodynamic flow problems; applications to airfoil analysis and design.

Wi Qtr. 4 cl. Prereq: 560, 581 and En Graph 167, or equivs.

## 616 Advanced Aerospace Vehicle Design U G 3

Configuration formulation, performance and analysis, propulsion system design and integration, material selection, structural efficiency, CAD/CAM, computer simulations.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 518, 516 or permission of instructor. Repeatable to a maximum of 9 cr hrs.

## 620 Automatic Control of Aerospace Vehicles I U G 3

Control theory as applied to analysis and design of flight control systems; components of automatic flight control systems.

Wi Qtr. 3 cl. Prereq: 521 and Elec Eng 300.

## 621 Aircraft and Spacecraft Automatic Control Systems II U G 4

Control theory as applied to analysis and design of control systems for complex flight structures; interaction between structural flexibility and control systems.

Wi Qtr. 4 cl. Prereq: 521.

## 626 Orbital Mechanics U G 3

Satellite orbit analysis and interplanetary missions.

Au Qtr. 3 cl. Prereq: 201, 520, Mech Eng 430.

## 645 Introduction to Structural Dynamics of Aerospace Vehicles U G 3

Dynamics of flexible aircraft and spacecraft, introduction to aeroelastic phenomena, modal methods, computer implementation and simulation of motion.

Sp Qtr. 3 cl. Prereq: 521, 543, 560, Mech Eng 430.

## 661 Advanced Aerodynamics U G 3

Advanced elements of aerodynamics in low- and high-speed flow.

Au Qtr. 3 cl. Prereq: 560. Not open to students with credit for 561.

## 693 Individual Studies in Advanced Aerospace Engineering U G 2-10

Individual studies on advanced topics in aerospace engineering.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

## 694 Group Studies in Aerospace Engineering U G 1-15

Group studies on special topics in aerospace engineering.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 15 cr hrs.

## 720 Stability and Control of Flight Vehicles U G 4

Modern methods of system response analysis, root-locus analysis, and Liapunov stability analysis.

Sp Qtr. 4 cl. Prereq: 521.

## 745\* Aeroelasticity I U G 4

Dynamic loads analysis of elastic flight vehicles subjected to unsteady airloads.

Sp Qtr. 4 cl. Prereq: 521, 543 and 560.

## 751\* Advanced Propulsion U G 4

Characteristics and performance of air breathing flight vehicle power plants and their components (inlets, turbo-machinery, combustors, and expansion nozzles).

Au Qtr. 4 cl. Prereq: 550.

## 752 Rocket Propulsion U G 3

A discussion of all propulsion types for space flight: liquid, solid, hybrid, nuclear and electric. Emphasizes fundamentals of each technique, and trade-offs in engine selection and design.

Sp Qtr. 3 1-hr cl. Prereq: 550.

## 760 Advanced Compressible Flow U G 4

Two-dimensional supersonic flow theories.

Sp Qtr. 4 cl. Prereq: 561 or equiv.

## 771 Aerodynamics of Viscous Compressible Flows U G 4

Analysis of laminar boundary layers in high speed flows. Introduction to interacting boundary-layer theory and triple-deck theory, three-dimensional boundary layers.

Wi Qtr. 4 cl. Prereq: 570.

**775\* Hypersonic Flows I U G 4**

Introduction to the analysis of inviscid hypersonic flow fields.  
Au Qtr. 4 cl. Prereq: 561.

**H783 Honors Research U 1-5**

Supervised research and project work arranged individually for honors students.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Sr, honors standing, permission of instructor. Repeatable to a maximum of 12 cr hrs. Limitations on numbers of credit hours applicable toward degree are governed by departmental rules. This course is graded S/U.

**800 Theory of Deformation and Flow G 3**

General treatment of the basic principles underlying the mechanics of deformable media from macroscopic point of view.

Au Qtr. 3 cl. Prereq: 543, 560, and 570 or equiv. Required of all first yr grad students.

**801 Deformation of Aerospace Structures G 3**

Application of the unifying theories and principles of solid and fluid mechanics to vehicular structures with emphasis on aerospace structures.

Wi Qtr. 3 cl. Prereq: 800.

**802 Analytical Methods in Engineering I G 4**

Advanced methods for solution of partial differential equations with applications to fluid dynamics and heat transfer; topics include Green's function, integral transforms and asymptotic solutions.

Wi Qtr. 4 cl. Prereq: 560, 414 or equivs.

**803 Analytical Methods in Engineering II G 3**

Continuation of 802 with emphasis on the solution of singular perturbation problems.

Sp Qtr. 3 cl. Prereq: 802.

**805 Aerodynamics of Chemically Reacting Fluids G 3**

The aerodynamics of one-dimensional compressible flow with chemical reactions and wave propagation.

Au Qtr. 3 cl. Prereq: 800.

**810 Flight Vehicle Performance Analysis G 3**

Analysis of flight vehicle performance in planetary atmospheres.

Au Qtr. 3 cl. Prereq: 550 and 761.

**820 Advanced Flight Vehicle Stability and Control G 3**

Advanced studies in stability of systems, non-linear systems, Liapunov method, dynamics in extra-terrestrial atmospheres, new control methods.

Wi Qtr. 3 cl. Prereq: 720.

**842\* Advanced Structures for Flight Vehicles G 3**

Advanced analysis and design of aircraft structures and/or structural components including thermal, inelastic, and buckling effects.

Sp Qtr. 3 cl. Prereq: 543, 800.

**844 Optimal Aerospace Structural Design G 3**

Optimal design of aircraft and spacecraft structural components; emphasis on the issues of mathematical modeling of design problems for optimization and solution search techniques.

Sp Qtr. 2 1.5-hr cl. Prereq: 542, 543, and 801. Not open to students with credit for 842 given in Spring Qtrs 1990-94.

**850 Non-Equilibrium Flow Dynamics G 3**

Relaxation, dissociation, waves (sound, shock) nozzle flow and design collisional energy transfer in gases.

Sp Qtr. 3 cl. Prereq: 530 or equiv.

**851 Advanced Propulsion Problems G 3**

Combustion instability, free radicals as energy source, space propulsion problems, noise of exhaust jets, energy conversion, solid propellants, heat transfer in rocket engines, and cascade theory.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 751. Repeatable to a maximum of 9 cr hrs.

**860\* Advanced Topics in Aerodynamics G 3**

Topics to include unsteady aerodynamics, transient wave phenomena, interactive and separated flow, transonic flows.

Au Qtr. 3 cl. Prereq: 760. Repeatable to a maximum of 6 cr hrs.

**865\* Advanced Viscous Flow Theory G 3**

Three-dimensional viscous flow at low and high Reynolds number; stability theory; statistical theories of turbulence.

Wi Qtr. 3 cl. Prereq: 771 and 800.

**866\* Hydrodynamic Stability of Fluid Motions G 4**

Instability of inviscid and viscous parallel flows; thermal and centrifugal instability boundary-layer transition; and concepts of linear, nonlinear, and secondary instability analysis.

Sp Qtr. 4 cl. Prereq: 570, 800 or equiv, or permission of instructor. Not open to

students with credit for Mech Eng 866.

**868 Molecular Theory of Gas Flows G 3**

Theory of gas flows from molecular points of view.

Au Qtr. 3 cl. Prereq: 800 concur.

**873\* Computational Fluid Dynamics G 4**

Advanced numerical methods for solving Navier-Stokes equations as well as equations for inviscid and boundary layer flows.

Sp Qtr. 4 cl. Prereq: 615 or Mech Eng 707.

**875 Introduction to Turbulence G 3**

Turbulence theory fundamentals and tools used to understand the physical mechanisms involved and their application to modeling and experiment.

Sp Qtr. 3 cl. Prereq: 560, 570, 800 or permission of instructor. Not open to students with credit for Mech Eng 813 and Chem Eng 815.09. Cross-listed with Mech Eng 813 and Chem Eng 815.09.

**880 Seminar G 1**

Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable to a maximum of 15 cr hrs. Required of all grad students in aero eng. This course is graded S/U.

**889 Advanced Topics in Aeronautical and Astronautical Engineering G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies in Aeronautical and Astronautical Engineering G 1-15**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**999 Research in Aeronautical and Astronautical Engineering G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## African-American and African Studies

486 University Hall, 230 North Oval Mall, 292-3700

See also Hausa, Shona, Swahili, Twi, Yoruba, and Zulu.

**Social Problems**

See Sociol 202. Offered in cooperation with African-American and African Studies.

**Introduction to African-American Literature**

See English 281. Offered in cooperation with African-American and African Studies.

**American Ethnic Relations**

See Sociol 380. Offered in cooperation with African-American and African Studies.

**Racial and Ethnic Differentiation**

See Sociol 780. Offered in cooperation with African-American and African Studies.

**121 African Civilizations to 1870 U 5**

Exploration of the political, social, and economic history of precolonial African civilizations, using a variety of interdisciplinary approaches and materials.

Prereq: English 110 or 111 or equiv. Not open to students with credit for History 121. Cross-listed in History. GEC historical survey course.

**122 African Civilizations, 1870 to the Present U 5**

Exploration of the political, social, and economic history of colonial and independent African countries, using a variety of interdisciplinary approaches and materials.

Prereq: 121 or History 121. Not open to students with credit for History 122. Cross-listed in History. GEC historical survey course.

**154 Introduction to African American Literature U 5**

Survey of the literature of African descendants in the United States from 1750 to 1915.

GEC arts and hums lit course.

**201 Introduction to African-American and African Studies U 5**

Introduction to scholarly study of Black experience from the 15th century to the present, focusing on patterns of resistance, adaptation and cultural diversity.

Not open to students with credit for 101. GEC soc sci individuals and groups course.

# African-American and African Studies

## 208 Small Ensembles

Au, Wi, Sp Qtrs. 2 or more hrs rehearsal each wk. Prereq: Admission by audition and permission of instructor. Each decimal subdivision repeatable to a maximum of 18 cr hrs. VPA Admis Cond course.

### 208.20 African Performing Ensemble U 1

1 2-hr cl. Repeatable to a maximum of 18 cr hrs. Including cr hrs earned in 199.20, and Music 199.20 and 208.20. Cross-listed in Music.

## 218 Black Urban Experience U 5

Examination of contemporary black urban experience focused on the impact of persistent residential segregation, increasing class polarization, and the global force of hip hop culture.

GEC soc sci individuals and groups course.

## 230 The Black Woman: Her Role in the Liberation Struggle U 5

The political role of the black woman in the struggle for black freedom; examination of changing laws and customs affecting the status of black women.

GEC social diversity course.

## 243 Interdisciplinary Approaches to Race and Ethnicity in the Americas U 5

Introduction to race and ethnicity in the U.S.: how race and ethnicity have shaped American culture social thought, social institutions and inter-group relations.

Prereq: English 110 or equiv. Not open to students with credit for Comp Std 243. Cross-listed in Comparative Studies. GEC social diversity course.

## 244 Survey of African and African-Derived Music in the Western World U 3

An introduction to traditional African music and its role in the history and development of African-American music with its concomitant socio-political milieu.

Not open to students with credit for Music 244. Cross-listed in Music. VPA Admis Cond course.

## 251 Introduction to African Literature U 5

An assessment of the oral prose tradition and written prose of African literature; specific emphasis placed on student reading from primary sources.

GEC arts and hums lit course.

## 254 Themes in African- American Literature U 5

Survey of themes in the literature of African descendants in the United States from 1915 to present.

GEC arts and hums lit course.

## 261 Black-White Behavior U 5

A survey of the social significance of important behavioral elements affecting black-white relations.

SS Admis Cond course.

## 271 Contemporary Black Drama U 5

A literary analysis and discussion of plays by black playwrights in recent times.

GEC arts and hums lit course. VPA Admis Cond course.

## 288 Bebop to Doowop to Hiphop: The Rhythm and Blues Tradition U 5

Examines the aesthetic and historical evolution of Rhythm and Blues: Black music tradition including Bebop, Rock and Roll and Hiphop redefining American popular culture post WWII.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for Music 288. Cross-listed in Music. GEC arts and hums VPA and social diversity course.

## 290 Black Youth U 5

Examines how differences of race, class, gender, nation and migration influence identity and experience of Black youth.

Not open to students with credit for 690.

## 291 The Black Family U 5

Study of culturally and structurally diverse forms of Black family life through historical times and geographic space.

Not open to students with credit for 691.

## 294 Group Studies U 1-5

Groups of students are given an opportunity to pursue special studies not otherwise offered.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

## 303 Language, Race and Ethnicity in the U.S. U 5

Objective examination of the relationship between language, race and ethnicity in the context of varieties of English used by minority ethnic and racial groups in the U.S.

Prereq: English 110 or 110.01 or 110.02 or 110.03. Not open to students with credit for 305 or Linguist 303 or 305. Cross-listed in Linguistics. GEC cultures and ideas and social diversity course.

## 310 Global Perspectives on the African Diaspora U 5

Study of historical processes, key figures and ideas, and cultural expressions of the worldwide dispersion of people of African descent from different times and places.

Au, Wi, Sp Qtrs.

## 323 History of African-Americans

Cross-listed in History.

### 323.01 History of African-Americans in the Age of Slavery U 5

Origins of modern slavery; its development in the U.S.; the evolution of African-American life and culture from 1619 to the end of the Civil War.

Au, Wi Qtrs. Not open to students with credit for 223 or History 223, or 260.

### 323.02 History of African-Americans from Emancipation to the Present U 5

The rise of debt peonage among blacks; the formation of the northern ghetto; the Civil Rights Movement and beyond.

Not open to students with credit for 224, 238, or History 224, 260, or 323.02.

## 326 Black Americans and the Legal System U 5

An examination of the role of the legal system in the social and political dynamics of blacks in American society.

2 2-hr cl.

## 327 Introduction to African Politics U 5

Examination of dynamics of nation-building in African countries in transition from colonial dependencies to modern nation-states.

## 342 Music, Religion, and Ritual in Africa U 5

Survey of variety and interaction of musical and religious expressions in selective African societies, focusing on traditional contexts and contemporary Christian and Islamic examples.

H342: Wi Qtr. H342 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 101 or Music 140 or permission of instructor. Assigned/guided fieldwork projects in Columbus Metropolitan Area. GEC arts and hums cultures and ideas course.

## 345 African American Thinkers U 5

Designed to acquaint students with race, gender, class, nationality, and other ideologies embedded in American political and social institutions.

Prereq: English 110. Not open to students with credit for 545. GEC arts and hums lit course.

## 350 History of Modern Africa U 5

General survey of political, economic, and social developments in colonial and post-independence Africa.

Prereq: One 10-hr GEC historical survey sequence or permission of instructor. Not open to students with credit for History 350. Cross-listed in History.

## 351 Caribbean Literature in English U 5

A consideration of prose, poetry, and drama written by Caribbean authors focusing on Caribbean literature in English within the framework of black literature.

Sp Qtr. 5 cl.

## 361 Psychology of the Black Experience U 5

An analysis of personality theories commonly applied to black Americans and the black experience.

## 367 Second Writing Course

Prereq: English 110 or 111 or equiv, and soph standing. GEC second writing and social diversity courses.

### 367.02 African-American Theatre History U 5

Examination of the aesthetic and sociological evolution in America of African-American theatre and its literature.

Not open to students with credit for Theatre 367.02. Cross-listed in Theatre.

### 367.03 African-American Voices in U. S. Literature U 5

Discussion, analysis, and writing about issues presented through the diverse voices of African-American literature.

Not open to students with credit for English 367.03. Cross-listed in English.

### 367.04 Black Women Writers: Text and Context U 5

Writing and analysis of black women's literary representations of issues in United States social history.

Not open to students with credit for Wom Stds 215 or 367.04. Cross-listed in Women's Studies.

## 376 African-American Art U 5

The work of black African-American artists and art movements, 1920 through 1955.

Au Qtr. 2 2-hr cl. BER/LAC course.

## 378 History of Jazz I U 5

An in-depth study of the periods, trends, major performers/composers, styles and influences of jazz from its beginnings through the Swing era.

**379 History of Jazz II U 5**

Continuation of 378 from Bop through current styles.

**451^ Black Experience in Caribbean, African, and African-American Literatures U 5**

Exploration of themes, attitudes, and parallels in black literatures of Africa, the United States, and the Caribbean; emphasis on negritude and Pan-Africanism.

Prereq: Jr or sr standing.

**460 Political Thought in African Literature U 5**

A study of political thought of selected African novelists in the 20th century.

**485 Study/Travel Abroad of Africa**

A comparative study of the social, political, cultural, and economic changes in Africa and the impact on contemporary black world.

**485.01 Southern Africa Society and Culture U 5**

A study of the social and cultural developments in Southern Africa, and the environment.

Sp Qtr. 2 2-hr cl. Prereq: Enrollment or credit for English 110, and 2-quarter status. Not open to students with credit for 385.01. GEC arts and hums cultures and ideas course.

**485.02 Southern African Study Tour U 8**

A study tour of Southern Africa to accompany 485.01.

Su Qtr. Arr 3-week study tour of Southern Africa. Prereq: 485.01, enrollment or credit for English 110, and 2-quarter status. Not open to students with credit for 385.02. Students will pay all travel and subsistence costs.

**485.03 West Africa: Culture and Society U 5**

A chronological and interdisciplinary exploration into the cultures and societies of West Africa with a particular focus on the Gold Coast/Ghana.

Sp Qtr. 2 2-hr cl. Prereq: Enrollment or credit for English 110, and 2-quarter status.

**485.04 Study/Travel Abroad to West Africa (Ghana) U 8**

This course examines conflicts arising from West Africa's role in the slave trade and its post-colonial condition and discourse.

Su Qtr. Arr 3-week study tour of West Africa. Prereq: 485.03, enrollment or credit for English 110, and 2-quarter status.

**493 Individual Studies U 1-5**

Exploration of relevant subject as individually designed by student and professor.

Prereq: 20 or hrs of AfAm&ASt course work, permission of instructor, and permission of dept chair. Repeatable to a maximum of 10 cr hrs. Including cr hrs earned in 293. This course is graded S/U.

**495 Community Development in Urban African-American Districts: Field Research and Seminar U 5**

A service-learning course that draws on the principles of experiential learning by immersing students in an organized service activity that meets identified community needs.

Su, Au, Wi, Sp Qtrs. 1 2-hr cl per qtr and 30 hrs at a service learning site per qtr. Prereq: 101 or 201 and permission of course coordinator. Repeatable to a maximum of 10 cr hrs.

**504 Black Politics U 5**

Economic, political, and social constraints on the development of black political power; the efforts made by black people in recent times to organize for effective political action.

Not open to students with credit for Polit Sc 208 or 504. Cross-listed in Political Science.

**505 Language and the Black Experience U 5**

Introduction to the structure, history, and use of distinctive varieties of English used by and among many African Americans in the U.S.

Prereq: English 110 or 110.01 or 110.02 or 110.03. Not open to students with credit for English 505 or Linguist 505. Cross-listed in English and Linguistics.

**527 Pan-Africanism and Nationalism U G 5**

Modern nationalist and Pan-Africanists movements in Africa and Black Diaspora; parallels and contrasts between African political and social class protests within postcolonial black states.

**530^ African Political Systems: A Comparative Analysis U G 5**

A comparative examination of problems of nation-building and national integration faced by selected African nations in the postcolonial period.

**541 History of Islam in Africa U 5**

An examination of the history and spread of Islam in Africa and its impact on African social, economic, and political institutions.

Prereq: 121 or 122, or History 121 or 122; or grad standing. Not open to students with credit for 643 or History 541.02 or 643. Cross-listed with History 541.02.

**545 Intersections: Approaches to Race, Gender, Class, and Sexuality U G 5**

Examines intersections of race, gender, class, and sexuality in various sites within American culture (e.g., legal system, civil rights discourse, social justice movements).

Prereq: One course in afam&ast or comp std or wom stds or grad standing. Not open to students with credit for Comp Std 545 or Wom Stds 545. Cross-listed in Comparative Studies and Women's Studies.

**551 Selected Topics in African-American and Related Literatures U G 5**

Topics selected will relate to specific interests of enrolled students, who will develop an intensive analysis of the topic of their choice.

Prereq: 251 or 351. GEC arts and hums lit and social diversity course.

**555 Topics in African-American History**

Selected topics in African-American history from the origins of slavery to the present.

Prereq: One 10-hr GEC historical survey sequence and jr or sr standing, or permission of instructor. Each decimal subdivision repeatable to a maximum of 10 cr hrs, including cr hrs earned in History 555.01 and 555.02. Cross-listed in History.

**555.01^ Topics in African-American History I U G 5**

Selected topics in African-American history from the origins of African-American culture and slavery to emancipation.

Repeatable to a maximum of 10 cr hrs.

**555.02^ Topics in African-American History II U G 5**

Selected topics in African-American history from emancipation through segregation, and the Civil Rights Movement to the present.

Repeatable to a maximum of 10 cr hrs.

**561 Topics in African American Psychology U G 5**

The study of different dimensions of African and African American psychology; topics vary.

Prereq: 261, or 361 or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**565 Slavery in the Atlantic World U 5**

This course will investigate the dispersion of Africans in the Americas and will examine systems of unfree labor and slave trading throughout the Atlantic World.

**571 Images of Black People in Media Production U G 5**

The historical background of black drama in the media; development of new models for monitoring programming; the writing and production of drama.

Prereq: Jr or sr standing.

**575 History of South Africa U G 5**

An examination of the political and social developments in South Africa from the nineteenth century to the present.

Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for 675 or 537 or History 675 or 552. Cross-listed with History 552.

**582^ Studies in African-American Literature U 5**

Topic varies; examples: Neo-slave narratives; the Harlem Renaissance; literature by African-American women.

Prereq: English 110 or 111 or equiv. Repeatable to a maximum of 10 cr hrs. Including cr hrs earned in English 582. Cross-listed in English.

**H584 Literature and Modern Experience in Africa U 5**

A comprehensive view of the dominant thematic directions of African literature in the European languages, and their formal realization in aesthetic and symbolic terms.

Prereq: Any GEC second writing course (367) and enrollment in an honors program.

**595 Theorizing Race U G 5**

Introduction to issues of "race," consideration of the historical emergence and development of ideas of "race" and of racist practices, along with their contemporary formations.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: GEC second writing course or Philos 230 or jr level or above class standing or permission of instructor. Not open to students with credit for Philos 595. Cross-listed in Philosophy.

**605^ An Introduction to African-American English G 5**

Introduction to the structure and history of the varieties of English used by African-Americans and the relationship between language use and socio-cultural context.

Prereq: One linguistics course at 500-level or above. Not open to students with credit for Linguist 605. Cross-listed in Linguistics.

**693 Individual Studies U G 1-5**

Individual reading or research projects by special agreement between instructor and student.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**705 Graduate Seminar in African Society and Culture**

A critical examination of the historical, cultural, economic and socio-political realities of the African world and their impact on the contemporary landscape and environment.

**705.01 Graduate Seminar in Southern African Society and Culture G 5**

A critical examination of the historical, cultural, economic and socio-political realities of Southern Africa and their impact on the contemporary landscape and the environment.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing. Repeatable to a maximum of 10 cr hrs.

**705.02 Study Abroad to Southern Africa G 8**

A three-week study tour of selected sites of historical, cultural, economic and socio-political importance in the contemporary Southern African region.

Sp Qtr. Prereq: 705.01 and grad standing. Repeatable to a maximum of 16 cr hrs.

**705.03 Graduate Seminar in West African Society and Culture G 5**

A critical examination of the historical, cultural, economic and socio-political realities of West Africa and their impact on the contemporary landscape and environment.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing. Repeatable to a maximum of 10 cr hrs.

**705.04 Study Abroad to Western Africa G 8**

A critical examination of the historical, cultural, economic and socio-political realities of West Africa and their impact on the contemporary landscape and environment.

Su Qtr. Arr. Prereq: 705.03 and grad standing. Repeatable to a maximum of 10 cr hrs.

**710 Community Practicum in African-American and African Studies**

A two-part course in experiential learning, seeking to prepare students with the types of training and experience that go beyond the traditional coursework and classroom.

**710.01 Community Service G 5**

This course involves practical work with a community based organization.

Prereq: 756. This course is graded S/U.

**710.02 Grant Proposal Writing G 5**

Individual instruction on grant proposal writing for a specific project identified by a community agency and the student during the first part of the course.

Prereq: 756, 710.01. This course is graded S/U.

**718 Citizen Participation U G 5**

Assessment and application of techniques of organization and action in the black community.

Repeatable to a maximum of 15 cr hrs.

**725 Political Development of Sub-Saharan Africa U G 5**

The processes and problems of political change in Sub-Saharan Africa.

**730 Black Political Movements and Organizations G 5**

Analysis of black political movements and organizations from slavery to contemporary times.

Prereq: Grad standing or permission of instructor.

**732 Law, Politics and Human Rights in Africa G 5**

An examination of the interplay of law and politics in contemporary Africa, and the place of human rights in the emerging order.

Prereq: Grad standing or permission of instructor. Not open to students with credit for 632.

**734 Topics in Race and the American Legal System**

An examination of the changes over time in selected areas of American law and the consequences of those changes on the status of Black Americans.

Prereq: Grad standing or permission of instructor.

**734.01 Affirmative Action G 5**

A study of the concept of Affirmative Action including a critical examination of the arguments for and against it.

**734.02 Race and Employment G 5**

An examination of the significance of race and the application of the concept of Affirmative Action in employment.

**742 African Historiography and Methodology G 5**

The study of sources, research methods, interpretations, and research trends in the field of African history.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs. Including cr hrs earned in History 742. Cross-listed in History.

**743 Studies in African History G 5**

The study of the historical literature of Africa and various aspects of African history; topics vary.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs. Including cr hrs earned in History 743. Cross-listed in History.

**748 Contemporary Art Music Traditions of Africa and the Diaspora U G 5**

An examination of selected published and unpublished musical works by contemporary composers of sub-Saharan Africa and of African descent.

Prereq: Jr or sr or grad standing. Not open to students with credit for Music 748. Cross-listed in Music.

**750 Language and Society in Africa G 5**

A survey of the interplay between language and society in the African context.

Prereq: Grad standing or permission of instructor. Not open to students with credit for 650.

**751 Introduction to Graduate Studies in African Literature G 5**

A broad survey of the development of African literature, its variations, genres and themes.

Prereq: Grad standing or permission of instructor.

**752 Readings in African-American History U G 5**

Readings in the evolution of black culture, economics and family life, race relations, and the emergence of class stratification within the black community.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. Including cr hrs earned in History 752. Cross-listed in History.

**753 Graduate Survey in African-American and African Studies G 5**

Critical analysis of the development of African-American and African studies as a discipline and the theoretical approaches to its subject matter.

Prereq: Grad standing or permission of instructor.

**754 Methodological Perspectives in African-American and African Studies G 5**

A critical and transdisciplinary examination of methodological approaches employed in the study of the black experience in its convergent and divergent manifestations across the world.

Prereq: Grad standing.

**756 Theorizing Race and Ethnicity G 5**

Examination of the ideas and theories of race and its intersection with ethnicity.

Prereq: Grad standing or permission of instructor.

**757 Introduction to Graduate Studies in African-American Literature****757.01 Introduction to Graduate Studies in African-American Literature, 1746-1900 G 5**

A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1746 to 1900.

Not open to students with credit for English 757.01. Cross-listed in English.

**757.02 Introduction to Graduate Studies in African-American Literature, 1900 to Present G 5**

A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1900 to the present.

Not open to students with credit for English 757.02. Cross-listed with English.

**758 Comparative History of the African Diaspora**

A two-part course on the history and evolution of the African Diaspora worldwide, from ancient times to the present.

Cross-listed in History.

**758.01 Enslavement and Emancipation G 5**

Examination of the dispersal of Africans, mainly through the slave trade across the Sahara, the Indian Ocean, the Mediterranean, and the Atlantic Ocean.

Prereq: Grad standing or permission of instructor. Not open to students with credit for History 758.01.

**758.02 Post-Emancipation, Colonial and Post-Colonial Realities G 5**

Examination of social, political and cultural developments and realities in the Black world, from the period of the emancipation to the beginning of the 21st century.

Prereq: Grad standing and 758.01 or History 758.01; or permission of instructor. Not open to students with credit for History 758.02.

**759 Topics in African Diaspora Studies G 5**

A multi-disciplinary and critical examination of the origins, dimensions, and legacies of the African Diaspora. Topics will vary each term.

Sp Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**760 African Pop Culture G 5**

Examination and critique of various theories and genres of popular culture as they relate to the African situation.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.



**765 African Social Movements in the Age of Globalization G 5**

Development of social movement politics in Africa in the context of globalization and structural adjustment.

Sp Qtr. 1 5-hr cl. Prereq: Grad standing.

**774 Africa Before Colonial Rule G 5**

An examination of pre-colonial political, economic, and social systems, including material culture and agriculture.

Prereq: Grad standing or permission of instructor. Not open to students with credit for 674.

**780 Ensembles**

Study and performance of repertoire determined by student's specific ensemble.

**780.20 African Performing Ensemble G 1**

Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. Including cr hrs earned in Music 780.20. Cross-listed in Music.

**781 Topics in African Political Philosophy U G 5**

Post-colonial African conceptions of power, freedom, alienation, and cultural identity.

Prereq: Grad standing or written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**782 Modern Black Political Thought U G 5**

The historical development of black political thought from the 19th century to the present.

**H783 Honors Research U 3-5**

A program of individual study for undergraduate honor students: may include individual conferences and reports; requires presentation and oral defense of an honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing and 40 cr hrs in soc sci or hum including 20 cr hrs in AfAm&ASt with an average of B+ in AfAm&ASt courses. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**789 Performance Practices in Sub-Saharan African Music G 5**

An examination of compositional choices and performance conventions in selected musical traditions from sub-Saharan Africa.

5 cl. Prereq: Grad standing, upper undergraduate with permission of instructor. Not open to students with credit for Music 789. Cross-listed in Music.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs with permission of dept.

**810 Topics in Black Feminist Theory G 5**

Theoretical analysis of the politics and perceptions of womanhood in the black community.

2 2-hr cl. Prereq: Grad standing in Wom Stds or permission of instructor. Cross-listed in Women's Studies.

**833 Seminar in U.S./Africa Relations G 5**

A critical analysis of selected theories of American foreign policy, with special emphasis on Africa.

Repeatable to a maximum of 10 cr hrs.

**851 Seminar in Critical Approaches to Black Literatures G 5**

A close reading of major literary critical discourses that have shaped and determined the course of black literary production in Africa, North America, and the Caribbean.

Prereq: Grad standing and an introductory course in African-American/African literature; or permission of instructor. Repeatable to a maximum of 10 cr hrs. Including cr hrs earned in English 851. Cross-listed in English.

**854 Seminar in Major Black Authors G 5**

An extensive study on the works and ideas of individual writers of the black world.

Prereq: Grad standing.

**860 Seminar in Comparative Black Literature G 5**

Topics in African, African-American, and Caribbean literatures.

Repeatable to a maximum of 10 cr hrs.

**862 Mental Health in the African American Community G 5**

Theoretical and practical approaches to the problems of mental health in the black community.

Prereq: 756. Not open to students with credit for 762.

**863 Reading the African Diaspora: Methods and Approaches G 5**

Study of research ideas, strategies, methods, techniques, and tools for investigating the peoples, products and processes of the African diaspora.

Prereq: Grad standing or permission of instructor.

**865 Race, Gender and Class in the Black Community G 5**

An examination of the core influences of race, gender and class on people of African descent.

Prereq: 15 cr hrs in social/behavioral sciences or permission of instructor.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Prereq: Permission of instructor(s). Repeatable to a maximum of 15 cr hrs. with permission of dept.

**998 Research in African-American and African Studies: Thesis G 1-18**

Research for the thesis.

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

## Agricultural and Extension Education

208 Agricultural Administration Building, 2120 Fyffe Road, 292-6321

**230 Introduction to Agricultural and Extension Education U 3**

Examining and synthesizing the historical and philosophical foundations of education, extension education, and career-technical education, and relevant career options.

Wi Qtr. 2 1.5-hr cl. Not open to students with credit for 280 prior to Wi 2004. E230 may be available for honors embedded experience.

**280 Early Field Experience in Agricultural and Extension Education U 2**

Experiencing career options in agricultural and extension education.

Au Qtr. Arr. Prereq: 230; or 230D concurrently by permission of instructor. Off campus field experience.

**294 Group Studies U 1-5**

Group studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**342 Fundamentals of Personal and Professional Leadership U 5**

Designed to develop an understanding of leadership with particular emphasis on theory and practice relative to effective functioning as leaders.

Sp Qtr. 3 1.5-hr cl.

**387 Data Analysis in Applied Sciences U 5**

Application and interpretation of descriptive and inferential statistics in applied sciences associated with agriculture.

Au, Wi, Sp Qtrs. 2 2-hr cl, 1 2-hr lab. Prereq: Math 116, 130, or 148; and basic knowledge of microcomputer use. Not open to students with credit for Agr Econ 205 or AED Econ 205 or H&CS 260 or Anim Sc 260; Agronomy 210; Animl Sc 210; or Stat 125, 135, or 145. GEC course.

**420 Program Development in Extension U 3**

Understanding the history, philosophy, and development of extension programs in agriculture, home economics, 4-H/Youth development, community development and international settings.

Au Qtr. 1 2.5-hr cl. Prereq: 230.

**442 Leadership in Teams and Community Organizations U 5**

Principles and practices of leadership within teams and organizations.

Wi Qtr. 3 1.5-hr cl. Prereq: 342.

**480 Field Experience U 3**

Students intensively engage in experiential learning in off campus environments.

Sp Qtr. Arr. Prereq: 230, 280, concurrently enrolled in 530.

**489 Internship in Agricultural Occupations U 1-5**

Participation in agricultural employment experiences.

Su, Au, Wi, Sp Qtrs. Open only to department majors. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**530 Teaching Agriculture****530.01 Methods of Teaching in Non-formal Learning Environments U 5**

Examining the teaching and learning process with emphasis on planning and delivering agricultural instruction for agribusiness, extension, and non-formal learning environments.

Wi Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: Extension specialization: 230 and 280. Ag Ed minors: 230. General Studies specialization (non teachers licensing) 230. Not open to students with credit for 530.

# Agricultural and Extension Education

## 530.02 Methods of Teaching in Agricultural Education U 5

Examining the teaching and learning process with emphasis on planning and delivering of agricultural instruction in public schools.

Sp Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 230 and 280.

## 531 Experiential Education in Public Schools U 3

Examines the use of supervised agricultural experience programs and FFA activities as experiential education components of a comprehensive secondary agricultural education program.

Sp Qtr. 2 1.5-hr cl. Prereq or concur: 530. Not open to students with credit for Agr Educ 641.

## 532 Instructional Media and Technology U 3

Theory and practice in developing and using instructional media and technologies in the teaching and learning process.

Sp Qtr. 1 2.5-hr cl. Prereq or concur: 530.

## 560 Field Experience in Extension

Supervised participation in professional activities of extension personnel including clinical analysis in seminars.

Sp Qtr. 8 hrs/day for 10 wks. Prereq: 530, minimum CPHR 2.50. Application required at least two quarters prior to enrollment.

### 560.01 Field Experience in Extension I U 5

Supervised participation in professional activities of extension personnel.

Concur: 560.02, 560.03

### 560.02 Field Experience in Extension II U 5

Clinical analysis of professional extension activities in conferences and seminars.

Concur: 560.01, 560.03

### 560.03 Field Experience in Extension III U 5

Written assignments, lesson plans, and documentation of professional extension activities.

Concur: 560.01, 560.02

## 580 Field Experience in Public Schools

Supervised participation in teaching and other professional responsibilities of teachers of agriculture including clinical analysis in conferences and seminars.

Au Qtr. 8 hrs/day for 10 wks. Prereq: 530, minimum CPHR 2.50. Application required at least two quarters prior to enrollment.

### 580.01 Field Experience in Public Schools I U 5

Supervised participation in teaching and other professional responsibilities of teachers in agriculture in public schools.

Concur: 580.02, 580.03, 585.

### 580.02 Field Experience in Public Schools II U 5

Clinical analysis of teaching agriculture in the public schools in conferences and seminars.

Concur: 580.01, 580.03, 585.

### 580.03 Field Experience in Public Schools III U 5

Written assignments, lesson plans, and documentation of teaching agriculture in the public schools.

Concur: 580.01, 580.02, 585.

## 585 Program Development in Public Schools U 3

Principles and procedures used in planning and conducting programs of agricultural education.

Au Qtr. 5 7-hr cl last week of quarter. Prereq: 530; concur 580.

## 594 Group Studies U 3

Group studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs.

## 622 Continuing Education in Agricultural and Extension Education U G 3

Principles and practices involved in developing vocational, technical, and extension programs for out-of-school youth and adults.

Wi Qtr. 1 2.5-hr cl.

## 630 Senior Seminar in Agricultural and Extension Education U 5

Debate, consideration, and integration of agricultural education from a wider agricultural perspective; including international awareness, problem solving, and ethical decision-making.

Wi Qtr. 2 2-hr cl. Prereq: Sr standing and second writing course and 530.01 or 530.02 (or concur). Not open to students with credit for 600. GEC third writing course.

## 640 Instructional Media in Teaching Agriculture U G 3

Theory and practice in developing and using instructional media and equipment at the secondary, technical, and college levels.

Sp Qtr. 1 2.5-hr cl.

## 641 Occupational Experience in Agricultural Education U G 3

Principles and procedures used in selecting, planning, conducting, and evaluating occupational experience programs for students.

Su Qtr. 1 2.5-hr cl.

## 642 Youth Organizations U G 3

An analysis of youth organizations in vocational and extension education with emphasis on planning and conducting such programs.

Su, Sp Qtrs. 1 2.5-hr cl.

## 643\* Youth Program Management in Non-School Settings U G 3

Principles, theories, and practices involved in conducting, supervising, and managing a youth program.

Sp Qtr. 3 cl.

## 655 Internship in Agricultural and Extension Education U G 1-15

Guided participation to further enhance professional and/or technical competency in selected areas.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

## H683 Honors Projects U 1-10

Conducting and reporting the honors project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Agr H590.01, enrollment in honors program, and permission of honors project supervisor. Repeatable to a maximum of 10 cr hrs. Repeatable as H683 or in combination with 293, 593, H593, H599, 693, or H693. This course is graded S/U.

## 693 Individual Studies U G 1-5

Planning, conducting, and reporting a special study appropriate to the needs of the student.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 cumulative pt-hr ratio and written permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

## 697 Study at a Foreign Institution U G 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 25 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

## 700\* Foundations of Agricultural and Extension Education G 3

Comparative examination of the mission, purpose, and historical foundations of agricultural and extension education in America.

Au Qtr. 1 3-hr cl. Not open to students with credit for 810.

## 723\* Strategic Planning in Agricultural and Extension Education G 3

Strategic planning, implementation, and management of education, extension, and training programs in community settings.

Wi Qtr. 1 3-hr cl. Prereq: 823 or permission of instructor. Not open to students with credit for 843.

## 735 Methods of Teaching Agricultural and Extension Education G 3

Theory, principles, and procedures associated with effective teaching in agricultural and extension education at the secondary, technical, and post secondary levels.

Su Term 1 1 3-hr cl. Not open to students with credit for 631.

## 770 Program Evaluation in Agricultural and Extension Education G 3

Evaluation principles and procedures used in developing vocational, technical, and extension programs.

Wi Qtr. 1 3-hr cl.

## 785\* Program Supervision in Agricultural and Extension Education U G 3

Examines the role and processes of supervision in improving agricultural extension education programs, emphasizes leadership practices, addresses the concepts, principles, and skills needed to be a successful supervisor.

Au Qtr. 1 3-hr cl. Not open to students with credit for 830.

## 789 Survey Research Practicum G 5

Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.

Sp Qtr. 1 3-hr cl. Prereq: Admission to grad interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 789 in AED Econ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, Rurl Soc, Sociol, or Stat. Cross-listed in AED Econ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, Rurl Soc, Sociol, and Stat.

## 790 Workshop in Agricultural and Extension Education U G 1-5

Intensive study of selected programs, practices, and skills with an emphasis on applications in agricultural and extension education.

Su, Au, Wi, Sp Qtrs. Minimum of 3 wks. Prereq: Teaching or extension experience. Repeatable to a maximum of 24 cr hrs.

**795 Seminar**

1- or 2-hr cl. Prereq: Written permission of instructor. A maximum of 15 cr hrs may be earned with not more than 6 hours in any one decimal subdivision.

**795.01 Contemporary Problems U G 1-3**

Au Qtr. Prereq: Written permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**795.02 Problems and Issues U G 1-3**

Wi Qtr. Prereq: Written permission of instructor. Repeatable to a maximum of 6 cr hrs.

**795.03<sup>A\*</sup> Leadership Development U G 1-3**

Wi Qtr. Prereq: Written permission of instructor. Repeatable to a maximum of 6 cr hrs.

**795.04\* Program Development U G 1-3**

Au Qtr. Prereq: Written permission of instructor. Repeatable to a maximum of 6 cr hrs.

**795.05\* Research and Evaluation U G 1-3**

Sp Qtr. 2 hr cl. Prereq: Written permission of instructor. This course is graded S/U.

**800\* History and Philosophy of Agricultural and Extension Education G 3**

Historical and philosophical concepts of agricultural and extension education which have established the traditions from which modern programs have evolved.

Au Qtr. 1 3-hr cl.

**821<sup>A\*</sup> Administrative Practices in Vocational Education G 3**

A study of the concepts of vocational education program administration, including management skills, policy development, staff management, finance, and program evaluation.

Sp Qtr. 1 2.5-hr cl. Not open to students with credit for 811 or Ed-Votec 821. Cross-listed in Edu PAES 828.

**823 Program Planning in Agricultural and Extension Education G 3**

Planning, implementation, and management of instructional systems in education and training programs.

Wi Qtr. 1 3-hr cl.

**831<sup>A\*</sup> Teaching and Learning in Agricultural and Extension Education G 3**

Cognitive, psychological and teaching methods relevant to agricultural education including human development and problem solving.

Wi Qtr. 1 3-hr cl.

**840\* Agricultural Communication Theory and Practice G 3**

Communication theories and methods applied to the food, agricultural and environmental sciences, including social scientific foundations of communication research.

Au Qtr. 2 1.5-hr cl.

**842 Leadership and Administration in Agricultural and Extension Education G 3**

Theories, concepts and principles for leadership, administration and management in communication, education, extension and community settings.

Sp Qtr. 1 3-hr cl. Not open to students with credit for 811.

**885 Research Methods G 3**

Principles and techniques of research appropriate for planning, conducting, and reporting research in vocational, technical, and extension education.

Su (1st term), 5 cl; Au, Wi Qtrs, 1 3-hr cl.

**886 Research Design G 3**

Development of effective design for research problems in vocational, technical, and extension education, including theory, models, and sampling.

Su Term 1, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 885 or equiv.

**887 Analysis and Interpretation of Data G 3**

Application and interpretation of descriptive and inferential statistics for research in vocational-technical and extension education, including the use of the computer.

Au, Sp Qtrs. 1 2.5-hr cl. Prereq: 886 or equiv.

**888 Instrumentation and Procedures for Data Collection G 3**

Selection, development, and analysis of various types of instruments and procedures for collecting research data.

Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 885 or equiv.

**889 Advanced Studies G 3**

Individual field study in partial fulfillment of needs for research experience.

Su, Au, Wi, Sp Qtrs. Prereq: 885. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**993 Individual Studies G 1-5**

Planning, conducting, and reporting a special study appropriate to the needs

of the individual student.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**995 Seminar in Research G 1-3**

Further development and direction of individual studies and programs of research.

Au, Sp Qtrs. 1 2.5-hr cl. Prereq: 886. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Agricultural Communication

208 Agricultural Administration Building, 2120 Fyffe Road, 292-6321

**200 Introduction to Agricultural Communication U 5**

History and development of mass communication and its application in agriculture. Examination of career opportunities and skills needed to enter the profession.

Au Qtr. 2 2.5-hr cl. Open only to majors in agr comm or written permission of instructor. Limited to freshmen, sophomores, and transfer students. Prereq for Comm 221 for agr comm majors only.

**300 Publication Design and Production U 5**

Application of layout and design principles to produce print and/or electronic documents for various audiences.

Wi Qtr. 2 2.5-hr cl.

**350 Advanced Agricultural Communication Technology U 5**

Exploration of the new media technologies used in the agricultural organizations.

Wi Qtr. 2 2.5-hr cl.

**367 Agricultural Issues in Contemporary American Society U 5**

Development of skills in reading, writing, speaking, listening, critical thinking, and appreciation of diversity in agriculture and the United States society.

Au, Wi, Sp Qtrs. 1 2-hr lec, 2 1.5-hr rec. Prereq: English 110 or 111 or equiv, soph standing; or permission of instructor. GEC second writing and social diversity course.

**390 Oral Expression in Agriculture U 5**

Oral expression theory and practice in an agricultural environment.

Au, Wi, Sp Qtrs. 2 2-hr cl, 1 2-hr lab. Prereq: Second writing course.

**489 Agricultural Communication Internship U 2-5**

Coordinated and supervised experience in agricultural communication including reporting, writing, editing, photography, graphics, broadcasting, advertising, and public relations.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Limited to majors in ag comm. Repeatable to a maximum of 9 cr hrs. A final written report and an evaluation from the supervisor must be submitted to the instructor. This course is graded S/U.

**500 Agricultural Feature Writing U 5**

Principles and practice in feature writing. Laboratory experience in writing, editing, design, photography, and advertising.

Sp Qtr. 2 2.5-hr cl. Prereq: Comm 422 or permission of instructor. Repeatable to a maximum of 10 cr hrs. GEC course.

**510 Campaign Design and Management in Agricultural Organizations U 5**

Case studies, plans, and practices in public relations campaigns.

Wi Qtr. 2 2.5-hr cl. Prereq: Jr standing in agr comm or permission of instructor.

**590 Senior Seminar in Agricultural Communication U 5**

Capstone course addressing communication issues of the contemporary world as related to agricultural and natural resource industries.

Sp Qtr. 3 1.5-hr cl. Prereq: Sr standing in agr comm or permission of instructor, and second writing course. GEC course.

**593 Individual Studies U 1-5**

Students plan, conduct, and report on a special problem in agricultural communication not included in regular course work.

Au, Wi, Sp Qtrs. Arr. Prereq: 2.50 cum pt-hr ratio and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**600 Legal and Ethical Issues in Agricultural Communication U 5**

Examination and discussion of complex legal and ethical situations affecting socially responsible communication of food, agricultural and environmental topics.

Wi Qtr. 2 2.5-hr cl. Prereq: Sr standing in agr comm or permission of instructor.

**650 Communication Strategies for Change and Development U G 5**

Examines communication competencies needed by development and social change practitioners.

Au Qtr. 2 2.5-hr cl. Prereq: Jr standing or written permission from instructor.

**H683 Honors Project U 1-10**

Conducting and reporting the honors project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Agr H590.01, enrollment in honors program, and permission of honors project supervisor. Repeatable to a maximum of 10 cr hrs. Repeatable as H683 or in combination with 293, 593, H593, H599, 693, or H694. This course is graded S/U.

**694 Group Studies U G 1-5**

Selected topics in agricultural communication.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**Agricultural Systems Management**

200 Agricultural Engineering Building, 590 Woody Hayes Drive, 292-6131

**232 Small Air-Cooled Engines U 4**

Principles of operation, maintenance, and repair of small air-cooled engines.

Au, Wi, Sp Qtrs. 2 cl, 2 2-hr labs.

**240 Basic Metal Fabrication for Agriculture U 4**

A study of the principles and practices in basic metal fabrication using current metallurgical and welding processes required in the agricultural industry.

Su, Au Qtrs. 3 cl, 2 2-hr labs. Prereq: Survey class (FAES 100, Engineer 100, USAS 100, etc). Not open to students with credit for ConSysMt 240.

**241 Building Materials and Construction in Agriculture U 4**

Principles and techniques in the fabrication of wood, concrete, and masonry materials used in agri-business and agricultural applications.

Su, Wi Qtrs. 2 cl, 2 2-hr labs. Not open to students with credit for ConSysMt 241.

**293 Individual Studies U 1-5**

Work on problems not in regular courses; practice in development, organization, solution, and reporting on such problems.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 cumulative pt-hr ratio and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Basic group studies in agricultural systems management.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**300 Engineering Technologies in Agriculture I U 3**

Engineering and technology applications essential to the operation, selection, and management of the processes, machinery, structures, soil and water, and materials handling systems in agriculture.

Au Qtr. 2 cl, 1 3-hr lab, 1 1-hr recitation. Prereq: Math 130 or 148; Physics 103 or 111 or 131. Not open to students majoring in AgSysMgt, or a major in ENG and students with credit for AgSysMgt, 320 and 370.

**301 Engineering Technologies in Agriculture II U 3**

Continuation of 300.

Wi Qtr. 2 cl, 1 3-hr lab, 1 1-hr recitation. Prereq: 300. Not open to students majoring in AgSysMgt, or a major in ENG and students with credit for AgSysMgt 360.

**305 Professional Development I U 4**

Business communications and professional development in Agricultural Systems Management including informative and persuasive writing, academic planning, project management, research techniques, teaming, report writing and presentations.

Su, Au, Wi, Sp Qtrs. 4 cl. Prereq: English 110. Not open to students with credit for ConSysMt 305.

**310 Electric Power for Ag and Residential Applications U 3**

Principles and applications of systems and components essential for distribution and control of electricity for power, heat, and illumination in residences and agricultural structures.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: Math 148, Physics 103 or (preferred) Physics 111 or 131; or permission of the instructor. Not open to students with credit for ConSysMt 310.

**320 Facilities for Agricultural and Greenhouse Production U 5**

Buildings and equipment for livestock, crop, and greenhouse production; selection and specification of ventilation systems, waste management alternatives, and construction materials.

Wi Qtr. 4 cl, 1 2-hr lab. Prereq: Math 148; Physics 103 or (preferred) Physics 111 or 131; or permission of instructor.

**360 Agricultural Machinery U 5**

Basic principles of operation, selection and management of agricultural

machinery, including power requirements, performance evaluation, calibration, adjustment, costs of operation and optimum size.

Sp Qtr. 2 2-hr cl, 1 3-hr lab. Prereq: Math 148, Physics 103 or (preferred) Physics 111 or 131, or permission of instructor. Not open to students with credit for AgSysMgt 301.

**370 Principles of Hydrology U 3**

Principles of hydrology applied to agricultural and forest watersheds, including applications in drainage, erosion, irrigation, water supply, and water quality.

Au Qtr. 2 1.5-hr cl. Prereq: Math 148, Physics 103 or (preferred) Physics 111 or 131; or permission of the instructor.

**371 Land Surveying for Agricultural and Environmental Systems U 2**

Principles of land surveying applied to soil and water management on agricultural and environmental areas.

Sp Qtr. 1 1-hr cl, 1 3-hr lab. Prereq: Math 148; prereq or concur: Physics 103 or (preferred) Physics 111 or 131; or permission of instructor.

**489 Internship in Agricultural Systems Management U 3**

A pre-approved internship of planned and supervised experiences which provide professional and technical growth in agricultural and related industries.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: AgSysMgt major, 15 cr hrs in AgSysMgt and permission of instructor. Not open to students with 5 or more hours of ConSysMt 489 or Ag&ConSM 489. Repeatable to a maximum of 6 cr hrs. Quarter of enrollment will be assigned by internship coordinator in consultation with student.

**533 Laboratory Pedagogy and Management U 3**

Develops the pedagogical and management skills required to efficiently utilize educational laboratory facilities at the secondary school level for teaching agricultural mechanics and science.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: Agricultural education major.

**550 Pollution Control and Waste Utilization U G 3**

Management and utilization of animal wastes, fertilizers, pesticides, crop residues, milk and food processing, and farmstead and urban solid wastes to abate environmental pollution at the urban-rural interface.

Sp Qtr. 3 cl. Not open for grad cr to students majoring in Food, Agricultural, and Biological Engineering.

**560 Fluid Power and Electronics in Agricultural Machinery U G 4**

Principles of operation, maintenance and selection of basic fluid power, electrohydraulic, electronic and computer controlled systems found on agricultural and construction machinery.

Wi Qtr. 2 cl, 2 2-hr labs. Prereq: 360 or permission of instructor.

**575 Soil and Water Systems U G 3**

Planning and managing drainage, irrigation, erosion prevention, and water storage systems.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: 370 and 371, or ConSysMt 440, or permission of instructor. Not open to students majoring in Food, Agricultural, and Biological Engineering or Civil Engineering.

**576 Water Management in the Landscape Environment U G 4**

Planning, evaluation, and management of soil and water systems (drainage, irrigation, erosion control, water use, supply, quality) for landscape and container nursery plants.

Sp Qtr. 2 2-hr cl. Prereq: 370, 371, H&CS 300, Soil Sci 300.01, and 300.02 or ENR 300.01 and 300.02; or permission of instructor.

**580 Precision Agriculture U G 3**

Introduction to the principles and technologies of precision agriculture including GPS, GIS, sensors to measure soil and plant parameters and crop yields; variable rate technology.

Au Qtr. 1 2-hr cl, 1 3.5-hr lab.

**591 Workshop**

In-depth study of selected area of agricultural mechanization with emphasis on application of principles, objectives, methods, and equipment to organization, management, and teaching of agricultural mechanics.

Su, Au, Wi, Sp Qtrs. Prereq: Teaching or extension experience or permission of instructor.

**591.01 General U G 1-5**

Repeatable to a maximum of 10 cr hrs.

**600 Agricultural Safety and Health U G 3**

Agricultural safety and health practices, strategies and methods for the management of safety and health programs.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: Second writing course, Agr Comm 390 or Comm 321 or Jcom 321; or permission of instructor. Not open to students with credit for ConSysMt 600. AgSysMgt 600 and 605 together fulfill GEC third writing course requirement.

## 605 Professional Development II U 2

Initiating and pursuing career plans, academic program review, strategies for seeking employment, professional growth and furthering interpersonal relationships are documented in a career/professional portfolio.

Au, Wi, Sp Qtrs. 2-hr cl, 1 hr rec. Prereq: 305, second writing course, Agr Comm 390 or Comm 321 or Jcom 321; or permission of instructor. Not open to students with credit for ConSysMt 605. GEC third writing course, AgSysMgt 600 and 605 together fulfill requirement.

## H683 Honors Project U 1-10

Conducting and reporting the honors project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: FAES 590.01, enrollment in honors program, and permission of honors project supervisor. Repeatable to a maximum of 10 or hrs. Repeatable as H683 or in combination with 293 or 693. This course is graded S/U.

## 693 Individual Studies U G 1-5

Problems not included in regular courses; practice in development, organization, solution, and reporting on such problems.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 cumulative pt-hr ratio and written permission of instructor. Repeatable to a maximum of 10 or hrs. This course is graded S/U.

## 694 Group Studies U G 1-5

Advanced group studies in agricultural systems management.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

# Agricultural, Environmental, and Development Economics

103 Agricultural Administration Building, 2120 Fyffe Road, 292-7911

## 200 Principles of Food and Resource Economics U 5

Microeconomic principles applied to allocation issues in the production, distribution, and consumption of food and natural resource use.

Au, Wi, Sp Qtrs. 5 cl. Not open to students with credit for H200, or Econ 200. This course available for EM credit. BER/GEC/LAR course. SS Admis Cond course.

## H200 Principles of Food and Resource Economics U 5

Microeconomic principles applied to allocation issues in the production, distribution, and consumption of food and natural resource use.

Wi Qtr. 5 cl. Not open to students with credit for 200 or Econ 200 or H200. BER/GEC/LAR course. SS Admis Cond course.

## 205 Data Analysis for Agribusiness and Applied Economics U 5

Introductory course in data analysis, stressing computer applications of probability and statistics, problems of data gathering, presentation, and interpretation in economics and business.

Au, Wi, Sp Qtrs. 3 1-hr cl, 1 96-min lab. Prereq: Math 130. Not open to students with credit for Agr Educ 387 or AEE 387, H&CS 260, Anim Sci 260, Stat 133 or 135 or 145. GEC course.

## 280 Feast or Famine: The Global Business of Food U 5

Global and regional trends in food consumption and production are surveyed. Trade, technological change, and other responses to food scarcity are analyzed.

Wi Qtr. 2 2.5-hr cl. Not open to students with credit for 335 or Int Stds 280. Cross-listed in International Studies. GEC soc sci hum, econ, and nat resources and global diversity course.

## 401 Principles of Agribusiness Management U 4

Introduction to agribusiness management principles and skills in the context of the four functions of management: planning, organizing, directing, and controlling.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Basic spreadsheet competency and 200 or H200 or Econ 200 or H200.

## 402 Principles of Agribusiness Marketing U 4

Study of specific problems of marketing food and fiber products with emphasis on structures and institutions facing agribusinesses in domestic and international markets.

Au, Wi, Sp Qtrs. 4 cl. Prereq: 200, H200, Econ 200, or H200.

## 403 Principles of Agribusiness Finance U 4

Financial management of farms and agribusinesses; financial system, time value of money, security valuation, capital budgeting, capital structure, portfolio analysis, financial institutions.

Au, Wi, Sp Qtrs. 2.2-hr cl. Prereq: 200 or H200 or Econ 200 or H200 and Acct&MIS 211 and AED Econ 205 or equiv.

## 410 Farm Business Management U 5

Analysis of resource control and detailed application of economic and management principles to the organization, operation, and administration of farm businesses.

Wi Qtr. 2 2-hr cl. Prereq: 401. Not open to students with credit for 510.

## 412 Farm Records and Analysis U 5

Nature and need for farm business records, analysis and interpretation of essential records from farm manager viewpoint; their use in income tax reporting and management.

Sp Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 401 or concurrent and Acct&MIS 211 or equiv.

## 421 Salesmanship in Agriculture U 3

Principles and techniques of selling to agribusiness buyers.

Au Qtr. 2 1.5-hr cl. Prereq: 200, H200 or Econ 200 or H200; jr standing. Not open to students with credit for 521.

## 422 Economics of the Livestock-Meat Industry U 3

Principles and practices involved in marketing livestock and meat; institutions and agencies concerned in pricing and product flows; industry organization and performance, public regulation; future trends.

Wi Qtr. 2 1.5-hr cl. Prereq: 402. Not open to students with credit for 522. Offered in cooperation with Animal Science.

## 423 Grain Marketing U 3

Principles and practices involved in grain and feed marketing and the theory of grain pricing; economics of grain marketing.

Au Qtr. 3 cl. Prereq: 200, H200 or Econ 200 or H200. Not open to students with credit for 523.

## 426 Dairy Marketing and Pricing U 3

Principles and practices involved in marketing and pricing milk and dairy products. Principles of dairy futures and options; U.S. agricultural dairy policy.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: 200 or H200 or Econ 200 or Econ H200.

## 428 Marketing Fruits and Vegetables U 3

Principles involved in the marketing of fresh and processed fruits and vegetables and the institutions and agencies concerned in pricing and product flows from producer to consumer.

Sp Qtr. 2 1.5-hr cl. Prereq: 200 or H200 or Econ 200 or H200. Not open to students with credit for 528.

## 441 Agricultural Cooperatives U 3

Basic principles of cooperatives including types of organizations, legal aspects, governance, membership relations, debt and equity financing, organizational and inter-cooperative problems, and distribution of earnings.

Wi Qtr. 2 1.5-hr cl. Prereq: 401 or equiv. Not open to students with credit for 541.

## 460 Human Resource Management in Small Businesses U 3

Human resource planning, job analysis, organizational structure, recruitment and selection, training, motivation, leadership, communication, compensation, and evaluating employee performance in context of small businesses.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: 401 or Bus-MHR 400. Not open to students with credit for 560.

## 470 Agricultural Law U 4

A study of the legal system and selected areas of law that affect agriculture, including civil liabilities, property law, business law and regulatory law.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 200 or H200 or Econ 200 or H200. Not open to students with credit for 670.

## 488 Professional Development in AED Economics U 1

Participation in structured co-curricular programs leading to professional development.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.0 cumulative pt-hr ratio and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

## 489 Internship in Agribusiness and Applied Economics U 3

Supervised experience with an approved firm or organization; pre-approved outline, oral presentation, and written comprehensive report required.

Su, Au, Wi, Sp Qtrs. Prereq: 401 or 402 or 403 or 500 or Econ 501 and permission of instructor. Open only to dept majors. This course is graded S/U.

## 500 Managerial Economics for Agribusiness U G 4

Application of economic theory and methods to agribusiness decision making.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 200 (H200) or Agr Econ 200 (H200) or Econ 200 (H200); Econ 201 (H201) or Econ 400 (H400); and Math 131 (Wi 03 or thereafter) or 132 or 151 or 152.

## 501 Price Analysis U 3

Forces that influence the behavior of agricultural prices; analytical techniques useful in predicting price changes or the consequences of price changes are introduced.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: Basic spreadsheet competency and 500 or Econ 501.02, Math 131 (Wi 03 or thereafter) or 132 or 151, and one of the following: 205 or Stat 133 or 145, Agr Educ 387 or AEE 387, H&CS 260, Anim Sci 260.

**502 Production Decision Analysis U 3**

Evaluation of production and financial decision through experiments with economic models, with emphasis on computerized solutions using linear programming and simulation techniques.

Wi, Sp Qtrs. 2 1.5-hr cl, 1-hr lab. Prereq: Basic spreadsheet competency, 401, 403 (can be taken concurrently), 500 or Econ 501.02, and one of the following: 205, Agr Educ 387 or AEE 387, H&CS 260, Anim Sci 260 or Stat 133 or 145.

**503 Economics of Public Policy Analysis U 3**

Understanding of economic tools and concepts for analyzing public policies important to the food industry, agriculture and natural resources.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: 500 or Econ 501.02.

**531 Environmental and Natural Resources Economics U G 5**

Economic analysis of the use and management of natural resources and of environmental policy.

Au, Sp Qtrs. 5 cl. Not open to students with credit for Nat Res 531. Cross-listed in Natural Resources.

**532 Food Security and Globalization U G 5**

Examination of the causes of and solutions for food insecurity. Global and local factors that affect access to food are also considered.

Au Qtr. 2 2-hr cl. Prereq: 200 or Econ 200 or permission of instructor. Not open to students with credit for 434 or Int Stds 434, 532. Cross-listed in International Studies.

**535 Economic Development Processes in Developing Countries U G 5**

Study of major Third World problems using principles of development economics. Examines poverty, inequality, unemployment, population growth, resource use and rural development.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 200 or Econ 200. Not open to students with credit for 435 or Int Stds 435, 535. Cross-listed in International Studies.

**536 Economic Development of Sub-Saharan Africa U G 5**

Issues shaping economic development and stagnation in contemporary Africa such as population growth, agricultural development, industrialization, trade, structural adjustment and environmental issues.

Au Qtr. 2 2-hr cl. Prereq: 200 or Econ 200. Not open to students with credit for 436 or Int Stds 436, 536. Cross-listed in International Studies.

**537 Middle Eastern Economic Development U G 5**

Economic conditions, problems, integrations and potentials of Middle Eastern economies using principles of economic development and growth models.

Wi Qtr. 2 2-hr cl. Prereq: 200 or Econ 200. Not open to students with credit for 437 or Int Stds 437, 537. Cross-listed in International Studies.

**538 Latin American Economic Development U G 5**

Public policy and other factors influencing economic growth in Latin America are examined.

Sp Qtr. 2 2.5-hr cl. Prereq: 200 or Econ 200 or equiv. Not open to students with credit for 438 or Int Stds 438, 538. Cross-listed in International Studies.

**539 China's Economic Reforms and Globalization U G 5**

An introductory survey course of economic reforms and globalization in China with emphasis on economic and social transformation, and its integration into the global economy.

Sp Qtr. 2 2-hr cl. Prereq: 200 or Econ 200 or permission of instructor. Not open to students with credit for 439 or Int Stds 439, 539. Cross-listed in International Studies.

**540 International Commodity Trade U G 5**

Application of trade theory and policies to the global interregional trade patterns.

Wi Qtr. 2 2.5-hr cl. Prereq: 200 or H200 or Econ 200 or Econ H200 or permission of instructor. Not open to students with credit for Int Stds 540. Cross-listed in International Studies.

**553<sup>A</sup> Consumer and Food Economics U G 4**

Applications of economic and statistical tools to analyze consumption behavior, demand for food and nutrition, food safety, market structure, and fast food industry.

Sp Qtr. 2 2-hr cl. Prereq: 200 or Econ 200 and knowledge of elementary statistics and basic spreadsheet competency or permission of instructor.

**597 Issues of the Contemporary World**

Prereq: Sr standing. GEC/LAR course.

**597.01 Problems and Policies in World Population, Food, and Environment Contemporary Issues U 5**

Problems related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these problems, especially in low-income countries.

Su, Au, Wi, Sp Qtrs. H597.01 offered Sp Qtr only. 2 1.5-hr cl, 1 2-hr rec. H597.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Sr standing. Not open to students with credit for Int Stds 597.01. Cross-listed in International Studies. Issues of Contemporary World. GEC/LAR.

**601 Strategic Management U 5**

A case-based course analyzing applied strategic management problems confronting agribusiness firms. Cases examine the economic complexities comprising the global food system.

Au, Sp Qtrs. 2 2-hr cl. Prereq: 401, 402, 403, 501, 502, 503 and a second writing course. 503 may be taken concurrent. GEC course.

**625 Commodity Futures and Options Markets U G 4**

Explores the institutional structure, price formation, and hedging uses of commodity futures and options markets.

Wi Qtr. 4 cl. Prereq: 500 or Econ 501.02.

**631 Benefit-Cost Analysis U G 5**

Development and illustration of key benefit-cost concepts and estimation techniques through applications to agricultural, infrastructure, natural resource, and environment projects.

Au Qtr. 2 2-hr cl, 1 1-hr cl. Prereq: 531 or minimum of 10 hrs of economic principles or permission of instructor.

**680 The Economics of Urbanization and Sprawl U G 4**

Changes in land use and population at the rural-urban fringe. Focus on economic factors driving changes, implications for rural and exurban communities, role of government.

Sp Qtr. 2 2-hr cl. Prereq: 500 or Econ 501A or 501.02 or grad standing or permission of instructor.

**H683 Honors Project U 1-10**

Conducting and reporting the honors project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Agr 590.01, enrollment in honors program, and permission of honors project supervisor. Repeatable to a maximum of 10 cr hrs. Repeatable as H683 or in combination with 293, 593, H593, H599, 693, or H693. This course is graded S/U.

**693 Individual Studies**

Planning, conducting, and reporting a special problem in agricultural economics.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 cumulative pt-hr ratio, 401 or permission of instructor. Repeatable to a maximum of 6 cr hrs in any or a combination of decimal subdivisions.

**693.01 Agribusiness Management and Finance Individual Studies U G 2-3**

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**693.02 Agricultural Marketing and Policy Individual Studies U G 2-3**

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**693.03 Economic Development Individual Studies U G 2-3**

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**693.04 Quantitative Methods in Agricultural Economics Individual Studies U G 2-3**

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**693.05 Resource Economics Individual Studies U G 2-3**

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**693.06 General Agricultural Economics Individual Studies U G 2-3**

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**693.07 Consumption and Demand Individual Studies U G 2-3**

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**693.08 Regional Economics Individual Studies U G 2-3**

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**694 Group Studies**

Selected topics in agricultural economics to acquaint students with current economic conditions.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**694.01 Agricultural Management and Finance Group Studies U G 2-5**

Repeatable to a maximum of 10 cr hrs.

**694.02 Agricultural Marketing and Policy Group Studies U G 2-5**

Repeatable to a maximum of 10 cr hrs.

**694.03 Economic Development Group Studies U G 2-5**

Repeatable to a maximum of 10 cr hrs.

**694.04 Quantitative Methods in Agricultural Economics Group Studies U G 2-5**

Repeatable to a maximum of 10 cr hrs.

**694.05 Resource Economics Group Studies U G 2-5**

Repeatable to a maximum of 10 cr hrs.

**694.06 General Agricultural Economics Group Studies U G 2-5**

Repeatable to a maximum of 10 cr hrs.

**694.07 Consumption and Demand Group Studies U G 2-5**

Repeatable to a maximum of 10 cr hrs.

**694.08 Regional Economics Group Studies U G 2-5**

Repeatable to a maximum of 10 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 25 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**701 Applied Data Analysis for Agricultural, Environmental, and Development Economics G 4**

Practical application of statistical and time series methods to the analysis of economic data in agricultural, environmental, and development economics.

Au Qtr. 2 2-hr cl. Prereq: 500 or Econ 501A or Econ 501.02 and Stat 133 or AED Econ 205 or grad standing. Not open to students with credit for Agr Econ 622 or AED Econ 622.

**702 Introduction to Computational Economics U G 4**

Practical application of linear and nonlinear programming methods to management problems in agricultural, environmental, consumer, and financial economics.

Sp Qtr. 2 1.5-hr cl, 1 1.5-hr lab. Prereq: Math 132, AED Econ 500 or Econ 501.02.

**703 Economics of Consumption U G 4**

Applications of economic theory to consumption analysis, new models of consumer choices, empirical studies of demand/consumption, and consumer issues in the market place.

Wi Qtr. 2 2-hr cl. Prereq: Econ 501.02 or Econ 501A or equiv.

**711 Production and Consumption in Agricultural, Environmental, and Development Economics G 4**

Microeconomic theory principles and their application to the production, consumption, and market exchange of agricultural and environmental goods and services.

Au Qtr. 2 2-hr cl. Prereq: 500 or Econ 501A or Econ 501.02 or grad standing. Required for MS in Agricultural, Environmental, and Development Economics.

**712 Finance and Risk Management for Agricultural, Environmental, and Development Economics G 4**

Managerial finance and risk management principles and their application to production, consumption, and investment problems in agricultural, environmental, and development economics.

Wi Qtr. 2 2-hr cl. Prereq: 711. Required for MS in Agricultural, Environmental, and Development Economics.

**713 Public Policy and Market Regulation in Agricultural, Environmental, and Development Economics G 4**

Theories of social welfare, market failure, and public goods and their application to policy and regulation issues in agricultural, environmental, and development economics.

Sp Qtr. 2 2-hr cl. Prereq: 711. Required for MS in Agricultural, Environmental, and Development Economics.

**734 Agricultural Trade Policy U G 4**

International trade theory and its application to trade and policy issues in the food and agricultural sector.

Au Qtr. 2 2-hr cl. Prereq: Econ 501.02 and 502 or equiv.

**800 Research Methods in Agricultural, Environmental, and Development Economics G 3**

Principles of scientific methods in agricultural, environmental, and development economics.

Au Qtr. 2 1.5-hr cl. Prereq: 711 or 712 or Econ 804.

**801 Applied Methods in Agricultural Economics Modeling G 4**

Principles and practice of applied econometrics to models in agriculture. Nonlinear and MLE estimation and hypothesis testing applied to systems of equations and censored models.

Wi Qtr. 2 2-hr cl. Prereq: Econ 741.

**802 Advanced Computational Economics G 4**

Numerical analysis of stochastic dynamic models in economics and finance, emphasizing formulation, solution, and simulation of dynamic optimization, rational expectations, and arbitrage pricing models.

Au Qtr. 2 1.5-hr cl, 1 1.5-hr lab. Prereq: Econ 804 and 805 or permission of instructor.

**803 Applied Demand Analysis G 4**

Application of demand and consumption theory to the estimation of demand relationships and demand systems in agricultural and natural resource markets.

Sp Qtr. 2 2-hr cl. Prereq: 801 and Econ 804.

**806 Economics of Agricultural Production G 4**

A further consideration of economic principles as they apply to production problems in agriculture.

Wi Qtr. 2 2-hr cl. Prereq: Econ 808.

**807 Economic Analysis for Collective Choice G 5**

Develops and extends benefit cost, public choice and new institutional economics for consideration of efficiency, basic needs, income distribution and sustainability in collective choice issues.

Su Qtr. 2 2.5-hr cl. Prereq: 631 or 711 or Econ 501.02 and a course in regression analysis.

**809 Applied Welfare Economics and Policy Analysis G 4**

Welfare economic theory and its application to public policy issues in agriculture and natural resources.

Sp Qtr. 2 2-hr cl. Prereq: 803, 806, and Econ 808.

**810 Agricultural Firm Management G 3**

Examination of the operating and strategy problems confronting the managers of farm and nonfarm agribusiness firms, with emphasis on applying and integrating management concepts.

Sp Qtr. 2 1.5-hr cl. Prereq: Econ 501 or 501.02 or permission of instructor.

**816\* Financial Markets and Rural Development G 4**

Course provides conceptual framework for formulation and evaluation of financial policies in developing countries (for rural and microenterprise activities). Emphasizes role of the state in finance.

Wi Qtr. 2 2-hr cl. Prereq: Econ 705 or permission of instructor.

**820\* Marketing Economics in Agriculture G 3**

A critical study of contemporary problems in agricultural marketing in the U.S. and world economics with emphasis on the theoretical and policy implications.

Au Qtr. 3 cl. Prereq: 703 or Econ 501.02 or permission of instructor.

**830\* Agricultural, Environmental, and Development Policy G 4**

Application of welfare economic theory and institutional economics to problems and policies in agricultural, environmental, and development economics.

Su Qtr. 4 cl. Prereq: Econ 501.02 and 502.

**831 Resource Economics G 3**

Application of economic theory and decision-making frameworks to current issues of resource use, allocation, and control.

Wi Qtr. 3 cl. Prereq: Econ 501.02 or permission of instructor.

**832\* Seminar in Economic Development of Foreign Agriculture G 3**

Characteristic problems of developing countries, identification and analysis of limiting factors in underdevelopment, and techniques for stimulating economic development through growth in agriculture.

Wi Qtr. Prereq: Econ 501 or 501A or permission of instructor. Repeatable to a maximum of 8 cr hrs.

**833\* Economic Development Theory and Policy G 4**

Applied development economics course with emphasis on policy formulation and evaluation; shows the power of economic theory for analysis of policies, markets and institutions.

Wi Qtr. 2 2-hr cl. Prereq: 734 or Econ 665 and Econ 501 or permission of instructor. Not open to students with credit for Econ 850.

**834\* Political Economy of Trade, Development and Agricultural Policies G 4**

Analysis of policy making process of trade, development, and agricultural support policies in the food sector and its impact on economic welfare. Examines rent-seeking behavior.

Sp Qtr. 2 2-hr cl. Prereq: 734 or Econ 665, and Econ 501A; or permission of instructor.

**840\* Regional Economic Growth: Theory and Measurement G 4**

Theories of economic growth and development at the sub-national level. Problems of rural regions are highlighted.

Sp Qtr. 2 2-hr cl. Prereq: Geog 655 or permission of instructor.

**891 Field Survey in Agricultural, Environmental, and Development Economics G 1**

Seminar for PhD students to learn about the various fields in agricultural, environmental, and development economics.

Sp Qtr. 1 1.5-hr cl. Prereq: Enrolled in PhD program in AED Economics. Required for PhD in AED Econ. This course is graded S/U.

**899 PhD Seminar**

Seminar forum for PhD students to present and discuss their PhD dissertation research.

Au, Wi, Sp Qtrs. 1 1.5-hr cl. Prereq: Satisfactory completion of the AED Economics Qualifier Exam. Permission of instructor. Required for PhD in AED Econ.

**899.01 Agricultural Economics PhD Seminar G 1**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**899.02 Environmental Economics PhD Seminar G 1**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**899.03 Development Economics PhD Seminar G 1**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**899.04 Quantitative Methods PhD Seminar G 1**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**899.05 Agribusiness PhD Seminar G 1**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**899.06 Regional Economics PhD Seminar G 1**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**902\*\* Computable General Equilibrium Analysis G 4**

Application of computable general equilibrium methods to analyze allocative and distributional effects of economic policies.

Wi Qtr. 2 2-hr cl. Prereq: 711 or Econ 804 and 805.

**993 Individual Studies**

Planning, conducting, and reporting a special problem in agricultural, environmental, and development economics fitting the needs of the student, under the guidance of an instructor.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs in any or a combination of decimal subdivisions.

**993.01 Agricultural Management and Finance Individual Studies G 2-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.02 Agricultural Marketing and Policy Individual Studies G 2-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.03 Economic Development Individual Studies G 2-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.04 Quantitative Methods in Agricultural Economics Individual Studies G 2-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.05 Resource Economics Individual Studies G 2-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.06 General Agricultural Economics Individual Studies G 2-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.07 Consumption and Demand Individual Studies G 2-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.08 Regional Economics Individual Studies G 2-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**995^ Seminar G 2-4**

Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**999 Research in Agricultural, Environmental, and Development Economics G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Air Force Aerospace Studies**

353 Converse Hall, 2121 Tuttle Park Place, 292-5441

Qualified students interested in obtaining an officer's commission in the Air Force may enroll in Air Force ROTC classes through contracted agreement between The Ohio State University and the United States Air Force.

The first two years of enrollment (freshman/sophomore), is the General Military Course, which includes lessons on officership, communication, aerospace doctrine and history of military aviation. There is no obligation to serve in the military for non-scholarship cadets the first two years. The last two years (junior/senior), is the Professional Officer Course (POC) dealing with, leadership, management, supervision, communication skills and national defense policy. Air Force ROTC cadets also attend a two-hour leadership laboratory period each week and participate in two hours of physical fitness training per week. A cadet must enroll in the POC for two academic years to be eligible for a commission.

Air Force ROTC offers four-, three-, two-, and one-year scholarships. Four-year scholarships are applied for during the senior year in high school. Three-, two-, and one-year scholarships are offered to qualified men and women in college, regardless of major. The benefits provided by scholarships include up to full payment of tuition, \$300 per quarter for textbooks, and a tax-free allowance of up to \$500 per month. Upon entering the Professional Officer Course (POC), all cadets (scholarship and non-scholarship) may receive up to a \$500 per month tax-free allowance.

More information on Air Force classes or scholarships can be obtained by calling the Department of Air Force Aerospace Studies at 614-292-5441.

General Military Course - Freshmen and Sophomores (100- and 200-level courses)

Professional Officer Course - Juniors, Seniors, and Graduate Students (300- and 400-level courses)

**101 Introduction to Air Force ROTC and Air Force Heritage U 1**

Introduction to the Air Force including Air Force organization, benefits, military customs and courtesies, dress and appearance and communication skills.

Au Qtr. 1 cl, 2 lab hrs.

**102 Foundations of Officership U 1**

Exploration of Air Force officership as a profession, core values and the oath of office.

Wi Qtr. 1 cl, 2 lab hrs.

**103 Air Force Team Building and Communications Skills U 1**

Practical applications of interpersonal communications and team building skills.

Sp Qtr. 1 cl, 2 lab hrs.

**201 The Evolution of USAF Air and Space Power from Inception to World War II U 1**

Issues of leadership, technological advances, and air power theory.

Au Qtr. 1 cl, 2 lab hrs.

**202 The Evolution of USAF Air and Space Power from 1945 to 1989 U 1**

The role of US air power from 1947 through the initial Cold War years and the Vietnam War.

Wi Qtr. 1 cl, 2 lab hrs.

**203 The Evolution of USAF Air and Space Power from 1989 through Present Day U 1**

The role of US air power during the post-Vietnam era through 2025 with emphasis on regional conflicts and growing technological sophistication.

Sp Qtr. 1 cl, 2 lab hrs.

**301 Air Force Leadership Authority and Responsibility U 3**

An overview of AF leadership responsibilities, problem solving, management functions and principles, team building techniques, motivation methods and conflict management.

Au Qtr. 3 cl, 2 lab hrs.

**302 Leadership and Accountability U 3**

Leadership concepts and case studies, including professional/unprofessional relationships, the influence of power, effective supervision and leadership accountability.

Wi Qtr. 3 cl, 2 lab hrs. Prereq: 301 or permission of instructor.

**303 Officer Development and Professionalism U 3**

Officer as a professional, topics include corrective supervision, counseling, leadership accountability, core values, and military ethics.

Sp Qtr. 3 cl, 2 lab hrs. Prereq: 302 or permission of instructor.

**401 National Security and the Strategy Making Process U 3**

The roles of the Executive branch, Congress, and military in the national security process; exploration of the organization and the role of the Air Force.

Au Qtr. 3 cl, 2 lab hrs. Prereq: 303 or permission of instructor.

**402 Regional Area Studies U 3**

A study of US interests in regions around the world.

Wi Qtr. 3 cl, 2 lab hrs. Prereq: 401 or permission of instructor.

**403 Preparation for Active Duty U 3**

Preparation for active duty as an Air Force officer.

Sp Qtr. 3 cl, 2 lab hrs. Prereq: 402 or permission of instructor.

**Allied Medicine**

School of Allied Medical Professions

127 Atwell Hall, 453 West 10th, 292-1706

**100 Allied Medical Professions Survey U 1**

H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor.

**102 Introduction to Health Professions U 2**

An introduction to the allied health professions both graduate and undergraduate that contribute to the delivery of health care in America.

Su, Wi Qtrs. 1-2-hr cl. enrollment in health sciences

**200 CPR for the Health Care Provider U 2**

Knowledge, competencies, issues and concerns of health care providers regarding basic life support/cardiopulmonary resuscitation.

Wi Qtr. 1 cl, 1 1-hr lab. Prereq: Admission to the School of Allied Medical Professions or permission of instructor. Completion of course leads to American Heart Association certification Basic Life Support-Health Care Provider.

**307 The Evolving Art and Science of Medicine U 5**

An analysis of the concepts of health and healing, coupled with an examination of historical developments that have impacted the art and science of medicine.

Au Qtr. 2 2.5-hr cl. GEC cultures and ideas course.



**394 Group Studies U 1-5**

Supervised group studies of special topics within the allied health field.  
Su, Au, Wi, Sp Qtrs. 1-5 arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**419 Electronic Principles in Medical Instrumentation U 5**

The physical and electronic principles of medical instrumentation.  
Au Qtr. 3 cl, 2 2-hr labs. Prereq: Enrollment in Circulation Technology or permission of instructor.

**425 Critical Phases in Life I U 3**

An examination of human's development from conception to death and factors critical to continuing health.  
Sp Qtr. 3 cl. Prereq: Biology 101 or equiv, and 5 hrs psych.

**430 Nutrition for Fitness U 4**

Introduction to the basic principles of nutrition as they relate to exercise performance and body composition of athletes and the physically active.  
Sp Qtr. 2 2-hr cl. Prereq: General chemistry, biology, or physiology.

**500 Medical Terminology U 3**

Terminology pertaining to the treatment of disease, including standard abbreviations, anatomic, diagnostic, symptomatic, eponymic, laboratory, pathologic, radiologic, anesthetic, operative, and drug terms.  
Au, Wi, Sp Qtrs. 3 cl. Not open to students with credit for 500.01 or 500.02. Cross-listed in Health Information Management and Systems.

**505 Principles of Disease I U 3**

Basic pathophysiology and its application to the organ systems.  
Au Qtr. 3 cl. Prereq: Admission to the School of Allied Medical Professions and Physiol 312 or Zoology 232; or permission of instructor.

**506 Principles of Disease II U 3**

A continuation of 505.  
Wi Qtr. 3 cl. Prereq: 505.

**520 Musculoskeletal Disease U G 2-3**

Principles, clinical aspects, and therapeutic procedures related to diseases of the musculoskeletal system.  
Sp Qtr. 2-3 cl. Prereq: Admission to the School of Allied Medical Professions or written permission of instructor.

**530 Neuromuscular Disease U G 3**

Survey of injury and disease of the central, peripheral, and autonomic nervous systems; presentation of clinical material.  
Wi Qtr. 3 cl. Prereq: Permission of instructor.

**591 Health Care Organization U 3**

An examination of the roles of public and private organizations in planning and supporting health care, including study of health trends, social legislation, and current professional issues.  
Au, Wi Qtrs. H591: Sp Qtr. 3 cl. H591 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Enrollment in AMP or NUR or permission of instructor.

**592 Interactions in Health Care U 3**

Study of interactions among clients, providers and systems in health care and health services.  
Wi Qtr. 2 1.5-hr cl. Prereq: Enrollment in the School of Allied Medical Professions or permission of instructor.

**594 Group Studies U 1-5**

Supervised group studies of special topics within the allied health field.  
Su, Au, Wi, Sp Qtrs. 1-5 arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**596 Career Exploration and Job Search Skills for Health Sciences U 1**

Examination and application of career planning for Health Sciences careers. Guidance for the development of the skills and experience necessary to define and reach goals.  
Wi Qtr. 1 1-hr cl. Prereq: Enrollment in the School of Allied Medical Professions.

**600 Internship in Health Sciences U 3-5**

Experience and on-the-job learning in health management, health and wellness, or geriatrics and gerontology related work settings.  
Su, Au, Wi, Sp Qtrs. Arr. Prereq: Sr level in Health Sciences or permission of Instructor/Internship Coordinator. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**601 Death, Loss and Grief from Multiple Perspectives U G 4**

Exploration of death, loss and grief from multiple perspectives: patient, family, institutional, community and health care provider.  
Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Jr standing or above, or permission of instructor. Not open to students with credit for 565.

**604 Case Studies in Health Sciences U 4**

Experience in evaluating and analyzing case studies in health care and health services, emphasizing critical thinking, problem solving, and decision-making approaches and leadership.  
Wi Qtr. 1 3-hr cl, 2 hr practice. Prereq: Sr level in Health Sciences or permission of instructor.

**607 Role of Integrative Medicine in Society U P G 5**

A research-based analysis of the intersection between evidence-based medicine and complementary and alternative approaches to wellness, as defined by the National Institutes of Health.  
Sp Qtr. 2 2.5-hr cl. Not open to students with credit for 407.

**622 Human Resource Management for Allied Health Professionals U 3**

Emphasis on human resource development in health care institutions and related settings.  
Wi Qtr. 3 cl. Prereq: 630 or permission of instructor. Not open to students with credit for Med Diet 622. Cross-listed in Medical Dietetics.

**630 Management Principles for Health Professionals U P G 3**

An analysis of the management process and its application to the health care setting.  
Au, Sp Qtrs. 3 cl. Prereq: Enrollment in AMP or permission of instructor.

**632 Diabetes Care and Management U G 2**

Review of pathophysiology associated with diabetes; pharmacological and non-pharmacological treatments; pattern management; monitoring; and management to control symptoms and to prevent secondary complications.  
Su Qtr. 4-hr cl first five weeks of summer quarter. Prereq: General chemistry, general biology, general physiology. Clinical hours in specialty area requested but not required.

**635 Allied Health Professional Clinical Interviewing U G 3**

Emphasis on interviewing/counseling techniques and communication skills in health care with major emphasis on current techniques including readiness to learn, motivational interviewing, and listening skills.  
Wi Qtr. 3-hr cl. Prereq: General psychology and admission to Graduate School or Allied Medical Professions or permission of instructor.

**640 Health Promotion and Disease Prevention U G 4**

An introduction to health promotion and disease prevention with emphasis on environment, behavior and social science theory and application.  
Au Qtr. 2 2-hr cl. Prereq: Jr standing in Health Sciences or permission of instructor.

**641 Medical Communication with Latinos U P G 3**

Terminology/skills for communication with Spanish-speaking persons in health care context. Outreach to Latino Community (service emphasis). Familiarity with Spanish language translation/interpretation.  
Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Jr, sr, grad, or prof standing and proven proficiency in the Spanish language or permission of instructor. Students are required to develop and implement an individual learning contract that provides them with practice in the areas of interpretation for patients, translation of patient education documents in a culturally sensitive manner, development of educational programming, researching strategies for advocacy, etc.

**645 Health Risk Assessment: Theory and Practice U 3**

Study and application of health risk assessment theory, methods, and tools as a component of health promotion and disease prevention incorporating wellness and prevention strategies.  
Sp Qtr. 2 1.5-hr cl. Prereq: 640 or permission of instructor.

**650 Health Care Information Systems U G 3**

Survey of patient, administrative and financial information systems in health care, and the technologies and management practices to support them.  
Sp Qtr. 2 2-hr cl. Cross-listed in HIMS.

**655 Individual Differences in Patient/Client Populations U 3**

Examination of individual differences in patient/client populations from multiple perspectives of disability, chronic disease, healthcare disparity, culture and the impact on health and wellness.  
Wi Qtr. 1 3-hr cl. Prereq: 640, 643 and sr level in Health Sciences/Health and Wellness Program or permission of instructor.

**660 Healthcare Financial Management U G 3**

Overview of major financial issues in healthcare delivery including assessment of financial environment, financial statements, ratio analysis, managed care, payment systems, and capital project analysis.  
Wi Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: Enrollment in AMP or grad standing in AMP or permission of instructor. Cross-listed in HIMS.

**662 Introduction to Managed Health Care U G 3**

Introduction to the evolution, structure and function of managed care organizations with analysis of interfaces among payers, providers and purchasers of health care.  
Au Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 591 or sr level in AMP and permission of instructor.

**663 Introduction to the Long Term Care Continuum U G 3**

Introduction to the types of services, regulatory requirements and financing of long term care alternatives in the US healthcare delivery system.

Wi Qtr. 2 1.5-hr cl. Prereq: 591 or sr standing in AMP and permission of instructor.

**664 Care of the Older Adult: Aging in Place and Community Care U G 3**

Explores continuum of health and community care for older adults examining issues of access, financing, housing, services and challenges to providing quality options.

Wi Qtr. 2 1.5-hr cl. Prereq: Enrollment in the School of Allied Medical Professions or permission of instructor.

**665 Understanding the Aging Process U P G 3**

Study of physical and mental health components of normal aging with emphasis on critical components of successful aging, presented as basis for delivery of health services.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl.

**667 Aging and Public Policy U G 3**

Provides a framework to examine major policy issues of an aging society, overview of the legislative process, and a focus on citizen participation in the policy process.

Sp Qtr. 1 3-hr cl. Prereq: Jr level in Health Sciences/Geriatrics and Gerontology or by permission of instructor.

**668 Prevention and Wellness in Aging for Health Professionals U G 3**

Focus on prevention, health promotion and wellness for older adults from the perspective of the allied health care professional.

Sp Qtr. 2 1.5-hr cl. Prereq: Enrollment in the School of Allied Medical Professions or permission of instructor.

**670 Teamwork and Leadership in Health and Wellness U 4**

Students will gain a better understanding of leadership and team-building through experience in health-related projects.

Wi Qtr. 2 2-hr cl. Prereq: Sr standing in Health Sciences Program or permission of instructor.

**672 Application of Ethical Decision Making in Health Care U G 3**

Examination of ethical theories, bioethical principles, personal ethics, and ethical decision making using a six-step model for application in allied health professions.

Au, Wi Qtrs. 2 1.5-hr cl. Prereq: Sr standing in the Health Sciences Program and Alli Med 591 or permission of instructor.

**680 Research Design in Biomedical Sciences****680.01 Research Design in Biomedical Sciences U 3**

Concepts related to initiating and conducting research; experimental design; use of computer graphics and statistics; and analysis of research reports.

Au, Wi Qtrs. 2 1.5-hr cl. H680.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for H680.01: Eligible for honors program in allied health.

**693 Individual Studies U G 1-5**

Guided study of selected topics.

Su, Au, Wi, Sp Qtrs. 1-5 cl. H693 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Supervised group studies of special topics within the various professions of the allied health field.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**695 Senior Seminar in Geriatrics and Gerontology U 3**

Explanation, investigation, analysis of current geriatric/gerontology issues and trends focusing on integrating a variety of perspectives, application of concepts and creative problem solving.

Sp Qtr. 1 3-hr cl. Prereq: 663 and sr level in Health Sciences/Geriatrics and Gerontology or permission of instructor.

**696 Seminar in Program Assessment, Development and Evaluation for Health Sciences U 3**

Review of needs assessment theory, concepts of economic analysis, quality of life and clinical outcomes given scarce program resources and creation of a development and evaluation plan.

Sp Qtr. 2 1.5-hr cl. Prereq: Jr standing in Health Sciences Program or permission of instructor.

**700 Interprofessional Education**

Focus on ethical issues, changing professional/consumer rights, and interprofessional cooperation.

3 cl. Limited to students in allied medical professions, education, law, medicine, nursing, social work, and theology (Columbus seminaries). Repeatable to a

maximum of 6 cr hrs.

**700.01 Interprofessional Care U G 3**

Treatment of the whole person through the analysis of the interrelated problems of actual patients/clients.

Wi Qtr. Repeatable to a maximum of 6 cr hrs.

**700.03 Ethical Issues U G 3**

Ethical issues of concern to the professions and arising out of advanced technology: euthanasia, mind control, malpractice, social responsibility of the professions.

Au Qtr. Repeatable to a maximum of 6 cr hrs.

**700.04 Interprofessional Seminar in Clinical Practice U P G 5**

Interprofessional teamwork in clinical settings.

Wi Qtr. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

**717 Nisonger Center Courses in Mental Retardation and Developmental Disabilities**

Focus on interdisciplinary topics in mental retardation and developmental disabilities.

Prereq: Permission of instructor. Cross-listed in Education: Physical Activity and Educational Services, Human Development and Family Science, Human Nutrition, Nursing, Psychology, Social Work, and Speech and Hearing Science.

**717.02 Interdisciplinary Perspectives on Autism Spectrum Disorders U G 3**

Critical examination of the latest information on biomedical, psycho-social, educational, communication and language, family and sensory issues of autism spectrum disorders.

Sp Qtr. 1 3-hr cl. Not open to students with credit in 717.02 in any of the cross-listed areas. Limit of 20 students.

**719 Early Intervention Interdisciplinary Team Dynamics G 3**

Interdisciplinary team-taught course with a focus on early intervention/early childhood education services for children birth to three and their families.

Au Qtr. 2.5-hr cl. Prereq: Permission of instructor. Not open to students with credit for Edu PAES 719, HDFS 719, Nursing 719, or Sph/Hrng 719. Cross-listed in Education: Physical Activity and Educational Services, Human Development and Family Science, Nursing, and Speech and Hearing Science.

**720 Aging and Design U G 3**

Analysis and development of designs for products and environment related to residential spaces for older adults based on environmental adjustment theories.

Au Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for Txtl&Clo 720 or CSTxtCI 720. Cross-listed in Consumer Sciences: Textiles and Clothing.

**721 Practicum in Home Modifications and Universal Design U G 3**

Provides service-learning experience for students to learn about universally designed home modifications. Students help conduct workshops and home assessments.

Sp Qtr. 1 2-hr cl, 6 hr lab. Prereq: 720 or Fm Res M 720 or permission of instructor. Cross-listed with Fm Res M 694A Sp 2003.

**730 Managerial Leadership in Allied Health G 3**

Application of managerial leadership principles for the development and administration of allied health departments in the health care system.

Au Qtr. 1 3-hr cl. Prereq: Admission to AMP grad program or permission of instructor.

**753 Teaching in the Allied Health Professions G 3**

Principles and practice of teaching in the allied health professions; focuses on various teaching roles and strategies of allied health professionals in academic and clinical settings.

Sp Qtr. 1 3-hr cl. Prereq: Admission to the AMP graduate program or permission of instructor.

**780 Introduction to High Risk Neonates and Neonatal Care Environments G 3**

Overview of key issues related to high risk neonates including demographics, vulnerabilities, care approaches, intensive care environments, equipment, and personnel.

Au Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor.

**790 Introduction to Gerontology P G 3**

Introduction to impact of physiological, psychological, and socio-economic conditions associated with aging to provide foundation in gerontology.

Au Qtr. 1 3-hr cl. Not open to students with credit for Dent 792.17. Open to sr level students with permission of instructor. Cross-listed in Social Work. Core course required for Graduate Specialization in Aging.

**791 Case Studies in Clinical Gerontology P G 3**

Interdisciplinary course for graduate and professional students using a team approach and case studies to work with older adults.

Wi Qtr. 1 3-hr cl. Prereq: Dent 792.17 or permission of instructor.

**795 Seminar G 1-3**

Investigation of current topics of interest to allied health practitioners.

Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Permission of Instructor. Repeatable to a maximum of 15 cr hrs.

**802 New and Emerging Assistive Technologies for Individuals with Disabilities G 3**

Interdisciplinary course covering applications of technology to meet the functional needs of individuals in mobility, manipulation, communication, and cognition and learning.

Sp Qtr. Lec/lab. Not open to students with credit for Edu PAES 826. Cross-listed with Edu PAES 826.

**830 Leadership and Policy in Allied Health G 3**

Students develop leadership skills and learn to explain and discuss the laws and policies that influence allied health professions.

Wi Qtr. 1 3-hr cl. Prereq: Admission to the Health and Rehabilitation Sciences PhD program or permission of instructor.

**850 Issues in Allied Health G 3**

Discussion and critical examination of current issues in the allied health field and their impact on the health professions.

Wi Qtr. 1 3-hr cl.

**870 Fundamentals of Curriculum in Allied Health Education G 3**

Study of curriculum antecedents and issues in allied health: an orientation for health professionals which deals with the major curriculum forces which have, and are, shaping allied health education.

Au Qtr. 1 3-hr cl. Prereq: Admission to AMP graduate program or permission of instructor.

**885 PhD Practicum**

Students gain practical, advanced skills in allied health teaching or research through structured teaching or research experiences.

Su, Au, Wi, Sp Qtrs. 6-15 practicum hrs. Prereq: Admission to the Health and Rehabilitation Sciences PhD program or permission of instructor. Repeatable to maximum 20 hrs, 885.01 and 885.02.

**885.01 PhD Research Practicum G 2-5**

Students gain practical, advanced skills in allied health research through structured research experiences. May focus on research techniques, methodologies, instrumentation, or data analysis.

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**885.02 PhD Teaching Practicum G 2-5**

Students gain practical, advanced skills in allied health teaching through structured mentoring experiences.

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**889 Practicum**

Practical experience in the educational or administrative setting within the allied health fields.

Su, Au, Wi, Sp Qtrs. 1 1-hr cl, lab arr.

**889.01 Educational G 2-5**

Practical experience in an educational setting within the allied health fields.

Prereq: 3 cr hrs in educational methodology. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**889.02 Administration G 2-5**

Practical experience in an administrative setting within the allied health fields.

Au Qtr. Prereq: HHS 815 or equiv and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**890 Advanced Topics G 3**

Students gain knowledge and skills in advanced topics related to the school faculty's health and rehabilitation research. Topics and faculty vary by quarter.

Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Admission to the Health and Rehabilitation Sciences PhD program or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**892 Evidence Based Practice G 3**

Students learn to apply evidenced based practice, identify the most valid and relevant research reports, analyze research using specificity and sensitivity measures, examine effect sizes.

Sp Qtr. 1 3-hr cl. Prereq: Admission to the Health and Rehabilitation Sciences PhD program or permission of instructor.

**895 PhD Seminar**

Faculty and students present, discuss, critique, and debate interdisciplinary topics in Health and Rehabilitation Sciences research and teaching.

Prereq: Admission to the Health and Rehabilitation Sciences PhD program or permission of instructor.

**895.01 PhD Research Seminar G 1-2**

Students develop skills in analyzing, discussing, and synthesizing health and rehabilitation research. Students present their own scholarship to other graduate students and faculty.

Su, Au, Wi, Sp Qtrs. 1-hr cl. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**895.02 PhD Teaching Seminar G 1-2**

Prepares students to effectively develop learning objectives, plan instruction and learning activities, and develop/refine teaching and student evaluation skills in allied health and rehabilitation professional programs.

Au Qtr. 1-2 hr cl. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

**999 Research G 1-15**

Research for thesis or dissertation.

Su, Au, Wi, Sp Qtrs. Repeatable. Repeatable to a maximum of 180 cr hrs. This course is graded S/U.

## Anatomy

279 Hamilton Hall, 1645 Neil Avenue, 292-4831

**199 Basic Human Anatomy**

The basics of human anatomy supplemented by computer-assisted instruction and demonstrations of human material.

4 1-hr cl, 1 2-hr lab. Not open to students with credit for 200.

**199.01 Basic Human Anatomy U 5**

Au, Wi, Sp Qtrs. Prereq: Health Sciences students in CED and ASC.

**199.03 Basic Human Anatomy U 5**

Au, Wi, Sp Qtrs. Prereq: Biology 101 or 113; enrollment in pre-nursing, gpa 2.75.

**199.04 Basic Human Anatomy U 5**

Emphasis directed toward speciality.

Au, Wi, Sp Qtrs. Prereq: Enrollment in pre-AMP, AMP, pre-Opt, ExSci, Pre-Pharm, Pre-Dent.

**199.05 Basic Human Anatomy U 5**

Wi, Sp Qtrs. Prereq: Enrollment in DHY only.

**200 Introductory Anatomy U 6**

Fundamental principles of human anatomy, supplemented by demonstrations of human material.

Au, Wi, Sp Qtrs. 4 cl, 2 2-hr labs. Not open to students with credit for 199.

**400 Intermediate Human Anatomy U G 3**

To acquaint pre-professional students with a basic knowledge of Human Anatomy via sectional material.

Prereq: General Biology 113-114 or H115-116 or General Chemistry 121-122-123. The students must have these courses prior to considering Anatomy 400. Sectional Anatomy used in course.

**600 Advanced Neuromuscular Anatomy G 5**

Neuromuscular anatomy of the human body through an in-depth dissection experience.

Su Qtr. 2 1-hr cl, 2 3-hr labs. Prereq: 200 or equiv, permission of instructor.

**601 Human Anatomy for Dental Students P 7**

Basic principles of embryology, anatomy, histology and neuroanatomy of the human body.

Au Qtr. 3 cl, 3 3-hr labs. Prereq: Dent 1st yr standing.

**602 Human Anatomy for Dental Students P 4**

A continuation of 601.

Wi Qtr. 5 cl, 2-hr lab. Prereq: 601.

**603 Human Anatomy for Dental Students P 7**

A continuation of 602.

Sp Qtr. 3 cl, 3 3-hr labs. Prereq: 602.

**693 Individual Studies in Anatomy U P G 2-5,6,12,18**

Designed to enable the student to pursue a minor investigation in some anatomical field of choice.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. 1 month, offered all months. This course is graded S/U.

**700 Human Histology U G 6**

A microscopic study of cells, tissues, and organs with particular emphasis on human; consideration of microscopic structure in relation to function of various organ systems.

Sp Qtr. 3 cl, 3 2-hr labs. Prereq: Permission of instructor.

**710 Human Embryology G 3,5**

Designed to acquaint the anatomy graduate student with a basic knowledge of human embryology.

Au Qtr. Arr. Prereq: Permission of instructor.

## 22 Anatomy

### 712 Human Anatomy G 12

Designed to acquaint a graduate student with a basic knowledge of human anatomy by regional dissection.

Au Qtr. Arr. Prereq: Permission of instructor. Starts 3rd week in August; ends in mid-November.

### 716 Human Neurobiology G 7

Designed to acquaint a graduate student with a basic knowledge of human neuroanatomy.

Wi Qtr. Arr. Prereq: Permission of instructor. Not open to students with credit for Neuro Sc 716. Cross-listed in Neuroscience Department.

### 750 Radiologic Anatomy G 2

Anatomy of specific regions or areas as it applies to the interpretation and understanding of diagnostic images.

Sp Qtr. Arr. Prereq: Satisfactory completion of Med Coll 662, or Anatomy 712 or equiv and permission of instructor. Repeatable to a maximum of 8 cr hrs. Cross-listed with Radiology.

### 850 Seminar in Anatomy G 1

Discussions of research in progress and reports from the literature of current anatomical problems.

Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

### 911 Advanced Studies in Anatomy

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor.

#### 911.02 Connective Tissue and Bone G 3,5

Activities of fibrous connective tissues emphasizing formation and maintenance of fibers and ground substance; dynamics of the structure, chemistry, and metabolism of bone.

Repeatable to a maximum of 30 cr hrs.

#### 911.03 Embryology G 3,5

Mammalian embryological development emphasizing descriptive or experimental approach; metabolic aspects of development including enzymatic changes, hormonal effects, environmental factors, and teratogenic agents.

Repeatable to a maximum of 30 cr hrs.

#### 911.10 Principles of Human Cytogenetics G 3,5

Human cytogenetics as related to autosomal and sex chromosomes; technique of tissue culture for study of human chromosomes and karyotype analysis.

Repeatable to a maximum of 30 cr hrs.

#### 911.13 Topographical Anatomy G 3,5

Study of unmounted serial cross sections of selected regions of the human body emphasizing the inter-relationship of structures to one another in a three-dimensional perspective.

Repeatable to a maximum of 30 cr hrs.

#### 911.14 Advanced Regional Dissections G 3,5

Careful dissection of one or more regions of the body, supplemented with literature research.

Repeatable to a maximum of 30 cr hrs.

### 999 Research in Anatomy G 1-18

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Animal Sciences

110 Animal Science Building, 2029 Fyffe Road, 292-6401

### 200 Introductory Animal Sciences U 5

Role, current organization, history, and characteristics of the animal industries in the world.

Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. E200 may be available for honors embedded experience.

### 201 Fundamentals of the Horse Industry U 5

Uses of the horse, the economic impact on society, and the basic science of equine nutrition, reproduction, genetics, disease control, housing, and general management.

Au Qtr. 3 cl, 1 3-hr lab.

### 207 Dairy Cattle Evaluation U 3

Use of functional type traits in evaluation and selection of dairy cattle.

Sp Qtr. 1 2-hr lab and 1 3-hr lab. Prereq: 200 and soph standing. Off campus field exp: 1 2-day field trip to dairy herds in the state plus 3-4 class periods.

### 240 Animals in Society U 5

Introduction to the historical, social, cultural, economic and legal frameworks within which current human-animal relationships have evolved.

Au Qtr. 3 1-hr cl, 1 2-hr rec. GEC soc sci individuals and groups course.

### 245 Companion Animal Fundamentals U 5

Introduction to social, financial, health, nutrition, and management fundamentals, as well as career opportunities, involved in companion animal care.

Sp Qtr. 5 cl.

### 250 Food Animal Products U 3

The value and impact of food animal products on our society.

Wi, Sp Qtrs. 3 cl. Prereq: 200 or concur.

### 260 Data Analysis and Interpretation for Decision Making U 5

Basic concepts of probability and statistics applied to the interpretation of quantitative data.

Au, Wi Qtrs. 4 cl, 1 2-hr rec/lab. Prereq: Math 130 or 148. Not open to students with credit for Anim Sci 210, Agr Econ 205 or AED Econ 205, Agr Educ 387 or AEE 387, H&CS 260, Nat Res 222 or ENR 222, Stat 125, 135, 145. Cross-listed in Horticulture and Crop Science. GEC course.

### 271 Equine Behavior, Conditioning, and Farrier Science U 4

Understanding behavior and physiology of conditioning of the horse and using that knowledge to produce humane training methods; practical experience in farrier science.

Wi Qtr. 1 1-hr cl, 5 2-hr labs. Prereq: Permission of instructor, must have medical insurance.

### 290 Creating a Career with the Animal Sciences U 2

Career development is pursued as a matching of personal interests with the opportunities from guest professionals. Course assignments include enhancing a careers-based web site.

Sp Qtr. 1 2-hr cl. Not open to Rank 4 students.

### H299 Freshman Research Seminar: Contemporary Animal Biology Research U 3

Exploration of prominent scientists and emerging issues in animal biology research.

Wi Qtr. 3 1-hr cl. Prereq: Enrolled in Honors or permission of instructor. Only available to students with 90 hours or fewer.

### 300 Livestock Selection and Evaluation U 4

Laboratory exercises employing current standards of animal excellence including carcass value for the selection and improvement of farm livestock.

Wi Qtr. 4 2-hr lab-discussions. Prereq: 200 and jr standing.

### 301 Equine Selection and Evaluation U 3

Understanding the relationship of form to function; evaluating conformation and performance, and orally defending that evaluation.

Wi Qtr. 3 2-hr labs. Prereq: 200 or 201. The student will pay a lab fee.

### 305 Meat Animal and Carcass Evaluation U 3

The factors that influence the value of meat animals, carcasses, and wholesale cuts in accordance with recognized grading standards; laboratory practice.

Wi Qtr. 3 2-hr labs. Prereq: 200

### 306 Poultry Science Fundamentals U 5

Describes classes of poultry and game birds, evaluation of poultry products, incubation, housing, anatomy, diseases, genetics, and nutrition. Laboratories include raising chickens for market.

Sp Qtr. 4 cl, 1 1-hr lab, 1hr arr. Prereq: 200 or Biology 101 or 113. This course is available for EM credit.

### 310 Principles of Animal Systems Physiology U 5

Introductory course that surveys organs/systems within the body and relates the functional physiology of those systems to animal production.

Wi, Sp Qtrs. 5 1-hr cl. H310 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Biology 101 or 113 or H115 or PCMB 101 or Plnt Bio 101. BER/GEC/LAR course.

### 317 Milk Secretion U 3

Introduction to mammary gland anatomy, milk synthesis, and factors affecting mammary health.

Sp Qtr. 2 1.5-hr cl. Prereq: Biology 101 or 113.

### 320 Principles of Genetic Improvement U 5

An introduction to the methods available for bringing about genetic change in farm animals.

Wi, Sp Qtrs. 5 cl. Prereq: 200; and 260 or Agr Econ 205 or AED Econ 205 or Agr Educ 387 or AEE 387 or H&CS 260 or Stat 145, and Biology 113 or 101.

### 330 Principles of Animal Nutrition U 5

A study of nutrients needed by animals.

Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Prereq: Biology 101 or 113 or H115 or PCMB 101 or Plnt Bio 101.

### 331 Practical Horse Feeding U 4

Nutrient needs of the horse; significance of supplements and feeds as they relate to the horse's nutrition and health.

Sp Qtr. 4 cl. Not available for major credit.

**340 Management Intensive Grazing U 3**

The application of scientific principles of plant growth, animal nutrition and behavior to manage grazing systems for profitable, sustainable livestock enterprises.

Sp Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 200 or H&CS 200. Occasional Saturday field trips (2).

**341 Equine Farm Operation and Marketing U 4**

Designing a horse operation; using computer programs for horse farm management; developing promotion, and sales strategies; conducting an auction sale.

Wi Qtr. 2 1-hr cl, 2 2-hr labs. Prereq: 201 or 200.

**355 Meat Science****355.01 Principles of Meat Science U 3**

Analysis of the principles of meat science as related to meat animal value factors, processing technology, and merchandising systems affecting the producer, processor, and consumer.

Au, Wi Qtrs. 3 cl.

**355.02 Meat Science Products Laboratory U 3**

Procedures and value factors involved in meat animal harvest, carcass evaluation, fresh meat processing, cured-processed meat production, and retail merchandising.

Wi Qtr. 2 3-hr labs. Prereq or concur: 355.01.

**360 Global Food and Agriculture U 5**

The integration of food, agriculture, environment, resources, technology, culture and trade on a global scale.

Wi Qtr. 3 1.5-hr cl. Not open to students with credit for Animl Sc 375. E360 may be available for honors embedded experience.

**400 Cellular Effects on Animal Growth and Development U 4**

To understand how the cell affects the formation and growth of tissues and organs important in domestic animal growth.

Au Qtr. 2 1.5-hr cl. Prereq: 310. Not open to students with credit for Animl Sc 460.

**413 Principles of Animal Health U 5**

Introduction to infectious diseases, agents causing disease, and host defense systems.

Sp Qtr. 2 2.5-hr cl. Prereq: 200, 310; Biology 114 or H116.

**488 Professional Development in Animal Sciences U 1-3**

Participation in structured co-curricular programs leading to professional development (e.g. Academic Quadrathlon, Livestock Selection and Evaluation Teams, etc.)

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.00 cumulative pt-hr ratio and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**489 Internship in Animal Science U 3-5**

Supervised preplanned employment experience and/or on-site problem solving study program; written comprehensive report required.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 15 cr hrs in Animal Sciences. Open only to dept majors. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**494 Group Studies U 1-5**

Special topic area group studies formally proposed for a specific quarter by an animal sciences faculty member.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**541 Equine Production U G 5**

The application of scientific principles to the production of horses. Includes farm design, reproductive management, genetics, nutrition, health, marketing and behavior of the horse.

Sp Qtr. 3 1-hr cl, 2 2-hr labs. Prereq: 200 or 201, and 330 or 331. Not open to students with credit for Animl Sc 541.

**542 Beef Cattle Production and Management U G 5**

The application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of beef cattle.

Sp Qtr. 4 cl, 1 3-hr lab. Prereq: 310 and 320 and 330.

**543 Swine Production U G 5**

The application of science and basic principles of nutrition, physiology, genetics, health, economics, meats, and housing in integrated management systems for modern swine production.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 310 and 320 and 330.

**544 Sheep Production and Management U G 5**

The application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of sheep.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 310 and 320 and 330.

**545 Companion Animal Biology and Behavior U 5**

Anatomy, genetics, nutrition, physiology and behavior of dogs and cats. Human-

companion animal relationships.

Au Qtr. 2 2-hr cl, 1 1-hr lab. Prereq: 310, 320 or 330.

**546 Poultry Management U 5**

Describes classes of poultry and game birds, incubation, housing, anatomy, diseases, genetics, and nutrition. Laboratories include raising chickens for market and egg production.

Wi Qtr. 4 cl, 1 1-hr lab and 1 hr arr. Prereq: 310, 320 and 330. Not open to students with credit for Pltry Sc 546.

**547 Dairy Herd Management U G 5**

Application of scientific principles to practical herd management, analyses of alternatives and decision making.

Au Qtr. 2 2.5-hr cl. Prereq: 310, 320 and 330. Not open to students with credit for 447.

**555 Meat Science and Muscle Food Products****555.02 Meat Processing U G 4**

Fundamental changes in soft animal tissues resulting from comminution and application of chemicals and heat.

Au Qtr. 2 cl, 2 2-hr labs. Prereq: 355.01.

**555.03\* Branded Meat Products U G 4**

Integration of multiple factors influencing value-added product development including: raw material quality and procurement, processing, packaging, distribution, and complexity of market development in niche markets.

Sp Qtr. 2 2-hr cl. Prereq: 200; 355.01; AED Econ 200.

**593 Individual Studies U G 2-5**

Special assignments and elementary research; problems assigned after consultation with instructor in charge.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 cumulative pt-hr ratio and written permission of instructor. Repeatable to a maximum of 10 cr hrs. Repeatable cr hrs include cr hrs in Anim Sci 593, This course is graded S/U.

**597 Issues Concerning Use of Animals by Humans U 5**

The historical, biological, ethical, nutritional, and economic issues of using animals to meet human needs.

Su, Au, Wi, Sp Qtrs. 2 2.5-hr cl. Prereq: Jr or sr standing. Not available for major credit in Animal Sciences. GEC/LAR course. Contemporary issues course.

**600 Capstone Course in Animal Sciences U 5**

Relationship of the animal sciences to the emerging and continuing issues facing society.

Au, Wi, Sp Qtrs. 3 2-hr cl. Prereq: Sr standing, second writing course. Not open to freshmen or sophomores. GEC course.

**605 Advanced Meat Science U G 3**

Advanced antemortem and postmortem biochemical principles in skeletal muscle underlying meat quality.

Sp Qtr. 3 cl. Prereq: 355.01. Not open to students with credit for 555.01.

**610 Physiology of Reproduction U G 5**

Physiology and endocrinology of the reproductive systems; examination of basic mechanisms governing reproduction in various species.

Au Qtr. 3 cl, 1 hr recitation, 1 2-hr lab. Prereq: 310 and second writing course. GEC course.

**616 Poultry Physiology U G 5**

An organ system approach to avian physiology with particular emphasis on adaptation to modern production systems, animal care, growth, and reproduction.

Sp Qtr. 4 cl, 1 3-hr lab. Prereq: 310.

**617 Physiology of Lactation U G 3**

The physiological, endocrine, nutritional, and environmental factors influencing the synthesis and ejection of milk.

Wi Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: 20 cr hrs Animal Sciences or vertebrate biology.

**618 Molecular Events in Tissue Growth and Development U G 4**

A molecular developmental approach to the study of tissue growth, structure, and function in animals and humans.

Sp Qtr. 2 2-hr cl. Prereq: 310, Biochem 511 or graduate standing or permission of instructor.

**620 Applied Animal Molecular Genetics U G 4**

Provide understanding of molecular genetic tools currently used in animal health and improvement programs.

Sp Qtr. 2 1.5-hr cl. Prereq: 320, Biochem 511, Mol Gen 500, or permission of instructor.

**628 Genetic Applications to the Animal Industries U G 3**

Application of genetic principles to beef, dairy, horse, poultry, sheep and swine industries. The approach is the study of populations through quantitative and molecular genetics.

Wi Qtr. 2 1.5-hr cl. Prereq: 320 or equiv or permission of instructor. Not open to students with credit for 522.

**630 Advanced Animal Nutrition****630.01 Ruminant Nutrition U G 5**

Principles of ruminant nutrition, metabolism and physiology. Computer formulations and feeding strategies for beef and dairy cattle will enhance application and problem solving.

Au Qtr. 3 1.5-hr cl. Prereq: 330 or grad standing.

**630.02 Non-Ruminant Nutrition U G 5**

Principles of non-ruminant nutritional physiology, metabolism, and practical feeding programs.

Wi Qtr. 3 1.5-hr cl. Prereq: 330 or grad standing.

**630.03 Feeding Management and Records Analysis for Dairy Cattle U G 3**

Feeding management of dairy cattle for the prevention of diseases and analysis of dairy records for production medicine decisions.

Wi Qtr. Prereq: 330.

**647 Evaluation and Integration of Research for Dairy Operations U G 5**

Integration of scientific principles to maximize efficiency in dairy farm operations.

Sp Qtr. 5 cl. Prereq: 310 Off campus field exp: 2 1-day field trips to established dairy operations.

**650 Advanced Meat Technology U G 3**

Evaluation of scientific contribution to meat products and processing.

Sp Qtr. 2 cl, 2 1-hr labs. Prereq: Permission of instructor. Not open to students with credit for Animl Sc 650.

**655 Laboratory Analysis of Meat Products U G 5**

Analysis of meat products by physical, chemical, and microbiological techniques.

Wi Qtr. 2 cl, 2 1-hr labs, 4 hrs arr. Prereq: Permission of instructor.

**660 Quality Control Interpretation U G 3**

Sampling, statistical plotting, and chart interpretation using examples drawn from the food area.

Sp Qtr. 3 cl.

**668 Applied Biometrics U G 5**

Study methods used in the quantification of biological processes and the integration of research results and knowledge into quantitative methods.

Sp Qtr. 5 1-hr cl. Prereq: Stat 528 and 529, or equiv.

**H683 Honors Projects U 1-10**

Conducting and reporting the honors project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: FAES H590.01, enrollment in honors program, and permission of honors supervisor. Repeatable to a maximum of 10 or hrs. Repeatable as H683 or in combination with 593, H593, 693, or H693. This course is graded S/U.

**693 Individual Studies U G 3-5**

Special assignments and advanced research; problems assigned after consultation with the instructor in charge.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 cumulative pt-hr ratio and written permission of instructor. Repeatable to a maximum of 15 or hrs. This course is graded S/U.

**694 Group Studies U G 3-5**

Special topics area group studies finally proposed for a specific quarter by an animal science faculty member.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**697 Study at a Foreign Institution**

An opportunity for students to study at a foreign institute and receive Ohio State credit for that work.

Repeatable to a maximum of 10 or hrs. Decimal subdivisions not repeatable. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as, travel and subsistence costs.

**697.01 Welfare of Agricultural and Recreational Animals U 5**

Role of animal welfare in production efficiency and in recreational animals. How animal welfare issues will impact the future of global food animal agriculture.

Wi Qtr. Arr. Prereq: 310, 320, 330. This is part of a 3 course sequence that will be required in the Animal Sciences Australia Study Abroad Program.

**697.02 Animal Production Systems in the Diverse Environments of Australia U 5**

Animal production systems, comparing practices, economic issues and environmental constraints between Australia and the United States.

Wi Qtr. Arr. Prereq: 310, 320, 330. This is part of a 3 course sequence that will be required in the Animal Sciences Australia Study Abroad Program.

**697.03 African Wild Dogs: Behavior and Ecology U 4**

This study abroad program will enable students to learn about instincts that guide behaviors of wild dogs by participating in field research in Africa.

Au Qtr. 20 hr lec, 60 hr lab. Prereq: Biology 114; preference given to students who have completed or are registered for Anim Sci 545; jr standing.

**697.04 Dairy Industry Outside of the US U 4**

An opportunity for students to study the dairy industry of another country and to experience it by visiting the country studied.

Sp Qtr. Arr. Open only to students accepted into Dairy Industry, Study Abroad Program and concurrently enrolled in Anim Sci 494 (Dairy Industry in the Netherlands). Repeatable to a maximum of 8 or hrs.

**697.05 Human and Animal Interactions in Europe U 3**

To experience the beliefs and views of Irish culture on the use and involvements of animals as part of their daily lives.

Au Qtr. Arr. Prereq: Concurrent enrollment in 494 (Human and Animal Interactions in the United States) and permission of instructor.

**710\* Advanced Reproductive Physiology U G 4**

Recent advances in research in mammalian reproduction.

Sp Qtr. 2 2-hr cl. Prereq: 610 and acceptable courses in physio, anat, and biochem.

**720 Animal Genetics****720.01\* Genetics of Animal Populations I U G 3**

Parameters of static populations, genetic arrays and equilibria, and statistical measures; partitioning the phenotypic variance, mutation, migration, selection, and chance.

Au Qtr. 3 cl. Prereq: 320 or Mol Gen 500, or equiv.

**720.02\* Genetics of Animal Populations II U G 3**

Selection for polygenic characters, mating systems, and development of breeding plans.

Au Qtr. 3 cl. Prereq: 720.01.

**730\* Advanced Topics in Ruminant Nutrition G 5**

Advanced aspects of microbial fermentation, digestive physiology, and metabolism by ruminants integrated into current research topics.

Sp Qtr. Prereq: Biochem 511 or equiv, Anim Sci 630.01 or equiv, or permission of instructor. Not open to students with credit for 730.01.

**761 Carbohydrate and Lipid Metabolism U G 5**

In-depth treatment of digestion, absorption, transport, and utilization of dietary carbohydrates and fat for energy production and fat deposition in humans and other higher animals.

Wi Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; Humn Ntr 610 or Anim Sci 630.01 OR grad standing or permission of instructor. Not open to students with credit for Fd Sc&Te 761 or Humn Ntr 761. Cross-listed in Food Science and Technology and Human Nutrition.

**762 Principles of Nutrient Metabolism U G 5**

In-depth examination of the cellular and molecular mechanisms responsible for regulation of nutrient transport and metabolism with focus on the utilization of dietary protein.

Au Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; Humn Ntr 310 or Anim Sci 330 OR grad standing or permission of instructor. Not open to students with credit for Fd Sc&Te 762 or Humn Ntr 762. Cross-listed in Food Science and Technology and Human Nutrition.

**763 Vitamin and Mineral Metabolism U G 5**

In-depth treatment of biochemical functions, absorption, transport, utilization, interrelationships and nutritional requirements of the vitamins and minerals in humans and other higher animals.

Sp Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; EEOB 232 or Anim Sci 310; Humn Ntr 610 or Anim Sci 630.01 or 630.02 or grad standing. Not open to students with credit for Fd Sc&Te 763 or Humn Ntr 763. Cross-listed in Food Science and Technology and Human Nutrition.

**810 Advances in Physiology of Domestic Animals**

Au, Wi, Sp Qtrs. 1 4-hr cl. Prereq: Written permission of instructor, acceptable courses in physiol, cbn&anat and biochem. Not open to students with credit for Animl, Dairy or Pltry Sc 810.

**810.03 Immunology and Immunogenetics G 5**

Sp Qtr. Prereq: Written permission of instructor.

**830 Advanced Studies in Nutrition**

Advanced concepts in nutrition.

Au, Wi, Sp Qtrs. 3 or 5 cl. Prereq: 530 or Humn Ntr 610; 761 and 762 or Fd Sc&Te 761 and 762 or Humn Ntr 761 and 762; 10 grad or hrs in physiol. Not open to students with credit for Fd Sc&Te 830 or Humn Ntr 830. Cross-listed in Food Science and Technology, and Human Nutrition.

**830.01\* Energy/Lipids G 5**

Wi Qtr. 5 cl. Prereq: 761 or Fd Sc&Te 761 or Humn Ntr 761.

**830.02\* Vitamins/Minerals G 5**

Wi Qtr. 5 cl. Prereq: 763 or Humn Ntr 763 or Fd Sc&Te 763.

**830.03\* Proteins and Amino Acids G 3**

Wi Qtr.

**830.07\* Rumen Microbiology G 3**

Su Qtr.

**830.08\* Carbohydrates G 3**

Au Qtr.

**830.09\* Food and Nutritional Toxicology G 3**

Basic principles in food and nutrition toxicology focused on interactions of nutrients and food toxins, role of diet in mutagenesis and carcinogenesis and safety assessment.

Sp Qtr. Prereq: 761, 762 or Fd Sc&Te 761, 762 or Humn Ntr 761, 762, Humn Ntr 610 or Anim Sci 630.01 or 630.02 or permission of instructor.

**830.10 A Comprehensive Approach to Food Safety G 3**

Course provides a comprehensive overview of food safety issues, challenges and solutions across the food chain from farm to table.

Wi Qtr. 1 3-hr cl. Prereq: Micrbiol 509 and introductory level course in nutrition or food science or permission of instructor.

**830.11 Nutrition-Endocrine Interactions in Women's Health G 4**

Examination of the historical and emerging research in the area of diet-endocrine interactions and women's health.

2 2-hr cl. Prereq: 761, 762 or FdSc&Te 761, 762 or Humn Ntr 761, 762 or grad standing or permission of instructor.

**850\* Food in International Agriculture G 3,5**

A study of international food production, processing, and utilization.

Su Qtr. 5 cl, 1 1-hr lab. Not open to students with credit for Animl Sc 856. Repeatable to a maximum of 6 cr hrs.

**860\* Scientific Philosophy and the Work of Scientists G 3**

Historical and future perspectives of research in the animal sciences, role of theory and evidence in developing scientific knowledge, and presentations of reports.

Su Qtr. 2 1.5-hr cl. Prereq: Completed 30 cr hrs in grad studies, introductory statistics course. Not open to students with credit for Dairy Sc 885.

**868 Molecular Biology Techniques G 5**

Combined lecture/laboratory in the techniques of nucleic acid isolation, analysis, hybridization, sequencing, cloning, expression, and associated biotechnologies.

Su Qtr. 5-hr cl, 5 3-hr labs. Prereq: Biochem 521 or 613 or equiv. Not open to students with credit for FdSc&Te 868. Cross-listed in Food Science and Technology.

**890 Seminar**

Discussions of current animal science research.

Su, Au, Wi, Sp Qtrs. 1 1-hr cl. Prereq: Grad standing Animal Sciences or permission of instructor.

**890.01 General Seminar G 1**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**890.02 Nutrition Seminar G 1**

Sp Qtr. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**890.03 Physiology Seminar G 1**

Sp Qtr. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**890.04 Genetics Seminar G 1**

Sp Qtr. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**890.05 Quality and Safety of Animal Products Seminar G 1**

Sp Qtr. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**890.06 Interdisciplinary Seminar G 1**

Sp Qtr. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**898 Interdepartmental Seminar in Nutrition G 1**

A seminar in nutrition and related fields.

Sp Qtr. Repeatable to a maximum of 5 cr hrs. Cross-listed in Food Science and Technology, and Human Nutrition. This course is graded S/U.

**993 Individual Studies G 1-5**

Exploratory research and advanced assignments; students elect problems after conference with the instructor in charge.

Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Anthropology

244 Lord Hall, 124 West 17th Avenue, 292-4149

**200 Introduction to Physical Anthropology U 5**

A scientific examination of humans as a biological and cultural organism based on primate evolution from living and fossil evidence; evolutionary theory and population adaptability.

Su, Au, Wi, Sp Qtrs. 5 cl. H200 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Biology

101 or equiv. Not open to students with credit for 251. NS Admis Cond course. GEC bio sci course.

**201 World Prehistory: An Anthropological Perspective U 5**

World prehistory from the origin of human culture through the development of civilization illustrated by selected examples; archaeological field method; concepts of analysis and interpretation.

Su, Au, Wi, Sp Qtrs. 5 cl. H201 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 261. GEC soc sci individuals and groups course. SS Admis Cond course. E201 may be available for honors embedded experience at the regional campuses.

**202 Peoples and Cultures: An introduction to Cultural Anthropology U 5**

Comparative survey of traditional and contemporary peoples in the several world culture regions; culture concepts; study of selected topics.

Su, Au, Wi, Sp Qtrs. 5 cl. H202 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci individuals and groups course. SS Admis Cond course.

**241 The Culture and Cultures of the Middle East U 5**

Introduction to the culture of the Middle East as lived in its villages, towns, and cities.

Au, Sp Qtrs. 2 2-hr cl. Not open to students with credit for NELC 241. Cross-listed in Near Eastern Languages and Cultures. GEC arts and hums cultures and ideas course.

**294 Group Studies U 2-5**

Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**300 Human Origins U 5**

The search for human origins through a reconstruction of the human and non-human primate fossil records of the last 60 million years; emphasis on human skeletal, behavioral, and social patterns.

Au, Wi, Sp Qtrs. 2 2-hr, 1 1-hr cl. Prereq: 200 or permission of instructor.

**301 Modern Human Physical Variation U 5**

Survey of modern human biological diversity; examination of the underlying evolutionary and adaptive mechanisms responsible; exploration of the interplay between biology and behavior in adaptation.

Au, Wi, Sp Qtrs. 2 2-hr cl, 1 hr arr. Prereq: 200 or permission of instructor. Not open to students with credit for 535.

**302 Introduction to Medical Anthropology U 5**

Relationship of anthropology to the art and science of medicine.

Au, Wi, Sp Qtrs. Prereq: 200 and 202, or permission of instructor.

**304 The Living Primates U 5**

Survey of the behavior, morphology and conservation of living primates; particular emphasis given to field studies and the position of humans within the Order Primates.

Au Qtr. 2 2-hr cl. Prereq: 200.

**305 Introduction to Forensic Anthropology U 5**

An introduction to the field of forensic anthropology in which students will be introduced to basic methods used to analyze unidentified human skeletal remains.

Sp Qtr.

**315 Evolution: Contemporary and Interdisciplinary Perspectives U 5**

Develop an understanding of the interplay among different disciplinary approaches to evolutionary studies.

Sp Qtr. 2 2-hr cl. Prereq: one biology, one anthropology or one earth sciences course. Not open to students with credit for EarthSci 315. Cross-listed in Earth Sciences.

**350 Prehistoric Indians of the Ohio Valley U 5**

The archaeology and cultural history of the Ohio Valley from the first human settlement to European colonization, emphasizing the Adena, Hopewell, and Ft Ancient traditions.

Sp Qtr. 3 cl, 3 weekend field trips. Prereq: 201 or permission of instructor.

**400 Contemporary Views of the Ancient Near East: Orientalism, Archaeology and Nationalism U 5**

Examines the history and impacts of Western archaeological scholarship in the Near East and explores contemporary archaeological practice.

Wi Qtr.

**401 Fundamentals of Archaeology U 5**

Introduction to basic archaeological theory and practice including fundamental field and laboratory, principles of survey, excavation, chronological analysis, typology, and palaeoethnography.

Au Qtr. 4 cl, 1 1-hr lab. Prereq: 201 or permission of instructor.

**402 Physical Anthropology of Selected World Regions**

Description and analysis of simple and complex hereditary characteristics in order to evaluate origin, adaptations and affinities of populations in a world region.

5 cl or 2 2-hr cl. Prereq: 200 or permission of instructor.

**402.01 North American Indians U 5****409 Primate Evolution U 5**

Examination of the origin, radiation, and (in some cases) extinction of each primate clade including prosimians, New World monkeys, Old World monkeys, apes, and humans.

Sp Qtr. 2 2-hr cl. Prereq: 200.

**411 Human Ecological Adaptations U 5**

A study of the interactive relationships between humans and their environments, past and present, with a focus on human biology.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 200 or permission of instructor, Zoology or EEOB 400 recommended.

**421 Regional Survey Course in Cultural Anthropology**

A survey of the cultures of selected regions.

Au, Wi, Sp Qtrs. 5 cl.

**421.01 China U 5**

A general survey of the traditional Chinese culture and society; family, kinship, and socio-political organizations; their transformations during the last century.

Not open to students with credit for 414.

**421.05 Anthropology of Africa U 5**

Overview of anthropological studies of traditional African societies, with themes of European colonialism, kinship, social organization, economics, and politics.

Sp Qtr.

**421.06 Latin American Cultures and Migration in Global Perspective U 5**

An intensive ethnographic investigation of Latin American and Caribbean migration (Mexico, Ecuador, The Dominican Republic) including the history of migration; contemporary movement; and transnationalism.

Wi Qtr. 2 2-hr cl.

**421.08 Indians of North America U 5**

Development of culture change in North American Indians.

Not open to students with credit for 412. GEC soc sci individuals and groups course.

**451 Archaeology of the Ancient Near East U 5**

Archaeology of the Levant, Mesopotamia and Egypt from human origins through the age of pyramids and ziggurats.

Au, Wi, Sp Qtrs. 2 2-hr cl, 1 1-hr cl.

**489 Internship in Anthropology U 2-6**

An opportunity for work experience and on-the-job learning in anthropology-related employment.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.5 CPHR, anthrop major, and soph standing or above. Repeatable to a maximum of 12 cr hrs. Credit cannot be counted toward the anthrop major. This course is graded S/U.

**500 Primate Sexuality U G 5**

An evolutionary approach to the diversity of mating systems, morphologies, processes, and behaviors among prosimians, monkeys, apes, and humans.

Sp Qtr. 2 2-hr cl. Prereq: 200.

**525 History of Anthropological Theory U G 5**

Major theoretical viewpoints in anthropology seen in their historical context.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 202 or permission of instructor.

**553 New World Prehistory**

Detailed surveys of native American prehistory in select regions from the earliest evidence of occupation to the intrusion of Old World populations.

Prereq: 201.

**553.01 Aztecs and their Predecessors U G 5**

Examines the ancient civilizations of Mesoamerica, including the Olmecs, Zapotecs, Mixtecs, Aztecs, and Teotihuacan.

Au Qtr. 4 cl.

**553.02 Prehistoric Indians of Eastern North America U G 5**

Survey of the archaeology and cultural history of North America east of the Rocky Mountains.

Sp Qtr. 4 cl. Not open to students with credit for 550, 551, or 551.01.

**553.04 Ancient Maya Civilization U 5**

Reviews recent archeological and epigraphic discoveries and examines the ancient Maya civilization of Mesoamerica.

Au Qtr. 2 2-hr cl.

**H570 Introduction to Quantitative Genetics in Anthropology U 5**

Introduction to the genetic basis and analysis of phenotypic variation and evolution with an emphasis on human populations and human characteristics.

Sp Qtr. 2 2-hr cl. Prereq: 200, Stat 529, Mol Gen 500, or permission of instructor.

Open to jr or sr honors students.

**597 Issues of the Contemporary World**

Prereq: Jr or sr standing. GEC contemporary world courses.

**597.01 Cultural Conflict in Developing Nations U 5**

Analysis of cultural conflict in developing nations resulting from rapid and extensive technological and social change.

Au, Sp Qtrs. 5 cl. Not open to students with credit for 450.

**597.02 Women, Culture, and Development U 5**

An analysis of the dramatic changes occurring in women's lives in response to development and modernization; developing and developed countries contrasted.

Au, Wi, Sp Qtrs. 5 cl. Not open to students with credit for 460.

**H597.03 The Prehistory of Environment and Climate U 5**

History of modern biotic communities, biological evidence of climatic change during the late glacial and Holocene, and exploration of the responses of terrestrial ecosystems to climatic functions.

Wi Qtr. 2 2-hr cl.

**597.04 The Molecular Revolution: Heredity, Genome Mapping, and Genomania U 5**

Interface of genetic technology, genome project, and health against background of societal tensions, genomania, and dilemmas of genetic testing, and repercussions of molecular revolution.

Su, Wi, Sp Qtrs.

**601 Medical Anthropology**

Biocultural and sociocultural aspects of health in modern and prehistoric populations.

**601.01 Biosocial Aspects of Health U G 5**

Biomedical and biosocial influences on problems of human health throughout the world, focusing upon the evolutionary implications of those problems.

Au, Wi, Sp Qtrs. 5 cl.

**601.04 Global Perspectives on Women's Health U G 5**

A cross-cultural comparison of the political, economic, social, and biological issues surrounding women's health.

Wi Qtr. 2 2-hr cl. Prereq: 200 or permission of instructor.

**602 Special Topics in Archaeology**

Detailed examination of select topics concerning the recovery and analysis of archaeological data.

Prereq: 401.

**602.01 Strategy of Archaeological Field Research U G 5**

Design of archaeological data recovery programs and their implementation through survey, excavation, and other methods.

Sp Qtr. 5 cl, 3 field trips arr. Not open to students with credit for 555, 556, or 556.02.

**602.02 Archaeological Laboratory Methods U G 5**

Practical experience in the laboratory analysis of archaeological materials with emphasis on stone, bone, and ceramic artifacts; preparation of reports on analytical procedures and results.

Wi Qtr. 5 cl, 6 lab hrs.

**602.03 Environmental Archaeology U G 5**

A survey of the principles, methods, and techniques of prehistoric environmental analysis; emphasis on understanding Pleistocene and Holocene environments as they relate to archaeology.

Au Qtr. 5 cl.

**602.04 Who Owns the Past? U G 5**

Examines key ethical and epistemological issues in archaeology, including changing cultural politics.

Sp Qtr. 2 2-hr cl. Prereq: 201.

**603 Biological Anthropology of the Human Skeleton****603.01 Human Osteology U G 5**

Study of human skeletal anatomy.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 200 or permission of instructor. Not open to students with credit for 601.03.

**603.02 Skeletal Biology U G 5**

A survey of bone biology, including histogenesis, histomorphology, and physiology of bone; topics include bone structure, growth and development, physiology, and anthropological applications.

Au, Wi, Sp Qtrs. Prereq: 200, 603.01, or permission of instructor.

**603.03 Dental Anthropology U G 5**

Evolutionary anthropology of human and non-human primate teeth.

Au, Wi, Sp Qtrs. Prereq: 200 or equiv or permission of instructor. Not open to students with credit for 640.03.

**603.04 Bioarchaeology U G 5**

Study of human remains from archaeological settings, with emphasis on relationship between biology, culture, health, and behavior.

Au, Wi, Sp Qtrs. Prereq: 200 or permission of instructor.



**610 Ethnobotany U G 5**

Introduction to the anthropological study of human interactions with the plant world.

Sp Qtr. 2 2-hr cl. Prereq: One course in anthrop or plnt bio at the 200 level or above, or permission of instructor.

**611 Evolutionary Perspectives on Human Behavior U G 5**

Advanced survey of contemporary evolutionary theories of human behavior and culture and their relevance to the broader discipline.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 200 and 202, plus 10 additional hours in anthropology, or by permission.

**620 Special Topics in Cultural Anthropology**

Detailed examination of topics of special interest in contemporary cultural anthropology.

Prereq: 202 or equiv or permission of instructor.

**620.01 Hunters and Gatherers U G 5**

Overview of anthropological studies of people who subsist primarily by hunting and gathering wild food.

Sp Qtr.

**620.02 The Anthropology of Women U G 5**

Repeatable to a maximum of 16 cr hrs.

**620.03 Peasant Society and Culture U G 5**

Comparative study of the history, cultural practices, social organization and economic strategies of the rural proletariat throughout the world.

**620.05 Cultural Ecology U G 5**

Theory and ethnographic examples of human-environment interactions, focusing on the role of culture and behavior in environmental adaptation.

**620.08 The Anthropology of Food: Culture, Society and Eating U G 5**

Explores food traditions, global expansion of foods and the production/exchange of food in culture and society.

Au Qtr. Prereq: 200, 201, 202 or permission of instructor.

**620.11 Anthropology of Religion U G 5**

World views of tribal and peasant cultures with an emphasis on religion; integration of religion with other aspects of culture.

Not open to students with credit for 515. Repeatable to a maximum of 16 cr hrs.

**620.15 Economic Anthropology U G 5**

An analysis of economic rationality in non-market and market societies; resource allocation, work organization, product disposition, exchange, money, trade, and development.

Wi, Sp Qtrs.

**630 Language and Culture in Education U G 5**

Examination of the problems of educating children of diverse cultural and linguistic backgrounds in the U.S. school system.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 202 or equiv or grad standing.

**640 Special Topics in Physical Anthropology**

Topics of current concern to physical anthropologists.

Prereq: 200 or equiv or permission of instructor.

**640.01 Primate Behavior U G 5**

A broad survey of living primates, major taxonomic groups within the order, diet, group living, mating strategies, predation, intelligence.

**640.02 Growth and Development U G 5**

**640.04 Forensic Anthropology U G 5**

Application of osteological and bioarchaeological methods in forensic science.

Au Qtr. Prereq: 603.01 or equiv.

**640.05 Biology of Senescence U G 5**

Biology of human senescence, aging, longevity, and chronic disease; evolutionary theories, mechanistic models, biocultural influences, cellular and physiological processes; biodemography, interventions, hormesis.

Sp Qtr. 2 2-hr cl. Prereq: 200 or Biology 101 or Biology 113 or permission of instructor.

**640.06 Human Evolutionary Anatomy U G 5**

An evolutionary approach to studying the human body through integrative anatomy, focusing on the functional anatomy of fossil and modern hominid skeletal evidence and primate comparative anatomy.

Sp Qtr. Prereq: 300.

**685 Summer Field School in Archaeology U G 3-12**

Practical experience in archaeological fieldwork including site survey, excavation, surveying and mapping, preservation, and other related methods and techniques of data recovery.

Su Qtr. Full time in expedition camp. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. Field school is conducted at a site within commuting distance of the Columbus campus.

**693 Individual Studies**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**693.01 Theory U G 1-5**

Repeatable. This course is graded S/U.

**693.02 History U G 1-5**

Repeatable. This course is graded S/U.

**693.03 Anthropological Linguistics U G 1-5**

Repeatable. This course is graded S/U.

**693.04 Research Methodology U G 1-5**

Repeatable. This course is graded S/U.

**693.05 Prehistory U G 1-5**

Repeatable. This course is graded S/U.

**693.06 Ethnography U G 1-5**

Repeatable. This course is graded S/U.

**693.07 Physical Anthropology U G 1-5**

Repeatable. This course is graded S/U.

**694 Group Studies U G 2-15**

Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**699 Undergraduate Research in Anthropology U 1-15**

Undergraduate research in variable topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**701 Advanced Topics in Physical Anthropology**

Discussion of advanced topics in human variation and hominid evolution; emphasis on critical analysis and evolution of theoretical topics in research design.

2 2-hr cl, 1 hr arr.

**701.01 Modern Human Physical Variation U G 5**

Survey of modern human biological diversity; examination of the underlying evolution and adaptive mechanisms responsible; exploration of the interplay between biology and behavior in adaptation.

Not open to students with credit for 535 or 803.04.

**701.02 Hominid Paleoanthropology U G 5**

A comprehensive study of the fossil hominids; fossils of "Homo Sapiens" and their relation to other fossil hominids.

**702 Theories in Cultural Anthropology U G 5**

Major theoretical orientations in cultural anthropology; the developmental histories of the major theoretical schools and examination of their respective philosophical foundations.

Au Qtr. 2 2-hr cl, arr time.

**703 Culture and Language U G 5**

Development and range of anthropological concerns with language; emphasis on utility of linguistic approaches, methods, and theories to other subdisciplines of anthropology.

Au, Wi, Sp Qtrs. 2 2-hr cl.

**750 Osteology and Odontology Laboratory U G 6**

Advanced theoretical and practical study of an osteological or odontological problem from data collection through data analysis to the presentation of results.

Wi, Sp Qtrs. 2.3-hr cl. Prereq: 603.01, 603.02, 603.03, and 603.04; or permission of instructor. Repeatable to a maximum of 18 cr hrs.

**H783 Honors Research U 3-5**

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the anthrop courses and an average of B in the remainder; permission of the instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 2 qtrs are required of candidates for the degree BA with distinction in anthrop. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**801 Seminars in World Prehistory**

Au, Wi, Sp Qtrs. Prereq: Admission to grad program.

**801.01 Archaeology of Hunter-Gatherer Societies G 5**

Advanced study of hunter-gatherer band society from theoretical, ethnographic, and archaeological perspectives.

**801.02 Origins of Food Production G 5**

Advanced theoretical and comparative study of the origins of food production in the Old and New Worlds.

Not open to students with credit for 803.07.

**801.03 The Archaeology of Complex Societies G 5**

Advanced theoretical and comparative study of the rise and fall of complex societies in antiquity in the Old and New Worlds.

Wi Qtr. 1 3-hr cl.

**802 Issues in Archaeological Theory G 5**

Examination of the assumptions and concepts underlying analysis of archaeological data; methods of reconstructing cultural history, past lifeways, and explaining cultural change.

Wi Qtr. 4 cl. Prereq: Admission to graduate program. Not open to students with credit for 656 or 556.01.

**805 Seminars in Ethnology**

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable to a maximum of 45 cr hrs.

**805.01 North America G 3-5**

Repeatable to a maximum of 10 cr hrs.

**805.02 East Asia G 3-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**810 Seminars in Cultural Anthropology**

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable to a maximum of 45 cr hrs.

**810.01 Nature of Culture G 3-5**

Repeatable to a maximum of 10 cr hrs.

**810.05 Acculturation, Change and Stability G 3-5**

Repeatable to a maximum of 10 cr hrs.

**810.06 Peasant Cultures G 3-5**

Repeatable to a maximum of 10 cr hrs.

**810.08 Human Ecology G 3-5**

Repeatable to a maximum of 10 cr hrs.

**810.21 Study Design and Data Analysis G 3-5**

Repeatable to a maximum of 10 cr hrs.

**810.22 Theory and Problems in Cultural Anthropology G 3-5**

Repeatable to a maximum of 10 cr hrs.

**810.23 Ethnographic Field Experience G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820 Seminars in Physical Anthropology**

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable to a maximum of 45 cr hrs.

**820.01 Evolutionary Theory G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.03 Non-human Primate Behavior G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.04 Human Growth and Development G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.05 Population Genetics G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.06 Biological Distance G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.11 Biocultural Adaptations G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.12 Primate Anatomy G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.16 Biomedical Anthropology G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.17 Biocultural Medical Anthropology G 5**

Explores human reproduction from a biocultural and ecological perspective.

**820.18 Research Issues in Gerontology G 5**

Explores the interface between research and practice issues in gerontology and geriatrics.

Sp Qtr. 1 3-hr cl. Prereq: Grad standing. One course in research design or statistics is recommended. Not open to students with credit for Soc Work 727. Cross-listed with Soc Work 727.

**820.24 Quantitative Methods G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.25\* Quantitative Methods II: Advanced G 3-5**

Repeatable to a maximum of 10 cr hrs.

**820.30 Bioarchaeology G 5**

Seminar on the study of human remains from archaeological contexts; focus on health, disease, injury, biomechanics, diet, and population history.

1 3-hr cl.

**827 Writing and Publishing in Anthropology G 5**

Advanced seminar in production and publication of professional literature in anthropology.

Au, Wi, Sp Qtrs. 5 cl. Open only to students in anthrop grad program.

**828 Writing Research Proposals in Anthropology G 5**

Advanced seminar in constructing and submitting proposals for funded research in anthropology.

Au, Wi, Sp Qtrs. 5 cl. Open only to students in anthrop grad program.

**830 Seminars in Prehistory**

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable to a maximum of 30 hours.

**830.01 Archeology of High Civilizations G 3-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**830.02 Old World History G 3-5**

Repeatable to a maximum of 10 cr hrs.

**830.03 North American Archaeology G 3-5**

Repeatable to a maximum of 10 cr hrs.

**830.04 Seminar in the Archaeology of the Ancient Near East G 5**

Examines anthropological approaches to archaeological remains of 50,000 years of diverse cultures in the Near East from the first humans to the first empires.

Au Qtr. 2 1.5-hr lecture, 1.5-hr seminar.

**830.05 Landscape in Anthropology G 3-5****993 Individual Studies**

Su, Au, Wi, Sp Qtrs. 2 conf hrs. Permission of instructor.

**993.01 Theory G 1-5**

Repeatable. This course is graded S/U.

**993.02 History G 1-5**

Repeatable. This course is graded S/U.

**993.03 Anthropological Linguistics G 1-5**

Repeatable. This course is graded S/U.

**993.04 Research Methods G 1-5**

Repeatable. This course is graded S/U.

**993.05 Prehistory G 1-5**

Repeatable. This course is graded S/U.

**993.06 Ethnology G 1-5**

Repeatable. This course is graded S/U.

**993.07 Physical Anthropology G 1-5**

Repeatable. This course is graded S/U.

**993.08 Unclassified G 1-5**

Repeatable. This course is graded S/U.

**993.09 Cultural Anthropology G 1-5**

Repeatable. This course is graded S/U.

**998 Research in Anthropology: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**999 Research in Anthropology: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Arabic

300 Hagerty Hall, 1775 College Rd, 292-9255

**101 Elementary Modern Standard Arabic I**

Developing the ability to use Arabic functionally and communicatively in context; intensive oral interaction with instructor and fellow students; the basics of the writing system.

Su, Au, Wi, Sp Qtrs. Not open to native speakers of this language through regular course enrollment or EM credit or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

5 cl. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**101.51 Individualized Track U 1-5**

Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 hrs before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**102 Elementary Modern Standard Arabic II**

Developing further language ability through learning how to perform certain functions orally and using them with fellow students; reading and writing passages reflecting their abilities.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

Au, Wi, Sp Qtrs. Prereq: 101.01 or 5 cr hrs of 101.51. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**102.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Grade of B- or above in 101.01, or 5 cr hrs of 101.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students may register for 101.51 or 102.51 concurrently with permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 hrs before the end of the qtr may proceed to 103.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**103 Elementary Modern Standard Arabic III**

Further language functions requiring the use of more complex structures; intensive oral interaction with instructor and fellow students; reading practice in and out of class.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**103.01 Classroom Track U 5**

Au, Wi, Sp Qtrs. 5 cl. Prereq: 102.01, or 5 cr hrs of 102.51, or 110. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**103.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Grade of B- or above in 102.01, or 5 cr hrs in 102.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**104 Intermediate Modern Standard Arabic I**

Building on previously acquired functional abilities; using Arabic to express opinion and feelings; oral interaction in the classroom; reading authentic texts of various genres.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**104.01 Classroom Track U 5**

Au, Wi, Sp Qtrs. 5 cl. Prereq: 103 or 112. Not open to students with credit for 602. This course is available for EM credit.

**104.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Grade of B- or above in 103.01, or 5 cr hrs in 103.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with 80% proficiency required for advancement.

**151 Basic Colloquial Arabic I**

Introduction to phonology and grammar of the spoken language of educated urbanites of the Eastern Arab world.

Not open to students with credit for 106 or 151 or 201. Does not satisfy ASC foreign language requirement.

**151.51 Individualized Track U 1-5**

Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 5 cr hrs.

**200 Arabic Grammar****200.01 Arabic Grammar I U 5**

Accelerated introduction to the structure of modern standard and classical Arabic: phonology, morphology, and syntax, with emphasis on development of reading comprehension skills.

Prereq: 104. Not open to students with credit for 402 or 400.01.

**200.02 Arabic Grammar II U 5**

Continuation of 200.01 with emphasis on the grammatical analysis and comprehension of authentic texts selected from different periods and genres.

Prereq: 200.01 or permission of instructor. Not open to students with credit for 400.02.

**205 Intermediate Modern Standard Arabic II**

Initiating and sustaining communication; reading and understanding short authentic passages; and writing to express many language functions.

**205.01 Classroom Track U 5**

Prereq: 104.01 or 5 cr hrs of 104.51. Students must register for and complete 5 cr hrs during the qtr.

**205.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Grade of B- or above in 104.01, or 5 cr hrs of 104.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**241 Culture of the Contemporary Arab World U 5**

A general survey and examination of the socio-cultural structure of the modern Arab world.

H241 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Taught in English. GEC arts and hums cultures and ideas course.

**293 Individual Studies U 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**294 Group Studies U 1-15**

Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 30 cr hrs.

**367 Issues in Arab-American Society, Culture, and Literature U 5**

Discussion, analysis, and writing about issues relating to Arab-American culture, society, and literature within the context of social diversity in the United States.

Prereq: English 110 or 111 or equiv, and soph standing or above. GEC second writing and social diversity course.

**371 Classical and Medieval Arabic Literature in Translation U 5**

Reading and analysis of major works of Arabic literature from the 5th to the 17th centuries including classical poetry, the Qur'an, and the Arabian Nights.

Not open to students with credit for 271 and 272. GEC arts and hums lit course.

**372 Modern Arabic Literature in Translation U 5**

Reading and analysis of representative works of the 19th and 20th centuries; by contemporary women authors.

H372 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or 111 or equiv. Not open to students with credit for 273 or Wom Stds 372. Cross-listed in Women's Studies. GEC arts and hums lit course.

**377 Contemporary Folklore in the Arab World U 5**

Study of contemporary folklore of the Arab world, including verbal art, material culture, visual self-presentation, and performance.

Prereq: English 110. Not open to students with credit for Comp Std 377. Cross-listed in Comparative Studies. GEC arts and hums cultures and ideas course.

**401 Intermediate Literary Arabic Reading U 5**

Developing reading skills through reading adapted and authentic Arabic texts; selections reflect cultural and literary aspects of Arab-Islamic civilization.

Prereq: 205 or permission of instructor.

**403 Intermediate Arabic Conversation and Composition U 5**

Practice in aural comprehension, conversation, and controlled compositions on various aspects of Arabic culture.

Prereq: 205. Not open to students with credit for 604.

**603 Advanced Arabic Conversation and Composition U G 5**

Intensive practice in speaking and writing Arabic at an advanced level based on contemporary literary usage; conducted entirely in Arabic.

Prereq: 403 or permission of instructor. Not open to students with credit for 601.

**610 Introduction to Arabic Linguistics U G 5**

An introduction to the structure of the Arabic language, both spoken and written.

Prereq: 103 or 152, and Linguist 601, or permission of instructor.

**611 History of the Arabic Language U G 5**

Survey of the evolution of the Arabic language in its cultural and historical setting.

Prereq: Permission of instructor. GEC third writing course.

**615 Translation: Theory and Practice U G 5**

Examination of some general guidelines for translating from Arabic to English or from English to Arabic, depending on the first language of the student.

Prereq: Permission of instructor. Advanced reading proficiency in second language.

**626 Introduction to the Arabic Qur'an U G 5**

A linguistic, literary, and cultural analysis of selected chapters from the Qur'an.

Prereq: 403.

**627 Classical Arabic Poetry U G 5**

Selected readings from classical and medieval Arabic poetry; Arabic metrics and literary theory.

Prereq: 403.

**628 Classical Arabic Prose U G 5**

Selected readings reflecting the evolution of Arabic prose literature from its origins to the late Abbasid period.

Prereq: 403.

**651 Contemporary Arabic Prose Fiction U G 5**

Reading and analysis of short stories and novels representative of major developments and trends of the 20th century.

Prereq: 403. Not open to students with credit for 622 or 625.

**652 Contemporary Arabic Poetry and Drama U G 5**

Reading and analysis of plays and poems representative of major developments and trends of the 20th century.

Prereq: 403. Not open to students with credit for 623 or 624.

**671 The Qur'an in Translation U G 5**

An introduction, in English, to the literary, religious, and cultural implications of the fundamental Book of Arabic literature and of Islamic civilization.

**672 Arabic Folk Narrative in Translation U G 5**

Literary and cultural aspects of 1001 Nights and other popular narratives (epics, legends, folktales) in the Arab world.

**692 Workshop U G 1-9**

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.

Su Qtr. Arr. Prereq: Teaching experience and written permission of workshop director. Repeatable to a maximum of 27 cr hrs. This course is graded S/U.

**693 Individual Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-15**

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**710 Studies in Arabic Linguistics U G 5**

Advanced analytical study of synchronic, diachronic, sociolinguistic, and dialectal topics and problems.

Prereq: 610 or 611 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**721 Studies in Arabic Poetry U G 5**

Advanced study of specific poetic periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary source materials.

Prereq: 10 cr hrs of Arabic literature at the 600 level or equiv. Repeatable to a maximum of 15 cr hrs.

**722 Studies in Arabic Prose U G 5**

Advanced study of specific periods, authors and/or genres of prose writing (literary or non-literary) involving extensive reading and discussion of primary and secondary materials.

Prereq: 10 cr hrs of Arabic literature at the 600 level or equiv. Repeatable to a maximum of 20 cr hrs.

**H783 Honors Research U 3-5**

Offers undergraduates with special aptitudes a greater opportunity to do independent study and research than is possible in normal course work.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the Arabic courses and an average of B in the remainder; permission of the instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 2 quarters are required of candidates for the degree BA with distinction in Arabic. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**801 Teaching Arabic at the College Level G 5**

Methods and techniques for the teaching of Arabic at the college level.

Au Qtr. 2-wk intensive workshop followed by 1 2-hr cl weekly. Prereq: TA in NELC or permission of instructor. For students enrolled in this course, the minimum number of hrs required for graduation is increased by 5 cr hrs.

**811 Seminar in Arabic Studies G 5**

Intensive investigation of a selected topic or problem in Arabic linguistics, philology, literature, or literary culture.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. Preparation of major research paper is required.

**998 Research in Arabic G 1-25**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**100 Architecture Survey U 1**

Introduction to the University, the Knowlton School of Architecture and the professions of architecture, city and regional planning and landscape architecture.

Au, Wi, Sp Qtrs. 2 cl. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Cross-listed in Landscape Architecture.

**200 Outlines of Architecture and Landscape Architecture U 3**

Introduction to the disciplines of architecture and landscape architecture with an emphasis upon the physical artifact and its formal and cultural context.

Su, Au, Wi, Sp Qtrs. 3 cl. H200 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for Larch 200. Cross-listed in Landscape Architecture. Required for students intending to major in arch. VPA Admis Cond course.

**201 Introduction to Architectural History U 3**

Introduction to architecture, emphasis on three-dimensional qualities of complex architectural form and space as determined by cultural history.

3 cl. Not open to 3rd and 4th year arch students. VPA Admis Cond course.

**202 Introduction to Basic Design in Architecture and Landscape Architecture U 5**

Introduction to basic design: problem solving techniques; language of design; exploration of space and object through graphic exercises, drawings and models.

8 lab hrs. Not open to students with credit for Larch 151. Cross-listed in Landscape Architecture as 151. VPA Admis Cond course.

**241 Architectural Design I U 6**

Introduction to architectural design including issues of human occupation and movement, space, structure, material and site, with an emphasis on developing representational and conceptual skills.

Au Qtr. 2 cl, 10 lab hrs. Prereq: 200 and 202; concur 271; Math 150 and 117 or equiv; Physics 111 or equiv, Physics 112 recommended and submission of portfolio based on 202. Admission to AHR, who have completed 200, 202 with a 2.75 GPA and have earned a 2.75 GPA with at least 45 earned hrs; Admission is competitive.

**242 Architectural Design II U 6**

Continuation of 241.

Wi Qtr. 2 cl, 10 lab hrs. Prereq: 241, 271; concur 272. Open only to students enrolled in arch.

**243 Architectural Design III U 6**

Continuation of 242.

Sp Qtr. 2 cl, 10 lab hrs. Prereq: 242, 272; concur 273. Open only to students enrolled in arch.

**271 Architectural Graphics I U 3**

Course sequence introducing techniques of representation, including freehand and constructed 3-D drawing, computer modeling and graphics for design.

Au Qtr. 2 cl, 6 lab hrs. Concur: 241. Open only to students enrolled in arch. GEC arts and hums VPA course.

**272 Architectural Graphics II U 3**

Continuation of 271.

Wi Qtr. 2 cl, 6 lab hrs. Prereq: 271; concur 242. Open only to students enrolled in arch.

**273 Architectural Graphics III U 3**

Continuation of 272.

Sp Qtr. 2 cl, 6 lab hrs. Prereq: 272; concur 243. Open only to students enrolled in arch.

**293 Individual Studies in Architecture U 1-5**

Designed for students who desire to pursue, individually, special studies in the discipline.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**294 Group Studies in Architecture U 1-5**

Designed for students who desire to pursue, in a group, special studies in the discipline.

Su, Au, Wi, Sp Qtrs. H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of dept. Repeatable to a maximum of 15 cr hrs.

**341 Architectural Design IV U 6**

Continued development of architectural design skills through exploration and integration of site, program and construction in a series of design problems.

Au Qtr. 2 cl, 10 lab hrs. Prereq: 243; concur 626. Open only to students enrolled in arch.

**Architecture**

100 Knowlton Hall, 275 West Woodruff Avenue, 292-1012

**342 Architectural Design V U 6**

Continuation of 341.  
Wi Qtr. 2 cl, 10 lab hrs. Prereq: 341; concur 627. Open only to students enrolled in arch.

**343 Architectural Design Options Studio U 6**

Studio explorations of architectural design and research. Topics vary.  
Sp Qtr. 1 cl, 10 lab hrs. Prereq: 342 or permission of instructor. Open only to students enrolled in arch. Cross-listed with 443.

**426 Introduction to Architectural Structures U 4**

Survey of statics and strength of materials; survey of structural systems with emphasis on integrated structural behavior and selection of the best structural system.  
Au Qtr. 4 cl. Prereq: Physics 111. BER/LAR/GEC course. Meets Natural Science GEC with Physics 111.

**441 Architectural Design VI U 6**

Capstone studio: design of a complex building on an urban site; emphasis on historical, cultural, and social implications of architecture in addition to site, program, and building technology.  
Au Qtr. 2 cl, 10 lab hrs. Prereq: 342. Open only to students enrolled in arch. 441 and 442 must be taken in sequence in the same year.

**442 Architectural Design VII U 6**

Continuation of 441.  
Wi Qtr. 1 cl, 10 lab hrs. Prereq: 441 or permission of Undergrad Committee. Open only to students enrolled in arch. Arch 441 and 442 must be taken in sequence in the same year. Meets Capstone requirement with 441.

**443 Architectural Design Options Studio U 6**

Studio explorations of architectural design and research. Topics vary.  
Sp Qtr. 1 cl, 10 lab hrs. Prereq: 342 or 442 or permission instructor. Open only to students enrolled in arch. Cross-listed with Arch 343.

**H444 Special Honors Design Studies U 6**

Studio for group and/or individual design studies.  
Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing in arch with a minimum cumulative pt-hr ratio of 3.20, permission of instructor and Dept Honors Committee. Accepted students may substitute this course for 441, 442, or 443.

**600 History of Ancient and Medieval Architecture U G 4**

Survey of history of architecture of Mesopotamia, Egypt, Greece, and Rome; includes early Christian, Byzantine, Romanesque, and Gothic periods; includes historical inquiry, physical, and cultural influences, theories, and analysis techniques.  
2 2-hr cl. H600 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Open to majors and non-majors.

**601 History of Architecture: Renaissance to Crystal Palace U G 4**

Survey of history of architecture of Renaissance, Mannerist, Baroque, Enlightenment periods to the mid-19th century; includes historical inquiry, physical and cultural influences, theories and analysis techniques.  
2 2-hr cl. H601 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Open to majors and non-majors.

**602 History of Modern Architecture U G 4**

Survey of history of modern architecture; includes historical inquiry, physical and cultural influences, theories and analysis techniques.  
2 2-hr cl. H602 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Open to majors and non-majors.

**603 Topics in Architectural History and Theory U G 3**

Investigation of topics in architectural history and theory.  
3 cl. H603 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor required. Repeatable to a maximum of 9 cr hrs. Open to majors and non-majors.

**604 History and Preservation of 19th- and 20th-Century American Architecture U G 3**

Investigation of 19th- and 20th-century American architecture with emphasis upon issues of preservation and conservation.  
3 cl. Prereq: Grad standing or 4th yr standing in arch or permission of instructor.

**605 Research Methods in Architectural History and Preservation U G 3**

A survey of literary and physical research techniques in architectural history and preservation; identification and recording of historic buildings; field work in inventory techniques.  
3 cl. Prereq: Grad standing or 4th yr standing in arch or permission of instructor.

**606 Architectural Preservation: Administration and Practice U G**

**3**

An outline of regulations, laws, economic incentives, funding sources, and technical/design guidelines as they affect architectural preservation.  
3 cl. Prereq: 4th yr standing or grad standing in arch or permission of instructor.

**609 Evolution of the English Architectural Environment U G 3**

Survey of the development of the English architecture in response to the physical characteristics of the island and the changing social, political, and economic context.  
3 cl. Not open to students with credit for 309. Open to majors and non-majors.

**610 Survey of Architectural Theory U G 3**

Survey of architectural theory which reviews the history of architecture while searching for reinterpretations, strategies, structures, and precedents for theory in Western intellectual history.  
3 cl. Prereq: 301, 302, 303, 304, 305, or 600, 601, 602, and 603; or permission of instructor. Not open to students with credit for 401.

**616 Introduction to Architectural Structures G 3**

Survey of statics and strength of materials; survey of structural systems with emphasis on integrated structural behavior and selection of best structural systems.  
Au Qtr. 2 2-hr cl. Open only to students in 3+ Master of Architecture Program.

**617 Wood and Steel Structure U G 3**

Principles, elements, computations, detailing, and connections for structural wood and steel.  
Wi Qtr. 3 cl. Prereq: 426 or 616. Not open to students with credit for 427.

**618 Masonry and Concrete Structure U G 3**

Principles, elements, computations, detailing, and connections for structural masonry and concrete.  
Sp Qtr. 3 cl. Prereq: 427 or 618. Not open to students with credit for 428.

**626 Introduction to Building Construction U G 3**

Introduction to construction materials and method with an emphasis on wood light frame and timber construction.  
Au Qtr. 3 cl, 2 hrs lab. Prereq: Arch 3rd yr or permission of instructor. Concur 341 (U only).

**627 Building Construction I U G 3**

Introduction to construction materials and method with an emphasis on masonry and concrete construction.  
Wi Qtr. 3 cl, 2 hrs lab. Prereq: 626. Concur 342 (U only).

**628 Building Construction II U G 3**

Introduction to construction materials and method with an emphasis on glass, steel, and curtain wall construction.  
Sp Qtr. 3 cl, 2 hrs lab. Prereq: 627.

**630 Computer Graphics for Architectural Design U G 3**

Introduction to computer-aided architectural design for studio uses; theory of architectural modeling and design applications using commercially available software.  
1 2-hr cl, 1 2-hr lab. Prereq: Admission to School of Architecture Graduate Program or permission of instructor.

**641 Accelerated Architectural Design I U G 6**

Architectural analysis and problem solving for students in the 3+ Architecture Graduate Program.  
Au Qtr. Prereq: Admission to the 3+ Master of Architecture Program.

**642 Accelerated Architectural Design II U G 6**

Continuation of 641.  
Wi Qtr. Prereq: 641. Open only to students in the 3+ Master of Architecture Graduate Program.

**643 Accelerated Architectural Design III U G 6**

Continuation of 642.  
Sp Qtr. Prereq: 642. Open only to students in the 3+ Master of Architecture Graduate Program.

**660 Topics in Computing for Architectural Design U G 4**

Investigation of computer techniques and usage as they relate to architecture. Topics vary.  
Prereq: Arch 3rd yr and 273 or 630, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

**661 Environmental, Mechanical and Electrical Systems in Architecture I U G 3**

Environmental, mechanical, electrical, lighting systems for architecture. Includes: heat loss/gain, heating/cooling, energy usage; acoustics/noise control, water, sanitary, storm water systems, fire protection; daylighting.

Au Qtr. 3 cl. Prereq: Physics 112, enrollment in Graduate School, or permission of instructor. One of 3 courses sequenced with 662, 663.

**662 Environmental, Mechanical and Electrical Systems in Architecture II U G 3**

Environmental, mechanical, electrical, lighting systems for architecture. Includes: heat loss/gain, heating/cooling, energy usage; acoustics/noise control, water, sanitary, storm water systems, fire protection; daylighting.

Wi Qtr. 3 cl. Prereq: Physics 112, enrollment in Architecture, or permission of instructor. One of 3 courses sequenced with 661, 663.

**663 Environmental, Mechanical and Electrical Systems in Architecture III U G 3**

Environmental, mechanical, electrical, lighting systems for architecture. Includes: heat loss/gain, heating/cooling, energy usage; acoustics/noise control, water, sanitary, storm water systems, fire protection; daylighting.

Sp Qtr. 3 cl. Prereq: Physics 112, enrollment in Architecture, or permission of instructor. One of 3 courses sequenced with 661, 662.

**671 Social and Psychological Influences on Architecture U G 3**

Survey of the relationships between human-made surroundings and selected social/psychological processes basic to human functions; the application of this material to programming, design, and evaluations of settings for human use.

3 cl. Prereq: Arch 3rd yr standing or above.

**672 Economic Influences on Architecture U G 3**

Survey of economic issues and methods relevant to practice of architecture including the building delivery systems, market analysis, computation of present, future and annual worth; life cycle costing, depreciation, and tax implications.

3 cl. Prereq: Arch 3rd yr standing or above.

**693 Individual Studies in Architecture U G 1-5**

For students majoring in arch desiring to pursue special studies not offered in the fixed curriculum.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor and completion of dept independent study form. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies in Architecture U G 1-5**

For students majoring in arch desiring to pursue special studies not offered in the fixed curriculum.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor and completion of dept independent study form. Repeatable to a maximum of 15 cr hrs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**H698.03 Honors U G 1-15**

Repeatable.

**698.04 Study Abroad Preparatory Course U G 1-15**

H698.04 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Repeatable.

**700 Allied Arts and Issues U G 3**

Analysis of arts and issues related to architecture. Topics vary.

3 cl. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**701 History of Architectural Theory U G 3**

Survey of architectural theories as stated by architects, historians, and architectural critics.

3 cl. Prereq: Arch 4th yr standing or permission of instructor.

**724 Structural Design in Architecture U G 3**

Analysis and design of structural elements and systems; emphasis on integration of structures and building design.

3 cl. Prereq: 428 or 618 or permission of instructor.

**751 Practice of the Design Professions I U G 3**

History of professions and their clients; the professional's interaction with society and government substantive aspects of practice, including organization and communication; legal aspects of construction.

Au Qtr. 3 cl. Prereq: Grad standing in arch or permission of instructor.

**752 Practice of the Design Professions II U G 3**

Management of construction contracts; bonds and insurance operational

procedures during negotiation and construction phases; arbitration; office and project case studies.

Sp Qtr. 3 cl. Prereq: Grad standing in arch or permission of instructor.

**H783 Honors Research U 3**

Research and investigation for each student with individual conferences resulting in a proposal, objectives, bibliography, and other research.

Arr. Prereq: 4th yr standing in arch with a minimum cumulative pt-hr ratio of 3.20, permission of instructor and Dept Honors Committee. This course is graded S/U.

**H784 Honors Project U 6**

Development and promulgation of an honors project as proposed in H783.

Arr. Prereq: H783, 4th yr standing in arch with a minimum cumulative pt-hr ratio of 3.20, permission of instructor and Dept Honors Committee. Accepted students may substitute this course for 443. Completion and acceptance of the project is required for graduation with distinction in BS Arch.

**801 Architectural Theory: Criticism G 3**

Fundamentals of the formal analysis of persistent architectural typologies.

Au Qtr. 3 cl. Prereq: Grad standing in arch; concur: 841.

**802 Architectural Theory: Tectonics G 3**

Investigations into the tectonic strategies of 20th century architecture.

Wi Qtr. 3 cl. Prereq: Grad standing in arch; concur: 842.

**803 Architectural Theory Seminar**

Investigations of Contemporary Architectural Theory.

Prereq: 802. Students select two of the following decimal subdivisions.

**803.01 Architectural Issues I G 3**

Repeatable to a maximum of 6 cr hrs.

**803.02 Architectural Issues II G 3**

Repeatable to a maximum of 6 cr hrs.

**803.03 Architectural Issues III G 3**

Repeatable to a maximum of 6 cr hrs.

**803.04 Architectural Issues IV G 3**

Repeatable to a maximum of 6 cr hrs.

**810 Baumer Seminar G 3**

Contemporary strategies in architectural practice and criticism as elaborated upon by significant architects, designers, theoreticians and historians. Taught by Baumer Distinguished Visiting Professor.

Sp Qtr. Prereq: Permission of Graduate Studies Committee and 6th yr grad standing. Repeatable to a maximum of 9 cr hrs.

**841 Advanced Architectural Design I G 6**

Development of small-scale residential and institutional projects with an emphasis on historical precedent.

Au Qtr. 8 lab hrs. Concur: 801.

**842 Advanced Architectural Design II G 6**

Continuation of 841. Programs and sites of increasing complexity with additional emphasis on tectonic strategies.

Wi Qtr. 8 lab hrs. Concur: 802.

**844 Advanced Architecture Studio Options**

Final graduate design studios devoted to the development of creative, technical and critical strategies in contemporary architectural practice.

Prereq: 802 and 842.

**844.01 Advanced Design I G 6**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 24 cr hrs.

**844.02 Advanced Design II G 6**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 24 cr hrs.

**844.03 Advanced Design III G 6**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 24 cr hrs.

**844.04 Advanced Design IV G 6**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 24 cr hrs.

**893 Individual Studies in Architecture G 1-6**

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in arch, permission of instructor, and completion of dept independent study form. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**894 Group Studies in Architecture G 1-6**

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in arch, permission of instructor. Repeatable to a maximum of 18 cr hrs.

**899 Interdepartmental Seminar G 1-5**

See Interdepartmental Seminars.

Su, Au, Wi, Sp Qtrs.

**999 Research in Architecture G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Art

146 Hopkins Hall, 128 North Oval Mall, 292-5072

### 200 Concepts and Issues in Art U 2

An orientation for new art students and a survey of art making with an emphasis on contemporary works.

Su, Au, Wi, Sp Qtrs. 2 cl. Not open to students with credit for 162.

### 205 Beginning Drawing U 5

An introduction to basic freehand drawing, exploration of a range of drawing methods, media, concepts; emphasis on drawing from observation.

Su, Au, Wi, Sp Qtrs. 1 cl, 3 3-hr labs. H205 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 170. GEC arts and hums VPA course. VPA Admis Cond course.

### 206 Visual Studies: Two Dimensional Art U 5

Basic concepts of two-dimensional art dealing with visual structure, process, content, and invention.

Su, Au, Wi, Sp Qtrs. 3 3-hr labs. H206 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 172. GEC arts and hums VPA course. VPA Admis Cond course.

### 207 Visual Studies: Three-Dimensional Art U 5

Basic concepts of three-dimensional art dealing with the organization of space and form, using a variety of materials, processes, tools.

Su, Au, Wi, Sp Qtrs. 3 3-hr labs. Prereq or concur: 172 or 206. Not open to students with credit for 182.

### 208 Visual Studies: Four Dimensional Art Real and Recorded Time U 3

Introduction to basic concepts of real time and recorded time-based artworks using a variety of processes and media.

Au, Wi, Sp Qtrs. 3 2-hr cl. Prereq: 170 or 205, 172 or 206, and 182 or 207. Not open to students with credit for 260.

### 299 BA Portfolio Review U 0

Successful BA portfolio review.

Prereq: 200, 205, 206, 207, 208. This course is graded S/U.

### 300 Introduction to Photography

Introduction to photographic theory, practice, and aesthetics with image production and critique.

2 2-hr cl and 1 1-hr lecture. GEC arts and hums VPA course. VPA Admis Cond course.

#### 300.01 Film Camera U 5

Not open to students with credit for 201 or 300 or 300.02. Students must supply 35mm adjustable camera, color film and processing of prints.

#### 300.02 Digital Camera U 5

H300.02 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 201 or 300 or 300.01. Students must supply adjustable digital camera (4 mp or greater), and processing of prints.

### 307 Beginning Sculpture U 5

An introduction to the principles of sculpture, emphasizing basic forming processes and materials.

Au, Wi, Sp Qtrs. 3 3-hr labs, 5 hrs arr. Prereq: 162 or 200, 170 or 205, and 182; or 207; or permission of instructor. Not open to students with credit for 278. VPA Admis Cond course.

### 330 Introduction to Glassblowing U 5

Introduction to glass as a fluid material for artistic expression; emphasis on the development of original imagery made from molten glass.

Au, Wi, Sp Qtrs. 2 3-hr cls. Prereq: 205 or 206. Rank 4 by permission only, not open to students with credit for 230. Credit counts towards Art BA and BFA (in 3D Core).

### 331 Introduction to Glass Construction U 5

Exploration of contemporary possibilities for the visual imagery of preformed glass using traditional techniques as a departure point; emphasis on innovational approaches.

2 3-hr cl. Prereq: 205 or 206. Rank 4 by permission only, not open to students with credit for 231. Credit counts towards Art BA and BFA (in 3D Core).

### 332 Introduction to Glass Forming U 5

Introduction to principles and practice of making kiln formed glass art, with a focus on techniques of fusing, bending, and casting colored glass.

Su, Au, Wi, Sp Qtrs. 2 3-hr cl. Prereq: 205 or 206. Credit counts towards Art BA and BFA (in 3D Core).

### 340 Fundamentals of Ceramic Art: Handforming U 5

Introduction to the art phases of the ceramic field; laboratory practice in the hand forming process.

Au, Wi, Sp Qtrs. 2 3-hr labs. H340 (honors) may be available to students

enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 240. GEC arts and hums VPA course. VPA Admis Cond course.

### 342 Fundamentals of Ceramic Art: Wheel U 5

Introduction to the ceramic arts through the use of the potter's wheel with lectures covering a broad survey of the field of ceramics.

Au, Wi, Sp Qtrs. 2 3-hr labs. Not open to students with credit for 242. VPA Admis Cond course.

### 350 Digital Image Manipulation I U 5

Introduction to creating and manipulating graphic images on Macintosh using Photoshop, Painter; includes input/output of student work as applies to art students.

Au, Wi, Sp Qtrs. 2 3-hr cl/lab. Not open to students with credit for 450.

### 353 Art of Podcasting U 5

Introduction to the concepts and techniques of producing, editing, publishing and critiquing personal and artistic video/audio content as related to the medium of podcasting.

Au, Wi, Sp Qtrs. 1 4-hr cl/lab (2 hrs arranged).

### 370 Beginning Life Drawing U 5

Drawing from the human figure; discussion of drawing as related to significant traditions; lectures and demonstrations.

Su, Au, Wi, Sp Qtrs. 2 3-hr labs, 9 hrs arr. Prereq: 170 or 205, and 172 or 206. Not open to students with credit for 270.

### 372 Visual Studies: Color U 5

An introduction to seeing and using color for all disciplines; projects deal with color organization, phenomena, and interaction.

Au, Wi, Sp Qtrs. 2 3-hr labs. Prereq: 162 or 200, 260, and 270 or 272 (prior to Au Qtr 2003); or 208 and 370 (Au Qtr 2003 and thereafter); and Hist Art 210 or 211 or 212 or 213 or 216; or equivs with permission of instructor.

### 373 Painting I U 5

Introductory painting emphasizing fundamentals and their utilization as a basis for individual development; student initially works from still life; subsequent projects increase in complexity.

Su, Au, Wi, Sp Qtrs. 2 3-hr labs. Prereq: 162 or 200, 208 or 260, and 270; or 370; and Hist Art 210 or 211 or 212 or 213 or 216; or equivs with permission of instructor. Not open to students with credit for 273.

### 375 Introduction to Printmaking U 5

Introductory experiences in the four traditional processes of printmaking (intaglio, lithography, relief, screenprint) and their application to artmaking; non-traditional approaches.

3 3-hr cls. Prereq: 200, 205, 206, 207, and 208. Not open to students with credit for two or more of 376, 377, 378, or 379. VPA Admis Cond course.

### 399 BFA Portfolio Review U 0

Successful BFA portfolio review.

Prereq: 200, 205, 206, 207 and 208 plus at least one core course in student's proposed area of concentration. This course is graded S/U.

### 400 Photography II U 5

Second level production course in black and white photography emphasizing technical and aesthetic explorations commenced in 300.

Au, Wi, Sp Qtrs. 2 3-hr cl. Prereq: 201 or 300. Not open to students with credit for 301.

### 401 Photography III U 5

Third-level production course in black and white photography with emphasis in creative explorations including manipulations, through a sustained body of work.

Au, Wi, Sp Qtrs. 2 3-hr cl. Prereq: 301 or 400.

### 440 Intermediate Ceramic Art: Handforming U 5

Studio practice in designing ceramic wares with emphasis on the hand forming processes.

Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 240 or 340 (Au Qtr 2003 and thereafter). Not open to students with credit for 340 prior to Au Qtr 2003.

### 442 Intermediate Ceramic Art: Wheel U 5

Intermediate course utilizing potter's wheel as forming process.

Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 242 or 342 (Au 2003 and thereafter). Not open to students with credit for 342 prior to Au Qtr 2003.

### 451 Multimedia Authoring U 5

Introductory integration to various electronic media, graphics, audio and video authoring systems; technical and aesthetic concepts of individual components emphasized.

Au, Wi, Sp Qtrs. 2 3-hr cls, 5 lec/demo hrs, 5 lab hrs. Prereq: 350 or 450 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**452 3D Computer Sculpture U 5**

Study of concepts, aesthetics, procedures, and practice of sculpting on the computer.

Au, Wi, Sp Qtrs. 2 3-hr cls, 6 lec hrs, 4 lab hrs. Prereq: 350 or 450 or permission of instructor.

**455 Holography I U 5**

The basic technique of three-dimensional image making; construction of a diode laser and use of this device to make holograms.

Au, Wi, Sp Qtrs. 5 lec/demo hrs, 5 lab hrs. H455 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Repeatable to a maximum of 15 cr hrs. Including cr hrs earned in H455 and Physics H455. H455 cross-listed in Physics. H455 GEC arts and hums VPA course.

**470 Intermediate Drawing U 5**

Intermediate level drawing experience focusing on drawing from observation, exploration of materials and processes and the use of color.

Au, Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 270 (prior to Au Qtr 2003) or 370 (Au Qtr 2003 and thereafter). Not open to students with credit for 370 prior to Au Qtr 2003.

**473 Painting II U 5**

A continuation of 373 emphasizing technical and conceptual fundamentals of painting from observation and abstraction with a focus in spatial relationships in painting.

Su, Au, Wi, Sp Qtrs. 2 3-hr labs, 9 hrs arr. Prereq: 273, 370, and 372 (prior to Au Qtr 2003); or 372, 373, and 470 (Au Qtr 2003 and thereafter). Not open to students with credit for 373 prior to Au Qtr 2003.

**476 Beginning Relief Printmaking U 5**

Introduction to the practice and examination of several modes of artistic expression in the relief processes of printmaking.

Au, Wi, Sp Qtrs. 3 3-hr cl, 5 hrs arr. Prereq: 162, 170, 182, 260, and 272 (prior to Au Qtr 2003); or 208, 370, and 375 (Au Qtr 2003 and thereafter); and Hist Art 210 or 211 or 212 or 213 or 216. Not open to students with credit for 376.

**477 Beginning Serigraphy U 5**

Introduction to the practice and examination of several modes of artistic expression in the serigraphic processes of printmaking.

Au, Wi, Sp Qtrs. 3 3-hr cl, 5 hrs arr. Prereq: 162, 170, 172, 182, 260, and 270 (prior to Au Qtr 2003); or 208, 370, and 375 (Au Qtr 2003 and thereafter); and Hist Art 210 or 211 or 212 or 213 or 216. Not open to students with credit for 377.

**478 Beginning Intaglio Printmaking U 5**

Introduction to practice and examination of several modes of artistic expression in the intaglio processes of printmaking.

Au, Wi, Sp Qtrs. 3 3-hr cl, 5 hrs arr. Prereq: 162, 170, 172, 182, 260, and 270 (prior to Au Qtr 2003); or 208, 370, and 375 (Au Qtr 2003 and thereafter); and Hist Art 210 or 211 or 212 or 213 or 216. Not open to students with credit for 378.

**479 Beginning Lithography U 5**

Introduction to the practice and examination of several modes of artistic expression in the lithographic processes of printmaking.

Au, Wi, Sp Qtrs. 3 3-hr cl, 5 hrs arr. Prereq: 162, 170, 172, 182, 260, and 270 (prior to Au Qtr 2003); or 208, 370, and 375 (Au Qtr 2003 and thereafter); and Hist Art 210 or 211 or 213 or 216. Not open to students with credit for 379.

**480 Construction Sculpture U 5**

Exploration of a range of technical and conceptual concerns of sculpture, using wood as a primary material.

Sp Qtr. 3 3-hr cl, 5 hrs arr. Prereq: 162, 170, 172, 182, and 278 (prior to Au Qtr 2003); or 307 (Au Qtr 2003 and thereafter); and Hist Art 210 or 211 or 212 or 213 or 216. Not open to students with credit for 380.

**481 Metal Fabrication U 5**

Introduction to metal fabrication, including casting, forging, and other processes.

Au, Wi Qtrs. 3 3-hr cl, 5 hrs arr. Prereq: 162, 170, 172, 182, and 278 (prior to Au Qtr 2003); or 307 (Au Qtr 2003 and thereafter); and Hist Art 210 or 211 or 212 or 213 or 216. Not open to students with credit for 381.

**482 Life Sculpture U 5**

Aspects of the human form studied in relation to the materials of sculpture; experimentation in a choice of materials: clay, wax, cement, and plaster.

Au, Wi Qtrs. 3 3-hr cl, 5 hrs arr. Prereq: 162, 170, 172, 182, 270, and 278 (prior to Au Qtr 2003); or 307 (Au Qtr 2003 and thereafter); and Hist Art 210 or 211 or 212 or 213 or 216. Not open to students with credit for 382.

**489 Internship in Art U 1-5**

A cooperative education or internship assignment conducted under the supervision of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**493 Individual Studies**

Preliminary studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**493.09 Drawing U 2-5**

Repeatable to a maximum of 20 cr hrs. Including cr hrs earned in 293.09, or 293.10. This course is graded S/U.

**493.10 Painting U 2-5**

Repeatable to a maximum of 20 cr hrs. Including cr hrs earned in 293.09 and 293.10. This course is graded S/U.

**494 Group Studies U 1-5**

Group studies for students in specialized programs.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. Including cr hrs earned in 294.

**524 Large Format Photography U G 5**

Advanced still photography course dealing with the mechanics, aesthetics, and psychology of large format photography.

Sp Qtr. 2 3-hr cl. Prereq: 401 and written permission of instructor. Student must supply 4 x 5 format film.

**531 Color Printing U G 5**

Introduction to color negative printing, its history, and current aesthetic issues surrounding work in color photography.

Au Qtr. 2 3-hr cl. Prereq: 401 and written permission of instructor. Film processing supplied by student.

**550 Digital Image Manipulation II U 5**

Advanced creation and manipulation of graphic images on Macintosh computers as it applies to art students.

Au, Wi, Sp Qtrs. 2 3-hr cl/labs. Prereq: 350 or 450, and 452, and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**551 New Media U 5**

Approaches to new media projected imagery, digital control of objects and sound in installation events; performances and exhibitions.

Au, Wi, Sp Qtrs. 2 3-hr cl/labs, 5 lab hrs. Repeatable to a maximum of 15 cr hrs.

**552 Computer Animation I U 5**

Introduction to theory and practice of 3D modeling, cinematography and traditional animation related to 3D computer animation.

Au, Wi, Sp Qtrs. 2 3-hr cl/lab. Prereq: 452 and permission of instructor. Repeatable to a maximum of 10 cr hrs.

**553 Video Art I U 5**

Introduction to the creation and analysis of video artwork; including techniques of video capture, post production, manipulation and critique within the context of art.

Au, Wi, Sp Qtrs. 1 4-hr cl/lab (2 hrs arranged). Prereq: 200 or 208 or 300.02 or 350 or Hist Art 260 or Dance 357 or Theatre 100 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**554 Video Art II U 5**

Theory and practice of using multimedia interfaces for presentation and distribution of video artwork. Emphasis on personal expression and experimental approaches.

Au, Wi Qtrs. 1 4-hr cl/lab (2 hrs arranged). Prereq: 553, or permission of instructor.

**555 Holography II U 5**

Expanding the students' knowledge of holographic techniques, including computer generated holography in traditional and experimental artworks.

Au, Wi, Sp Qtrs. 5 lec/demo hrs, 5 lab hrs. Prereq: 455 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**570 Multi-Level Drawing**

Au, Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 370 (prior to Au Qtr 2003); or 470 (Au Qtr 2003 and thereafter).

**570.01 Special Topics U 5**

Special topics in intermediate to advanced drawing materials and processes for personal expression with emphasis on development of analytical and critical skills.

**570.02 Life Drawing Studio U 5**

Intermediate to advanced level course focusing on issues of the figure.

**573 Multi-Level Painting U 5**

Intermediate painting; traditional subject matter such as figures, still lifes, and concepts relative to contemporary directions in painting.

Su, Au, Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 373. Repeatable to a maximum of 10 cr hrs.

**587 Third Year Sculpture Class**

Advanced study of sculptural processes, techniques, and concepts.

Au, Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 280 or 480, 281 or 481, and 282 or 482. Open only to sculpture majors.

**587.01 Part 1 U 5****587.02 Part 2 U 5**

Prereq: 587.01.



**587.03 Part 3 U 5**

Prereq: 587.02.

**589 Undergraduate Internship U 3,5**

Planned field, teaching, curatorial, or lab experience under academic and professional supervision.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Art majors with photog emphasis, jr standing or above, and permission of instructor. Repeatable to a maximum of 15 cr hrs. Interns may receive no monetary compensation.

**591 Studio Practice I**

Intermediate studio practice, following and continuing the basic program of courses undertaken in the first two years.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. The following decimal subdivisions, with the exception of 591.12, are open only to jrs and srs majoring in art.

**591.03 Ceramics U 2-5**

Repeatable to a maximum of 20 cr hrs.

**591.04 Glass U 2-5**

Repeatable to a maximum of 20 cr hrs.

**591.06 Printmaking U 2-5**

Repeatable to a maximum of 20 cr hrs.

**591.11 Sculpture U 2-5**

Repeatable to a maximum of 20 cr hrs.

**591.12 Art and Technology U 2-5**

Repeatable to a maximum of 20 cr hrs.

**595 Senior Seminar in Studio Art U 3**

Presentations of studio work by seminar students, faculty, and visiting artists, with selected readings; accompanied by critical discussion emphasizing contemporary issues. BA majors exhibit work as final exhibition.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Sr standing in art or permission of instructor. GEC third writing course.

**630 Intermediate Molten Glassmaking U G 5**

Molten glass as an artist's material; emphasis on the evolution of a personal aesthetic through series studies.

Au, Wi, Sp Qtrs. 2 3-hr cls, 1 lec. Prereq: 230 or 330.

**631 Intermediate Cold Glassworking U G 5**

Innovational approach in fabricated glass imagery; emphasis on the growth of artistic development through series studies.

Au, Wi, Sp Qtrs. 2 3-hr cls, 1 lec. Prereq: 231 or 331.

**635 Photography Criticism U G 5**

Reading, lectures, and discussions dealing with the study and practice of photographic criticism to facilitate and enrich the understanding and criticism of photography.

Sp Qtr. 2 2.5-hr cl. Prereq: Jr standing or above, or permission of instructor. Not open to students with credit for Art Ed 635 or Photog 635. Cross-listed in Art Education.

**640 Kiln Building U G 5**

Design, construction, and use of simple gas and electric ceramic studio kilns; practice in the various types and methods of firing.

Sp Qtr. 2 3-hr, 5 hrs arr. Prereq: 240, 242, 340, and 342; or permission of instructor.

**641 Mold Making U G 5**

Studies in the designing, fabrication, and uses of models and molds in such multiple ceramic production processes as casting, jiggering, and pressing.

Wi Qtr. 2 3-hr labs, 5 hrs arr. Prereq: 240, 242, 340, and 342; or permission of instructor.

**642 Monumental Building Techniques U G 5**

Design and construction of large ceramic art forms.

Au Qtr. 2 3-hr labs, 5 hrs arr. Prereq: 240, 242, 340, and 342; or permission of instructor.

**644 Ceramic Glaze and Technology U G 5**

Ceramic computations for art students; methods of representing ceramic composition; laboratory study and discussion of raw materials and their uses in bodies and glazes.

Sp Qtr. 3 3-hr cl, 5 hrs arr. Prereq: 240, 242, 340, and 342; or permission of instructor. Not open to students with credit for 441.

**645 Advanced Special Projects U G 5**

Advanced work developed in consultation with and under the close supervision of the instructor.

Au, Wi, Sp Qtrs. 2 3-hr labs, 6 hrs arr. Prereq: 240, 242, 340, and 342; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**647 Ceramic Art History U G 5**

Slide lectures; designed specifically to give the student potter an understanding of historical forms and technical processes; presented in chronological sequence.

Sp Qtr. 2 3-hr cl. Prereq: 240, 242, 340, and 342; or permission of instructor.

**661 Art and Technology**

A creative and conceptual multimedia exploration of the various aspects of reflection, situation art, and space; introduction of alternatives in medium, technique, and product.

Prereq: Permission of instructor.

**661.01 Aspects of Art and Technology I U G 5**

Au Qtr. 6 studio hrs, 4 hrs arr.

**661.02 Aspects of Art and Technology II U G 5**

Wi Qtr. 6 studio hrs, 4 hrs arr.

**661.03 Aspects of Art and Technology III U G 5**

Sp Qtr. 6 studio hrs, 4 hrs arr.

**670 Advanced Drawing I U G 5**

Special problems in drawing, utilizing a wide range of media and methods and exploring a variety of materials in experimental approaches to drawing.

Au, Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 274 or 370. Repeatable to a maximum of 20 cr hrs.

**673 Advanced Painting**

Su, Au, Wi, Sp Qtrs. 2 3-hr labs, 9 hrs arr. Prereq: 573. Not open to students with 20 cr hrs in 673.

**673.01 Special Topics U G 5**

Special topics in painting with a wide emphasis upon current directions, new media, and techniques; lectures, discussions, and field trips.

Repeatable to a maximum of 20 cr hrs.

**673.03 Special Problems in Abstraction U G 5**

Research problems in abstract painting with a wide emphasis upon abstract and/or non-representational painting; lectures, discussions, and field trips.

Repeatable to a maximum of 20 cr hrs.

**673.06 Special Problems in Painting: Conceptual Approaches U G 5**

Conceptual and theoretical approaches to painting will be emphasized; lectures, discussions, and field trips.

Repeatable to a maximum of 20 cr hrs.

**675 Photomechanical Printmaking U G 5**

Intensive exploration of photomechanical reproduction technology utilized by the printing industry and the aesthetic of the photographic image as a tool for the art student.

Wi, Sp Qtrs. 2 3-hr labs, 7 hrs arr. Prereq: 377 or 378 or 379, or written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**676 Advanced Relief Printmaking U G 5**

An intensive exploration of the relief processes as a means for individual expression.

Au, Wi Qtrs. 3 3-hr labs, 7 hrs arr. Prereq: 377 or 378 or 379 and art or art educ major. Repeatable to a maximum of 20 cr hrs.

**677 Advanced Serigraphy U G 5**

An intensive exploration of the serigraphic processes as a means for individual expression.

Au, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 377 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**678 Advanced Intaglio U G 5**

An intensive exploration of the intaglio process as a means for individual expression.

Au, Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 378 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**679 Advanced Lithography U G 5**

An intensive exploration of the lithographic processes as a means for individual expression.

Au, Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 379 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**687 Fourth Year Sculpture Class**

Study of sculptural processes, concepts, and self analysis as an artist.

Au, Wi, Sp Qtrs. 2 3-hr labs, 5 hrs arr. Prereq: 587.03. Open only to students specializing in sculpture.

**687.01 Part 1 U 5****687.02 Part 2 U 5**

Prereq: 687.01.

**687.03 Part 3 U 5**

Prereq: 687.02.

**690 Imagemakers' Seminar U G 3,5**

Advanced group investigation of individual photographic projects with weekly critique sessions.

Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: 25 hrs of photography course work and permission of instructor. Repeatable to a maximum of 20 cr hrs.

**691 Studio Practice II**

Advanced studio practice beyond 591.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. The following decimal subdivisions, with the exception of 691.12, are open only to srs or grad students majoring in art.

**691.03 Ceramics U G 2-5**

Repeatable to a maximum of 20 cr hrs.

**691.04 Glass U G 2-5**

Repeatable to a maximum of 20 cr hrs.

**691.05 Photography U G 2-5**

Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. Including cr hrs earned in Photog 691.

**691.06 Printmaking U G 2-5**

Repeatable to a maximum of 20 cr hrs.

**691.09 Drawing U G 2-5**

Prereq: Grad standing or 10 cr hrs of 673, and submission of 10-15 drawings/paintings on Advising Day previous to the intended qtr of study; open only to students with successful review by the area faculty and a completed, signed ISA form. Repeatable to a maximum of 20 cr hrs.

**691.10 Painting U G 2-5**

Prereq: 670 or grad standing, and submission of 10-15 drawings/paintings on Advising Day previous to the intended qtr of study; open only to students with a successful review by the area faculty and a completed, signed ISA form. Repeatable to a maximum of 20 cr hrs.

**691.11 Sculpture U G 2-5**

Repeatable to a maximum of 20 cr hrs.

**691.12 Art and Technology U G 2-5**

Repeatable to a maximum of 20 cr hrs.

**691.13 Art Critical Practices U G 2-5**

Advanced studio practice in art critical practices area; work developed through sustained contact with independent study adviser chosen from ACP faculty and adjunct faculty.

Repeatable to a maximum of 20 cr hrs.

**693 Individual Studies**

Advanced study for students in specialized programs.

Prereq: Permission of instructor.

**693.05 Photography U G 2-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**693.10 Painting U G 2-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**693.11 Sculpture U G 2-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**693.12 Art and Technology U G 2-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**694 Group Studies**

Group studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**694.01 General U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**694.03 Ceramics U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**694.05 Photography U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**694.06 Printmaking U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**694.09 Drawing U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**694.10 Painting U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**694.11 Sculpture U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**694.12 Art and Technology U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**695 Topics in Photographic Production**

Selected topics in photographic production, including formal lectures and demonstrations pertaining to current photographic research by faculty and visiting artists; topics vary.

Au, Wi, Sp Qtrs.

**695.02 Zone System U G 5**

History, theory, and mechanics; application of sensitometry to black and white film; its impact on the students' personal work.

Wi Qtr. 2 3-hr cls. Prereq: 401 and written permission of instructor.

**695.03 Studio Work and Studio Lighting U G 5**

Introduction to lighting equipment, principles, and techniques as applied to constructed/directed photography done predominantly in the studio environment.

Wi Qtr. 2 3-hr cls/lab. Prereq: 401 and written permission of instructor.

**695.04 Social/Documentary Photography U G 3,5**

Advanced production course with emphasis on the conceptual framework underpinning the documentary tradition in historical and contemporary photography.

Sp Qtr. 2 3-hr cls. Prereq: 401 and written permission of instructor.

**695.05 Bookmaking U G 3,5**

Exploration of the history and aesthetics of photographic books with emphasis on structure, image sequence, and the relationship of images and text.

Au Qtr. 2 3-hr cls. Prereq: 401 and written permission of instructor.

**695.06 Alternative Processes U G 3,5**

Advanced production and study of alternative processes in photography through the production of a cohesive body of work.

Au Qtr. 2 3-hr cls. Prereq: 524, 695.02, and written permission of instructor.

**695.07 Digital Imaging: Input/Output U G 2,5**

Exploration of the use of computers in creating and printing images with emphasis on control of input to and output from the computer.

Wi Qtr. 2 3-hr cl. Prereq: 350 and 401. Repeatable to a maximum of 10 cr hrs.

**695.08 Alternative Photographic Systems U G 3,5**

Advanced production course exploring alternative imaging systems such as: pinhole cameras, inexpensive plastic cameras, polaroid cameras, etc.

Sp Qtr. 2 3-hr cls. Prereq: 401 and written permission of instructor. Student will make or supply alternate imaging system or camera.

**695.09 Special Topics U G 3,5**

Open topic that takes into consideration the research interests of current faculty or visiting artists.

Wi Qtr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**695.10 History of Photography U G 5**

Wi Qtr. 2 3-hr cls. Prereq: 401 or permission of instructor.

**695.11 Photographic Theory U G 5**

Readings in theory pertaining to photography and effects of photography on contemporary culture; emphasis on readings of late modernist and post modernist points of view.

Sp Qtr. 2 3-hr cl. Prereq: 401 or permission of instructor.

**696 Senior Exhibition U 2**

Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement; independent study tutorial.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: 595, sr standing, and BFA in art; or permission of instructor. Normally to be taken within the final two qtrs of study. GE3 third writing course.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Scholarship: Research and Creative Activity in Art U 1-15**

Undergraduate research or creative activities in varying topics.

Su, Au, Wi, Sp Qtrs. Arr. H699 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. H699 is letter graded. This course is graded S/U.

**H783 Honors Research U 3-5**

A research investigation resulting in a senior honors project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a 3.30 CPHR in an art specialization, permission of instructor under whose supervision the work is to be completed, and the College of the Arts Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**853 Video Art I G 5**

Introduction to the creation and analysis of video artwork; including techniques of video capture, post production, manipulation and critique within the context of art.

Au, Wi, Sp Qtrs. 1 4-hr cl/lab (2 hrs arranged). Prereq: Permission of instructor and grad standing.

**854 Video Art II G 5**

Theory and practice of using multimedia interfaces for presentation and distribution of video artwork. Emphasis on personal expression and experimental approaches.

Au, Wi Qtrs. 1 4-hr cl/lab (2 hrs arranged). Prereq: 853, or permission of instructor and grad standing.

**891 Studio Practice III**

Graduate-level studio practice.  
Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in art or permission of instructor.

- 891.03 Ceramics G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 891.04 Glass Art G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 891.05 Photography G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 891.06 Printmaking G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 891.09 Drawing G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 891.10 Painting G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 891.11 Sculpture G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 891.12 Art and Technology G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 891.13 Art Critical Practices G 2-5**  
Advanced studio practice in art critical practices area; work developed through sustained contact with independent study adviser chosen from ACP faculty and adjunct faculty.  
Repeatable to a maximum of 45 cr hrs.

**893 Individual Studies**

Su, Au, Wi, Sp Qtrs.  
**893.10 Painting G 1-5**  
Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**894 Group Studies**

Group studies for students in specialized programs.  
Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

- 894.03 Ceramics G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 894.05 Photography G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 894.06 Printmaking G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 894.10 Painting G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 894.11 Sculpture G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 894.12 Art and Technology G 1-5**  
Repeatable to a maximum of 15 cr hrs.

**895 Seminar in Studio Art G 2-5**

Presentations by students, faculty, and visiting artists, with critical discussion emphasizing contemporary issues.  
Au, Wi Qtrs. Variable by offering. Prereq: Grad standing. Repeatable to a maximum of 8 cr hrs.

**896 Graduate Teaching Seminar G 2**

Exercises and discussions exploring techniques used in organizing, presenting, and evaluating materials taught in studio art classes with special reference to the Foundation Program.  
Au Qtr. 1 2-hr cl. Prereq: Permission of instructor and grad standing in studio art.

**991 Studio Practice IV**

Advanced graduate studio practice.  
Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in art or permission of instructor.

- 991.03 Ceramics G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 991.04 Glass Art G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 991.05 Photography G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 991.06 Printmaking G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 991.09 Drawing G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 991.10 Painting G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 991.11 Sculpture G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 991.12 Art and Technology G 2-5**  
Repeatable to a maximum of 45 cr hrs.
- 991.13 Art Critical Practices G 2-5**

Advanced studio practice in art critical practices area; work developed through sustained contact with independent study adviser chosen from ACP faculty and adjunct faculty.  
Repeatable to a maximum of 45 cr hrs.

**999 Research in Art G 1-18**

Research for thesis and dissertation purposes only.  
Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Art Education**

258 Hopkins Hall, 128 North Oval Mall, 292-7183

**160 Art and Music since 1945 U 5**

A survey of the visual arts and music in the western world since 1945, based on live and recorded performances and exhibitions.  
Au, Wi, Sp Qtrs. 2 2-hr cl, 1 1-hr rec. Not open to students with credit for Arts Col 160. GEC arts and hums VPA course. VPA Admis Cond course. Also offered as a Web-delivered course (160D Au, Wi, Sp Qtrs).

**225 Introduction to Art Education U 5**

Ideas, issues, and career possibilities in art education explored through readings, dialogue, and site visitations.  
Au, Wi Qtrs. 3 2-hr cl.

**252 Introduction to the Computer in the Visual Arts U 5**

Introductory study of computer graphics in relation to the traditional visual arts and as a distinct art form; computer will be used to produce imagery.  
Su, Au, Wi, Sp Qtrs. 2 2-hr cl, 4 lab hrs arr. GEC arts and hums VPA course.

**255 Engaging Visuality: The Power of Seeing and Being Seen U 5**

An introduction to issues of representation, spectacle, surveillance and voyeurism explored through a range of visual images and sites.  
Au, Wi, Sp Qtrs. 2 2.5-hr cl. GEC arts and hums and social diversity course.

**352 Fundamental Three-Dimensional Computer Art Techniques U 5**

An introductory study of three-dimensional computer art techniques; three-dimensional still and animated imagery will be produced.  
Sp Qtr. 2 2-hr cl, 4 lab hrs arr. Prereq: 252.

**367 Second Writing Course**

Su, Au, Wi, Sp Qtrs. 2 2.5-hr cl. Prereq: English 110 or 111 or equiv, and soph standing.

**367.01 Ethnic Arts: A Means of Intercultural Communication U 5**

A study of the artists, the artworks, and art worlds from diverse ethnic cultures in North America.  
H367.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 367. GEC second writing, arts and hums VPA, and social diversity course.

**367.02 Writing Art Criticism U 5**

Writing critically about contemporary American art by a variety of artists with diverse points of view.  
GEC second writing course.

**367.03 Criticizing Television U 5**

A critical analysis of a wide variety of television programs through viewing, discussing, reading, and writing.  
Au, Wi, Sp Qtrs. Prereq: English 110. Not open to students with credit for Theatre 367.03. This course will alternately be taught by Art Education and Theatre. Cross-listed in Theatre. GEC second writing and social diversity course.

**467 Powwows: Cultural and Arts Exploration U 5**

An interdisciplinary examination of contemporary powwow culture using concepts from history, the humanities, social sciences, and American Indian perspectives.  
Wi Qtr. 2 2-hr cl. Prereq: Second writing course. GEC third writing and social diversity course.

**481 Managing Arts Organizations U 5**

Nonprofit arts organizations purposes and their functions such as governance, program planning, marketing, and fundraising; encourages critical thinking in managerial decision making through practical assignments.  
Wi Qtr. 2 2-hr cl, 1-hr on line work. Prereq: English 110, jr standing or above or permission of instructor.

**483 Developing Arts Careers: Positioning Passion U 5**

Prepares students as entrepreneurs to enter nonprofit, commercial, and public sector careers through independent research, dossier development, proposal, and grant writing.  
Su, Wi Qtrs. 1 3-hr cl, outside assignment. Prereq: Jr or sr standing or permission of instructor.

**493 Individual Studies U 1-5**

Individual studies and project work in specified problems of the field of art education.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**589 Internship in Art Education U 1-15**

Students intern at non-public school sites to synthesize and apply what they have learned in the classroom through concentrated practice in the field.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Completion of all other program requirements. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**600 Art and Curriculum Concepts for Teachers U G 3**

Problems of teaching in terms of personal knowledge about art, insight into children's art work, and understanding of elementary school curriculum.

Su, Au, Wi, Sp Qtrs. 3 2-hr labs.

**601 Curriculum Design for Art History U G 3**

Examination of visual culture concepts and processes to plan K-12 school curricula.

Sp Qtr. 2 2-hr cl. Prereq: 160 or Arts Col 160, 488 or 607, and 10 cr hrs of hist art course work; or permission of instructor.

**603 History and Philosophy of Art Education U G 5**

History of the field with an emphasis on major ideas in philosophy and learning theory that affect current trends.

Au Qtr. 3 2-hr cl. Prereq: 225. Not open to students with credit for 330.

**604 Teaching of Studio Activities U G 5**

Exploration of instructional application of various art materials for educational settings.

Au Qtr. 2 3-hr labs. Prereq: 225. Not open to students with credit for 445. Open to art ed majors only.

**605 Social and Cultural Factors in Art Education U G 5**

Investigation into the role of culture, social class, gender, and age in understanding art and the diverse audiences served by art education.

Au Qtr. 3 2-hr cl. Prereq: 225. Not open to students with credit for 375.

**606^ The Computer in Art Education: A Survey Course U G 5**

A survey and practical course, exploring the implications and potential of the computer in a variety of art education contexts and roles.

Wi Qtr. 2 1.5-hr cl. Prereq: 330 or 603, and 445 or 604.

**607 Concepts in Planning Art Education U G 5**

Planning for and management of the social and physical environment of art education.

Wi Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 375 or 605. Not open to students with credit for 488.

**608 Art Education for Children with Special Needs U G 5**

Strategies that can be used in teaching art to students with special needs and lesson planning for inclusion.

Wi Qtr. 3 2-hr cl. Prereq: 375 or 605. Not open to students with credit for 588.

**631 Assessment in Art Education U G 3**

The exploration of assessment issues in art education and the analysis and application of assessment theories and practices related to prekindergarten through grade twelve populations.

Wi Qtr. Concur: 607, 608, and 688.02; open only to art educ majors.

**635 Photography Criticism U G 5**

Readings, lectures, and discussions dealing with the study and practice of photographic criticism to facilitate and enrich the understanding of criticism and photography.

Sp Qtr. 2 2.5-hr cl. Prereq: Jr standing or above, or permission of instructor. Not open to students with credit for Art 635. Cross-listed in Art.

**640 Critical Dialogue about Art and Aesthetics U G 5**

Theory and practice of engaging others in informed discussion of works of art.

Sp Qtr. 2 2-hr cl. Prereq: 603 or 635 or permission of instructor.

**652^ Computer Graphics in the Arts and Education U G 3**

Application of computer imaging for the arts and interactive educational programs.

Wi Qtr. 1 3-hr cl. Prereq: Sr or grad standing.

**670 Public Policy and the Arts U G 5**

Issues in arts policymaking as they affect community arts services.

Au Qtr. 1 2.5-hr cl, outside assignments.

**671 Organizational Leadership in the Nonprofit Arts U G 5**

Students will be assisted in enhancing their knowledge and ability to take responsible leadership roles in non-profit arts organizations and as a major constituent of public arts agencies.

Au Qtr. 1 2.5-hr cl, outside assignments.

**672 Managing Cultural Policy Change U G 5**

Planning and executing strategic change in public arts agencies. Explores implications of shifting from a supply/demand to a value-based cultural policy paradigm.

Sp Qtr. 1 2.5-hr cl plus group project requirements off-campus.

**673 Issues across the Arts G 3**

A visiting lecturer series facilitates the in-depth exploration and analysis of a quarterly selection of related arts policy, programming, and funding issues.

Sp Qtr. 1 3-hr cl. Prereq: 670 or permission of instructor. Repeatable to a maximum of 9 cr hrs.

**680^\* Aesthetics in Art Education U G 3**

Concepts and strategies for including aesthetics in art education curricula.

Sp Qtr. 2 1.5-hr cl. Prereq: 488 or 607 or grad standing.

**683 Developing Arts Careers: Positioning Passion G 5**

Prepares graduate students as entrepreneurs to enter nonprofit, commercial, public and/or academic careers through independent investigation, dossier development, research proposals, and grant writing.

Su, Wi Qtrs. 1 3-hr cl, outside assignment.

**688 Instructional Applications in Art**

Preparation for art instruction through curriculum development, study of instructional strategies, and peer teaching.

2 1.5-hr cl. Open only to art educ majors.

**688.01 Clinical Experience: The Context of Schools U G 3**

Au Qtr. This course is graded S/U.

**688.02 Clinical Experience: Construction and Application of Curriculum U G 3**

Wi Qtr. Prereq: 688.01. This course is graded S/U.

**688.03 Clinical Experience: Investigating Instruction U G 3**

Sp Qtr. Prereq: 688.02. This course is graded S/U.

**689 Pre-Practicum Clinical Experience G 5**

Contact with practicum sites and collaborative work with cooperating teachers to plan and deliver instruction.

Au Qtr. 1 2-hr cl, 1 6-hr lab. Prereq: Grad standing in art educ. Open only to art educ majors. Repeatable to a maximum of 10 cr hrs.

**691 Applied Research in Art Education U G 2-5**

Studies in empirical, philosophical, curriculum, or studio problems in art education.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**693 Individual Studies U G 1-15**

Advanced study for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

Group studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor Repeatable for different study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Scholarship: Research and Creative Activity in Art Education U 1-15**

Undergraduate research or creative activities in varying topics.

Su, Au, Wi, Sp Qtrs. Arr. H699 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. H699 is letter graded. This course is graded S/U.

**700 Issues in Graduate Study in Art Education G 5**

Review of analytical reading and writing; overview of topics in thesis and dissertation research; graduate faculty research; national and international issues; university resources and policies.

Au, Wi Qtrs. 1 5-hr cl. Prereq: Grad standing. Must be taken during the first year of graduate study in the major.

**701 History of Art Education G 3**

Historical examination of theoretical frameworks utilized in art education research as well as the influence of multiple perspectives (political, social and cultural) on art education.  
Sp Qtr. 1 3-hr cl. Prereq: 601 and any 500- or 600-level course in history of art; or permission of instructor.

**703 Contemporary Theory and Art Education G 5**

An introduction to theoretical ideas which have emerged in contemporary writing in recent years and which have implications for the field of art education.  
Wi Qtr. 2 2.5-hr cl. Prereq: Grad standing.

**704 Policy Perspectives on Arts Education G 5**

Examines recent reform initiatives in the public, nonprofit and private sectors with the goal of understanding policy practices and dynamics in arts education.  
Wi Qtr. 1 3-hr cl, 2 hrs arr. Prereq: Grad standing.

**705 Overview of Research Methods in Art Education G 5**

Introduction to a wide range of methods applicable to art education research problems, including historical, philosophical, ethnographic, survey, experimental, and case study methods.  
Au Qtr. 2 2-hr cl. Must be taken during the first year of graduate study in the major.

**715 Art Education as a Community Act: Developing Pedagogy for School-Community Collaboration through Art G 5**

Course will explore the process of connecting art education and community contexts. Students will investigate and envision collaborative practices and create pedagogy for community-based art education.  
2 2.5-hr cl. Prereq: Grad standing.

**720^ Philosophy of Art Education Literature Survey G 3**

Discussion of writings by art educators, aestheticians, artists, critics, and others for historical perspective on and to distinguish the nature of philosophy of art education.  
Wi Qtr. 3 cl.

**730 Cognitive Approaches to Art Education G 5**

Explores current psychological and philosophical approaches to cognition and art education and their implications for education issues.  
Au Qtr.

**731^ Evaluation in Art Education G 3-5**

Evaluation of student performance in art; informal instruments for collecting data for use in assessing programs.  
Wi Qtr. 2 2-hr cl. Prereq: 807 or equiv with written permission of instructor.

**735 Museum History G 5**

Critical examination of the historic and theoretical foundations of art and other museums as an institution, drawing on multiple disciplinary perspectives.  
1 2.5-hr cl, online interaction. Will count toward Museum Education specialization.

**736 Museum Education Theory G 5**

Theory, structure and functions of museum education.  
1 2.5-hr cl, online interaction. Will count toward Museum Education specialization.

**745 Museums and Teaching G 5**

A theoretical and practical study of teaching and learning in and through museums.  
1 2.5-hr cl, online interaction. Will count toward Museum Education specialization.

**748 Museum Education Practicum G 5**

An examination of the role of education in art museums through an in-depth experience in a museum setting.  
2 2.5-hr cl. Will count toward Museum Education specialization.

**753^ Aesthetics of Interactive Technology G 5**

Aesthetic and critical investigations of the impact of interactive technologies on artmaking and art education.  
Au Qtr. 1 3-hr cl, 1 2-hr lab. Prereq: Grad standing. Repeatable to a maximum of 10 cr hrs.

**755 History, Politics and Practices of Visual Culture in Art Education. G 5**

An examination of the antecedents, history, politics and practices of visual culture, with a specific focus on the literature in art education.  
Au, Wi, Sp Qtrs. 1 3-hr cl and hr arr. Prereq: Grad standing or permission of instructor.

**764 Investigating Material Culture G 5**

Investigates the relationship between people and objects including scientific analysis of materials, skill of maker, use, cultural importance and meaning.  
Sp Qtr. 2 2.5-hr cl. Core course for graduate interdisciplinary specialization in

the Analysis of Material Culture.

**765 Contemporary Art and Art Education G 3**

A study of recent developments in contemporary art and the implication of those developments on art education practice and curriculum design.  
Au Qtr. 4 cl.

**767 Critical Analysis of Multicultural Art Education: Theory and Practice G 5**

Investigation and analysis of multicultural theories and issues for art education.  
Au Qtr. 2 2.5-hr cl. Prereq: Permission of instructor.

**768 Indigenous People and Visual Culture G 5**

In this course, we critically investigate images of indigenous people as portrayed through visual culture (i.e. television, films, advertising, art, and historic references).  
Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**775 Social and Cultural Theories in Art and Art Education G 3**

Critical investigation of the relationships between and among artists and art worlds of various societies and cultures.  
Wi Qtr. 1 3-hr cl. Prereq: Permission of instructor.

**H783 Honors Research U 3-5**

A program of reading and research arranged for each student, with individual conferences, reports, and honors thesis.  
Su, Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a pt-hr ratio of 3.50 in the major area and permission of instructor under whose supervision the work is to be completed and the Honors Committee of either the College of the Arts or the College of Education. Repeatable to a maximum of 15 cr hrs. Satisfactory completion of at least 8 cr hrs is required of candidates for an undergrad degree with distinction in art educ. This course is graded S/U.

**786 Teaching Practicum: Prekindergarten through Elementary Levels G 15**

Field-based teaching practicum at the prekindergarten through elementary levels.  
Au, Wi, Sp Qtrs. 40 hrs/wk on site, 1 3-hr cl. Prereq: 689. This course is graded S/U.

**787 Teaching Practicum: Intermediate through Secondary Levels G 15**

Field-based teaching practicum at the intermediate through secondary levels.  
Au, Wi, Sp Qtrs. 40 hrs/wk on site, 1 3-hr cl. Prereq: 689. This course is graded S/U.

**795 Seminar on Topical Issues in Art Education II G 1-5**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 15 cr hrs in art educ or permission of dept. Repeatable to a maximum of 30 cr hrs.

**805 Empirical Problems in Art Education G 3-5**

An introduction to the language, methodology, and application of empirical problems in art education; the identification and isolation of appropriate empirical problems in the field.  
Wi Qtr.

**807 Curriculum Problems in Art Education G 3-5**

An examination of the functions of curricular plans as tools for transforming selected conceptions of art education into teacher and student activities in the classroom.  
Wi Qtr.

**809 Thesis and Dissertation Proposal Writing G 3**

The purpose of this course is for students to understand the components of a thesis or dissertation research proposal. Students will write a draft proposal.  
Wi Qtr. Prereq: 700 and 705.

**830 Seminar on Art History in Art Education G 5**

An examination of art history structures, concepts and research methods for translation into alternative education methods for teaching art history in K-12 settings.  
Au Qtr. 1 3-hr cl, 2 hrs arr.

**840 Criticism, Aesthetics, and Education G 5**

Teaching about art and the aesthetic and social issues it raises in school and community contexts.  
Wi Qtr. 2 2.5-hr cl.

**875 Social and Cultural Research Methods for Art Education G 5**

Social and culturally based research methods for studying the art of diverse groups of people.  
Sp Qtr. 2 2.5-hr cl. Prereq: 705 or permission of instructor.

**889 Internship Experience**

Supervised professional experience in a variety of settings, including administration, policy, museum education and community-based arts. Students can register for distinctive sub-sections.

Su, Au, Wi, Sp Qtrs. 10 hrs/wk. Prereq: Permission of instructor.

**889.01 Internship in Arts Management G 1-16**

Supervised professional experience within a performing arts, visual arts, literary arts, or museum/historical organization. Assignments may include fundraising, marketing, grantwriting, budgeting, communication and website maintenance, preparing materials for board meetings, etc.

Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**889.02 Art and Cultural Policy Internship U 1-16**

Supervised experience within a government arts or cultural agency at any level - local, state, regional, national or international - or within a trade or professional association engaged in arts advocacy. Assignments may include grants administration, background research on issues or program practices, constituency contact, activities in support of the preparation of public documents and reports, etc.

Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**889.03 Internship in Museum Education G 1-16**

Supervised experience within a museum or public gallery that provides educational services. Assignments may include the preparation of interpretive and/or curriculum materials, acting as a docent in museum educational programs, communication and cooperation with school and/or community partners, etc.

10 hrs/wk at placement site. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**889.04 Community Arts Internship G 1-16**

Supervised experience within community settings that provide programs addressing arts education. Assignments may include curriculum development, assets mapping, participation in community collaborations and program evaluation.

Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**893 Individual Studies G 1-15**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**894 Group Studies G 1-5**

Group studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**911 Research Problems in Art Education G 3-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 45 cr hrs.

**998 Research in Art Education: Thesis G 0-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Art Education: Dissertation G 0-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Arts and Sciences**

Denney Hall, 164 West 17th Avenue, 292-6961

**100 Arts and Sciences Survey**

Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.

Not open to students with credit for 100 or 100.02, Agr Int 100, Arts Col 100.01 or 100.02, Bio Sci 100, Engineer 100, Hum Col 100, MPS Col 100, SBS Col 100, or any decimal subdivision of Univ Col 100.

**100.01 General U 0-1**

H100.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. This course is graded S/U.

**100.02 Health Professions U 1**

H100.02 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. This course is graded S/U.

**101 First- or Second-Year Seminar U 1**

Seminars on varying topics taught by University faculty.

H101 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Fr or soph standing or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**120 Internet Tools and Research Techniques U 2**

This 4-week online course teaches about internet browsing and communication tools, effective search and Web evaluation strategies. See: <http://liblearn.osu.edu>

Au, Wi, Sp Qtrs. This is a 4 week course that begins in the 4th week of the quarter. Distance Learning Course (Web taught).

**121 Advanced Online Research U 2**

This 4-week online course teaches specialized Web tools, article databases, and issues related to finding information in a student's chosen field. See: <http://liblearn.osu.edu>

Au, Wi, Sp Qtrs. Prereq: Satisfactory completion of 120D. This is a 4 week course that begins in the 4th week of the quarter. Distance Learning Course (Web taught).

**122 Online Research Strategies for Career Exploration U 1**

In this 4-week course, students explore career interests, learn online research skills and apply them by investigating an occupation in depth. See: <http://liblearn.osu.edu>

Au, Wi, Sp Qtrs. This is a 4 week online course that begins in the 4th week of the quarter. Distance Learning Course (Web taught).

**137 Freshman Seminar**

Affords first-year students opportunities for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Rank 1 standing or permission of instructor. Open only to first-year students. Only one freshman seminar per quarter allowed. Topics will vary each quarter. This course is letter graded.

**137.01 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.02 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.03 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.04 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.05 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.06 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.07 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.08 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.09 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.10 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.11 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.12 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.13 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.14 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.15 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.16 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.17 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.18 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.19 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**137.20 Freshman Seminar U 1-2**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**138 Freshman Seminar**

Affords first-year students opportunities for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Rank 1 standing or permission of instructor. Open only to first-year students. Only one freshman seminar per quarter allowed. Topics will vary each quarter.

**138.01 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.02 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.03 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.04 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.05 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.06 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.07 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.08 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.09 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.10 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.11 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.12 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.13 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.14 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.15 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.16 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.17 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.18 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.19 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**138.20 Freshman Seminar U 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**211 Introduction to Forensic Science U 5**

An introduction to the major concepts, issues, and techniques in forensic science.

Au, Sp Qtrs. 3 1.5-hr cl.

**264 Introduction to Popular Culture Studies U 5**

An introduction to the interdisciplinary discipline of popular culture studies, focusing on history, theory and research methods.

Prereq: English 110 or equiv.

**294 Interdisciplinary Group Studies U 1-5**

Study of special or interdisciplinary topics at an introductory level.

H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Open to students who meet instructor's stated prereqs. Repeatable to a maximum of 15 cr hrs.

**298 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**298.01 Domestic U 1-15**

Repeatable.

**298.02 Foreign U 1-15**

Repeatable.

**338 Professional Pathways**

These seminars help Arts and Sciences students explore graduate and professional post-secondary opportunities, and the wider professional issues and professional options within and/or across disciplines.

**338.01 Professional Pathways in Earth and Environmental Sciences U 1-2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**338.02 Professional Pathways in Education U 1-2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**338.03 Professional Pathways in Social Work U 1-2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**338.04 Professional Pathways in Health U 1-2**

Repeatable to a maximum of 10 cr hrs. This course will be further subdivided into seven sub-sections (Pharmacy, Dentistry, Medicine, Optometry, Veterinary Med, Nursing, and Public Health) with max of 18 students in each. This course is graded S/U.

**338.05 Professional Pathways in Non-Profit Organizations U 1-2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**338.06 Professional Pathways in Social Justice U 1-2**

These seminars help Arts and Sciences students explore graduate and professional post secondary opportunities, and the wider professional issues and professional options within and/or across disciplines.

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**338.07 Professional Pathways in Public Affairs U 1**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**338.08 Professional Pathways in Wall Street U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**400 Career Planning Seminar**

Discussion of careers for liberal arts majors; employment trends; effective job search strategies; resumes, and cover letter preparation; interviewing techniques.

Au, Wi, Sp Qtrs.

**400.01 General U 1**

H400.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq 400.01: Soph or jr standing. H400.01: Jr standing in ASC Honors Program and permission of instructor. Not open to srs except by permission of instructor, or to Capital program students, or to students with credit for 400.02. This course is graded S/U.

**400.02 Capital Program U 1**

Prereq: Soph or jr standing in Capital program. Not open to srs except by permission of instructor, or to students with credit for 400.01. This course is graded S/U.

**489 Professional Practice**

Su, Au, Wi, Sp Qtrs. Arr.

**489.01 Credit Cooperative Education Program U 2**

Employment through the Cooperative Education program conducted under the supervision of an ASC faculty member; midterm and comprehensive final reports required.

Prereq: Registration with the co-op education program, minimum cumulative pt-hr ratio of 2.50, soph standing or above, completion of credit co-op education agreement form with instructor under whose supervision the work is to be completed, and permission of the director of co-op education. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**489.02 Noncredit Cooperative Education Program U 0**

A cooperative education or internship assignment conducted under the supervision of the employer; registration and evaluation by the director of ASC Career Services.

Prereq: Minimum cumulative GPA of 2.0, permission of the director of ASC Career Services. Repeatable to a maximum of 5 cr hrs. Student is responsible for finding an internship or cooperative education site that is secured, through completion of the Internship Agreement form, prior to the start of the quarter. This course is graded S/U.

**494 Interdisciplinary Group Studies U 1-5**

Study of special or interdisciplinary topics at the upper-division level.

H494 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Jr or sr standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**500 The Ohio State University: Its History and Its World U 5**

An introduction to the past and present of OSU and to the educational and intellectual contexts that have shaped it.

2 2-hr cl. Prereq: Jr or above standing. GEC, Cultures and Ideas course.

**640 Diversity Lecture Series U G 1**

By attending lectures and writing papers, students will learn about diversity and equity issues.

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Study of special or interdisciplinary studies.

Repeatable to a maximum of 15 cr hrs.

**699 Undergraduate Research in the Arts and Sciences U 0-15**

Undergraduate research or creative activities in variable topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**700 Introduction to Graduate Study in Disability Studies G 5**

Introduction to Disability Studies as an interdisciplinary academic field of study; outlines major scholarly perspectives, methodologies, and professional issues in the study of disability.

Su Qtr. 2.2-hr cl. Prereq: Grad standing or permission of instructor. Required core course for Graduate Interdisciplinary Specialization in Disability Studies.

**710 Graduate Introduction to the Study of Sexuality G 5**

A broad, interdisciplinary graduate survey of the field of Sexuality Studies.

Prereq: Grad standing or permission of instructor.

**720 Graduate Seminar in Scientific Literacy G 5**

Explores nature of scientific literacy, scientific thought, roots of western science and technology and the relationship between scientific and other forms of literacy.

Wi Qtr. 2 2-hr cl.

**750 A Multidisciplinary Seminar for Artists G 5**

A seminar for graduate student artists in all fields, in which the process of art-making is examined through presentation and discussion of student work.

Sp Qtr. 1 3-hr cl. Prereq: Permission of instructor.

**800 Disability Studies Workshop G 2**

Structured participation in seminar/event organized for that quarter.

Repeatable to a maximum of 4 cr hrs. Optional course for the Graduate Interdisciplinary Specialization in Disability Studies (GIS-DS). This course is graded S/U.

**894 Group Studies G 1-5**

Study of special or interdisciplinary topics at the graduate level.

**900 Disability Studies Research Forum G 1**

Research forum/round table for students enrolled in the GIS-DS to share their work in Disability Studies (both course work and independent research).

Sp Qtr. Arr. Prereq: 700 or permission of instructor. Open to students enrolled in the Graduate Interdisciplinary Specialization in Disability Studies (GIS-DS). Repeatable to a maximum of 4 cr hrs. Required course for Graduate Interdisciplinary Specialization in Disability Studies (GIS-DS). This course is graded S/U.

**Arts, College of the**

152 Hopkins Hall, 128 North Oval Mall, 292-2244

Art and Music since 1945

See Art Educ 160.

Dance and Theatre, 1945 to the Present

See Dance and Theatre 161.

**100 Arts Survey**

Academic requirements; University procedures, grading system and resources; student rights and responsibilities; overview of Arts' academic areas of study and services.

Prereq: Direct enrollment into the College of the Arts. Not open to students with credit for Arts&Sci 100 or Univ Col 100.

**100.01 Pre-Arts U 1****100.02 Arts U 1****101 Arts Scholars Seminar U 1**

First year Arts Scholars exploration of arts interests, interdisciplinary opportunities, campus and local community arts connections, and cultural, aesthetic, and personal topics in the arts.

Au Qtr. 1 cl. Prereq: Must be accepted to Arts Scholars program. Permission of instructor. Course should be taken concurrently with an Arts College or Arts & Sciences 100 course. This course is graded S/U.

**294 Group Studies U 1-5**

Interdepartmental course involving studies in two or more areas of the visual and performing arts.

Repeatable to a maximum of 18 cr hrs.

**350 The History of Animation U 5**

An overview of the history and theory of animation including origin of animation forms, Hollywood Studio animation, a sample of World Animation and contemporary animation.

**489 Internship in Computer Art Design U 1-5**

A cooperative education or internship assignment conducted under the supervision of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**494 Group Studies U 1-5**

Group studies in selected interdisciplinary areas in the arts.

Arr. Prereq: Jr standing or above, and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**650 The History of Animation G 5**

Overview of the history and theory of animation including the origin of animation forms, Hollywood Studio animation, with a sample of World and contemporary animations.

Prereq: Grad standing.

**683 Motion Studies through Hand-Drawn Animation U G 5**

The principles of motion through hand-drawn animation.

2 2.5-hr cl.

**693 Individual Studies U G 2-5**

Advanced studies for students engaged in interdisciplinary investigations within the College of the Arts.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Interdepartmental course involving studies in two or more areas of the visual and performing arts.

Prereq: Permission of dean. Repeatable to a maximum of 18 cr hrs.

**699 Undergraduate Scholarship: Research and Creative Activity in Computer Technology in the Arts U 1-15**

Undergraduate research or creative activities in varying topics.

Su, Au, Wi, Sp Qtrs. Arr. H699 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. H699 is letter graded. This course is graded S/U.

**730 Concept Development for Sequential Imaging U G 3**

Strategies for moving image; composition, frame editing, and sound elements; creation of sketches, storyboards, and animatics as method for time-based media.

2 2-hr cl.

**732 A Critical History of Computer Graphics U G 3**

An historical overview of the development of the discipline of computer-generated imagery, including CAD, computer animation, computer art, and scientific visualization.

2 1.5-hr cl. Prereq: Grad standing or permission of instructor.

**740 Interactive Arts Media I U G 5**

The theory and practice of the design of interactive media for the web.

2 2.5-hr cl. Prereq: Prior experience with Adobe Photoshop recommended.

**741 Interactive Arts Media II G 5**

Advanced study in the application of interactive media for the web; production of websites for selected audiences.

2 2.5-hr cl. Prereq: 740.

**742 Interactive Arts Media III G 5**

Advanced authoring environments for multimedia production.

2 2.5-hr cl. Prereq: 741.

**749 3D Computer Animation: Form, Light and Motion G 5**

Overview of production methods for form, lighting and motion used in 3D computer animation. Graduate students will apply interdisciplinary concepts to their area of research.

Prereq: Grad standing or permission of instructor.

**750 Expressive Motion G 5**

Introduction to basic principles of timing and motion via production of 3D computer generated animation; meaning, expression, timing, and gesture.

2 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**751 Form Visualization G 5**

Computer-generated 3D modeling concepts and techniques for visualization by artists and designers.

2 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**752 Digital Cinematography G 5**

Exploration of elements that enhance storytelling such as digital lighting, surface, design and camera composition as meaning.

2 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**753 Animation Production G 5**

Studio course in which students address interdisciplinary production issues in computer animation.

2 2.5-hr cl. Prereq: Grad standing and 730, 750 or 751 or 752, or permission of instructor. Repeatable to a maximum of 15 cr hrs.



**754\* Digital and Physical Lighting U G 5**

Introduction to basic principles and concepts of lighting as used in theatre and computer graphics. Working in collaborative teams, students develop and execute installation schemes.

Prereq: 752 or Theatre 625 or grad standing or permission of instructor. Not open to students with credit for Theatre 754. Cross-listed in Theatre. Jointly taught by Theatre and The Advanced Computing Center for Art and Design. Offered every other year.

**755 Advanced Digital Cinematography G 5**

Study of advanced issues in virtual lights and surfaces in computer graphics. 2 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**756 Programming Concepts and Applications for Artists and Designers U G 3**

Designed to teach artists and designers programming concepts both necessary and useful for advanced algorithmic manipulation of computer graphics data and software.

2 1.5-hr cl. Prereq: Grad standing or permission of instructor.

**758 Visual Performance and Installation Technologies G 5**

In this project-based class, students are exposed to making computer mediated performance and installation systems, focusing on real-time video processing, 3D graphics, and environment sensing.

Prereq: Grad standing; 750 or 751, or 752 or equiv; undergrads with permission of instructor.

**760 Motion Capture Production G 5**

Provides a comprehensive overview of the motion capture pipeline.

Prereq: Grad standing or undergraduates by permission of instructor only. 3D modeling experience recommended.

**761 Digital Media Production G 3**

A study of digital post-production processes; investigation of tools and algorithms for digital audio, digital video, digital image manipulation.

2 1.5-hr cl.

**762 Building 3D Virtual Environments G 5**

Creation and implications of single and multiple participant 3D virtual environments.

2 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**763 Procedural Animation U G 5**

Study in the creation of procedural animations that emulate physical phenomena and properties using techniques such as: particles, CSG, L-systems, and behavioral interaction.

2 2.5-hr cl. Prereq: Permission of instructor.

**790 Interdisciplinary Research Seminar in Computer Technology in the Arts G 5**

Interdisciplinary investigations in artmaking and industrial and instructional design through the use of computer technology.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

## Astronomy

4055 McPherson Laboratory, 140 West 18th Avenue, 292-1773

**141 Life in the Universe U 5**

Potential for life elsewhere in the universe, based on discovery of extra-solar planets and nature of life on Earth; search strategies for such life.

GEC phy sci course.

**142 Black Holes U 5**

The nature, formation, and discovery of black holes in the universe.

Prereq: Math 075 or 076. GEC phys sci course.

**143 History of the Universe U 5**

Description of the history of the universe from Big Bang to present; how observations led to discovery of this history.

Au, Wi Qtrs. 5 cl or 3 1.5-hr cl. Not open to students with credit for 162 or 172 or 292. GEC phy sci course.

**161 Introduction to Solar System Astronomy U 5**

Physical nature of the sun and its family of planets, satellites, comets and minor bodies; gravitation, light, and telescopes.

Su, Au, Wi, Sp Qtrs. 5 cl or 3 1.5-hr cl. H161 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 161: Math 075 or 076 or 102, or Math Placement Level R. Prereq for H161: Math 116 or 148. Not open to students with credit for 171. Not intended for ASC BS students. Not recommended for students who plan to continue in astronomy or physics. This course is available for EM credit. GEC phys sci course. NS Admis Cond course.

**162 Introduction to Stellar, Galactic, and Extragalactic Astronomy****U 5**

Structure, motions, and evolution of stars, interstellar material, galaxies, and the universe as a whole.

Su, Au, Wi, Sp Qtrs. 5 cl or 3 1.5-hr cl. H162 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 162: 161. Prereq for H162: 161, and Math 116 or 148. Not open to students with credit for 172. Not intended for ASC BS students. Not recommended for students who plan to continue in astronomy or physics. This course is available for EM credit. GEC phys sci course. NS Admis Cond course.

**H163\*\* Relativity and Cosmology U 5**

Origin and evolution of the Universe, based on the Theory of Relativity, including the Big Bang, cosmic microwave background, formation of cosmic structure, dark matter.

Au Qtr. 5 cl. Prereq: 162 and enrollment in an honors program; or permission of dept. GEC phys sci course.

**171\*\* Solar System Astronomy U 5**

Development of astronomy and astrophysics; nature of the solar system, including planets, satellites, comets, asteroids, and the solar atmosphere.

Wi Qtr. 5 cl. Prereq: Math 150. Not open to students with credit for 161. GEC phys sci course.

**172\*\* Stellar, Galactic, and Extragalactic Astronomy U 5**

Structure and evolution of stars, interstellar medium, galaxies, and the universe.

Sp Qtr. 5 cl. Prereq: 171. Not open to students with credit for 162. GEC phys sci course.

**291 Basic Astrophysics and Planetary Astronomy U 5**

Motions and physical nature of objects in the solar system; electromagnetic radiation, telescopes, and astronomical detectors.

Au Qtr. 5 cl. Prereq or concur: Physics 133; or permission of instructor. Intended only for BS students. This course is available for EM credit.

**292 Stellar, Galactic, and Extragalactic Astronomy and Astrophysics U 5**

Observational and physical properties of the sun and stars; stellar structure and evolution; interstellar medium; galaxies and cosmology.

Wi Qtr. 5 cl. Prereq: 291 or permission of instructor. This course is available for EM credit.

**294 Group Studies U 1-5**

Special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**350\* Methods of Astronomical Observation and Data Analysis U 5**

Astronomical observational techniques and quantitative analysis of astronomical data; practical experience with modern astronomical instrumentation and computer-based reduction, analysis, and interpretation of astronomical data.

Au Qtr. 3 cl, 1 2-hr lab plus independent observation. Prereq: 162 or 292, Math 153, and Physics 133. GEC data analysis course.

**681\*\* Principles of Stellar Evolution and Nucleosynthesis U G 5**

Physics of stellar structure, evolution, and nucleosynthesis.

Wi, Sp Qtrs. 5 cl. Prereq: Math 255 or 415; Physics 263; Physics 621 (or concurrent) recommended; or permission of instructor. Not open to students with credit for 641 or Physics 681. Cross-listed in Physics. Offered either spring or winter quarter.

**682\* Introduction to Cosmology U G 5**

Structure and evolution of the Universe.

Wi, Sp Qtrs. 5 cl. Prereq: Math 255 or 415; Physics 263; Physics 621 (or concurrent) recommended; or permission of instructor. Not open to students with credit for 642 or Physics 682. Cross-listed in Physics. Offered either spring or winter quarter.

**693 Individual Studies U G 1-15**

Independent library or laboratory work on a special problem in observational or theoretical astronomy.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 108 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**H783 Honors Research U 3-5**

A program of study arranged for each student, with individual conferences, reports, and honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the astron courses taken, with an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 2 qtrs are required of candidates for the degree BS with distinction in astron. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**801 Astronomy Seminar I G 2**

Seminars conducted on astronomical topics of current interest; students will participate actively in the presentation and discussion of materials.

Au Qtr. Prereq: 10 cr hrs each at 600-level or higher in astron, physics, and math; or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**802 Astronomy Seminar II G 2**

Continuation of 801.

Wi Qtr. Prereq: 801. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**803 Astronomy Seminar III G 2**

Continuation of 802.

Sp Qtr. Prereq: 802. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**810 Order-of-Magnitude Astrophysics G 2**

Methods for approximate solution of a wide range of astrophysical problems, building on basic physical principles.

Prereq: Grad standing in astronomy or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**820\*\* Radiation Measurements G 3**

Techniques for obtaining and interpreting measurements of radiation from astronomical sources.

Au Qtr. 3 cl. Prereq: Permission of instructor.

**822\*\* Electromagnetic Radiation G 3**

Continuous radiative processes of astrophysical interest.

Au Qtr. 2 1.5-hr cl. Prereq: Physics 656 or permission of instructor.

**823\* Astrophysical Spectroscopy G 3**

Spectral formation in astrophysical sources, theory of atomic and molecular spectra, radiative and collisional processes in astrophysical and laboratory plasmas.

Au Qtr. 3 cl or 2 1.5-hr cl. Prereq: Physics 532 or 632 or permission of instructor.

**825\* Radiative Gas Dynamics G 3**

Dynamics of gas flows in astrophysical situations, including stellar winds, accretion, shock waves, and jets.

Wi Qtr. 3 cl or 2 1.5-hr cl. Prereq: Physics 621 or permission of instructor.

**830 Observed Properties of Stars and Galaxies G 5**

Observed properties of individual stars and normal (non-active) galaxies.

Au Qtr. 3 1.5-hr cl. Prereq: 640 and Physics 533 or 633 or 706, or permission of instructor.

**831\*\* Stellar Interiors G 3**

Theoretical aspects of the interiors and evolution of single stars.

Sp Qtr. 3 cl. Prereq: 641, Math 255 and 551, and Physics 533 or 633 or 706, or permission of instructor.

**832\*\* Stellar Atmospheres G 3**

Theory of the atmospheric structure of stars, emphasizing spectral line formation.

Wi Qtr. 3 cl or 2 1.5-hr cl. Prereq: 641, Math 255 and 551, and Physics 533 or 633 or 706; or permission of instructor.

**868\*\* Galactic Astronomy G 3**

Structure and kinematics of the Galaxy.

Wi Qtr. 3 cl. Prereq: 640 and Physics 533 or 633 or 706, or permission of instructor.

**869\* Observational Cosmology and Active Galaxies G 3**

Methods of observational cosmology; properties and evolution of active galactic nuclei and quasars.

Wi Qtr. 3 cl or 2 1.5-hr cl. Prereq: Grad standing in astronomy or permission of instructor.

**870\*\* Stellar Systems G 3**

Dynamics and evolution of stellar systems.

Sp Qtr. 3 cl. Prereq: 868 or permission of instructor.

**871\* Interstellar Medium G 3**

Physical processes occurring in interstellar gas and dust.

Sp Qtr. 3 cl or 2 1.5-hr cl. Prereq: 825 or permission of instructor.

**873\*\* Cosmology and Structure Formation G 3**

Structure and evolution of the Universe; physical processes in the early universe; formation of cosmic structure.

Sp Qtr. 3 cl or 2 1.5-hr cl. Prereq: Grad standing in astronomy or permission of instructor.

**880 Directed Research G 3**

Participation by the student in the research being conducted by a professor.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs. Repeatable only under supervision of different faculty members. This course is graded S/U.

**890 Topical Seminars in Astronomy G 1**

Focused seminars on topics and methods of contemporary astronomical research.

Sp Qtr. Times by arrangement flexible: 4 1.5-hr lectures/quarter. Prereq: Grad standing in astronomy or permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**894 Group Studies G 1-5**

Special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs.

**999 Research in Astronomy and Astrophysics G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Athletic Training**

School of Allied Medical Professions

228 Atwell Hall, 453 West 10th Avenue, 247-6231

**303 Basic Athletic Training U 5**

Introduction to profession of Athletic Training, its governing organizations and basic knowledge and skills in prevention, recognition, management and rehabilitation of injuries and illnesses.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl, 2-hr lab. Prereq or concur: Chem 121. Only open to Pre AT majors or by permission of instructor. Students seeking a sports medicine course for non-majors should take 661.

**350 Managing Risks, Emergencies and Patient Care in the Pre-Season U 2**

Integration into AT practice emphasizing unique risks and demands of the pre-season. Focus on applying risk management, emergency procedures, patient interaction, treatments, and modalities.

Su Qtr. 1 1-hr cl, 1 3-hr lab (7 wks). Prereq: 303. Open only to students admitted to Athletic Training major. Repeatable to a maximum of 4 cr hrs. Includes supervised clinical practice.

**420 Evaluation and Acute Management of Lower Extremity Pathologies U 5**

Pathology, evaluation, diagnosis, on-field care, and management of lower extremity pathologies by athletic trainers. Special emphasis on management of acute trauma and return to play determinations.

Au Qtr. 2 2-hr cl, 1 2-hr lab. Prereq or concur: 350. Open only to students admitted to Athletic Training major.

**421 Evaluation and Acute Management of Upper Extremity Pathologies U 5**

Pathology, evaluation, diagnosis, on-field care, and management of upper extremity pathologies by athletic trainers. Special emphasis on management of acute trauma and return to play determinations.

Wi Qtr. 2 2-hr cl, 2-hr lab. Prereq: 420. Open only to students admitted to Athletic Training major.

**422 Evaluation and Acute Management of Head and Spinal Pathologies U 4**

Pathology, evaluation, diagnosis, on-field care, and management of head and spinal pathologies by athletic trainers. Special emphasis on management of acute trauma and return to play determination.

Sp Qtr. 2 2-hr cl, 2-hr lab. Prereq: 421. Open only to students admitted to Athletic Training major.

**430 Experience in Athletic Training I U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on risk management/injury prevention and acute care of athletic injuries and illnesses.

Au Qtr. 16 hrs supervised clinical practice and assessment per week. Prereq: Admission to major or permission of instructor. First of 9 clinical experience courses for Athletic Training majors.

**431 Experience in Athletic Training II U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on assessment and evaluation of the upper extremity.

Wi Qtr. 16 hrs supervised clinical practice and assessment per week. Prereq: 430. Second of 9 clinical experience courses for Athletic Training majors.

**432 Experience in Athletic Training III U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on assessment and evaluation of the lower extremity.

Sp Qtr. 16 hrs supervised clinical practice and assessment weekly. Prereq: 431. Open only to Athletic Training majors or by permission of instructor. Third of 9 clinical experience courses for Athletic Training majors.

**521 Athletic Training Therapeutic Exercise I U 5**

Theory and clinical application of therapeutic exercise in rehabilitation by Athletic Trainers. Emphasis on foundations, basic strategies and techniques.

Wi Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 540. Open only to students admitted to Athletic Training major.

**522 Athletic Training Therapeutic Exercise II U 5**

Theory and clinical application of therapeutic exercise in rehabilitation by Athletic Trainers. Emphasis on application, advanced strategies and techniques.

Sp Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 521 or permission of instructor. Open only to students admitted to Athletic Training major.

**530 Experience in Athletic Training IV U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on the evaluation of head and spine injuries and illnesses.

Au Qtr. 16 hrs supervised clinical practice and assessment weekly. Prereq: 432. Open only to Athletic Training majors or by permission of instructor. Fourth of 9 clinical experience courses for Athletic Training majors.

**531 Experience in Athletic Training V U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on the application of therapeutic modalities and pharmacological practices.

Wi Qtr. 16 hrs supervised clinical practice and assessment weekly. Prereq: 530. Open only to Athletic Training majors or by permission of instructor. Fifth of 9 clinical experience courses for Athletic Training majors.

**532 Experience in Athletic Training VI U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on the basic components of therapeutic exercise.

Sp Qtr. 16 hrs supervised clinical practice and assessment weekly. Prereq: 531. Open only to Athletic Training majors or by permission of instructor. Sixth of 9 clinical experience courses for Athletic Training majors.

**540 Care of Medical Emergencies, Trauma, and Disease U 5**

Pathology, evaluation, on-field care, and management of disease and trauma by athletic trainers. Special emphasis on management of catastrophic injury and on inflammation and repair.

Sp Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 420, 421, concur:422.

**550 Athletic Training Biomechanics U 4**

Theory and clinical application of biomechanics, kinetics, and kinematics by Athletic Trainers in the prevention, evaluation, management, and rehabilitation of injuries.

Wi Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: Physics 101 or higher, or permission of instructor. Open only to Athletic Training majors or by permission of instructor.

**600 Athletic Training Ethics U 4**

Application of ethics and legal principles to the practice of Athletic Training. Focus is on making ethical decisions and on understanding and minimizing legal liability in Athletic Training practice.

Sp Qtr. 2 2-hr cl.

**610 Athletic Training Therapeutic Modalities U 5**

Theory and clinical application of physical agents including heat, cold, light, sound, electromagnetic and mechanical energy in treatment and rehabilitation performed by Athletic Trainers.

Au Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 540. Open only to Athletic Training majors or by permission of instructor.

**620 Pharmacology in Athletic Training U 3**

Overview of pharmacokinetics, pharmacodynamics, drug law and selected medications common to sports medicine. Emphasis on drug administration, physiology, adverse reaction, and athletic eligibility ramifications.

Wi Qtr. 2 1-hr cl, 1-hr lab. Prereq: 540, 600. Open only to Athletic Training majors or by permission of instructor.

**625 Administration in Athletic Training U 4**

Administration of Athletic Training programs. Includes management of personnel, budget, facilities, medical records, insurance, legal liability, emergency plans, public relations, and other topics.

Wi Qtr. 2 2-hr cl. Prereq: 630. Open only to Athletic Training majors or permission of instructor.

**630 Experience in Athletic Training VII U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on advanced techniques in therapeutic exercise.

Au Qtr. 2 1-hr cl. Prereq: 532. Open only to Athletic Training majors or by permission of instructor. Seventh of 9 clinical experience courses for Athletic Training majors.

**631 Experience in Athletic Training VIII U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on the evaluation of visceral injuries and illnesses, assessment of general medical conditions and disabilities, and NATABOC preparation.

Wi Qtr. 2 1-hr cl. Prereq: 630. Open only to Athletic Training majors or by permission of instructor. Eighth of 9 clinical experience courses for Athletic

Training majors.

**632 Experience in Athletic Training IX U 2**

Supervised clinical experience in the application of Athletic Training techniques. Focus is on administration in Athletic Training, professional development, psychological aspect of injury and rehabilitation, and nutritional counseling.

Sp Qtr. 2 1-hr cl. Prereq: 631. Open only to Athletic Training majors or by permission of instructor. Last of 9 clinical experience courses for Athletic Training majors.

**635 Psychosocial Issues, Identification and Mediation in Physically Active Patients U 4**

Psychosocial theory and facilitation of development. Disorders are outlined to help athletic trainers identify poor coping mechanisms, psychological disorders, mediation and referral strategies and processes.

Au Qtr. 2 1.5-hr cl, 1.5-hr lab.

**640 Special Topics in Athletic Training U 4**

Comprehensive discussion of timely issues and recently published or presented research in sports medicine. Also includes a program cumulative mock certification examination.

Sp Qtr. 2 2-hr cl. Prereq: 625. Open only to Athletic Training majors or permission of instructor.

**661 Survey of Sports Medicine U G 4**

Survey of sports medicine for non-professionals. Topics include the sports medicine team; risk management; and common athletic injuries, their causes, prevention, and immediate care.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl, 1 1-hr lab. Not open to athletic training majors.

## Atmospheric Sciences

1036 Derby Hall, 154 North Oval Mall, 292-2514

**General Meteorology**

See Physics 503-A description of weather phenomena and the physical processes underlying them; intended primarily for nonphysics majors.

**Climatology**

See Geog 520-The elements and the controls of climate; types of climate and their distribution; climates and their effects on the economic and other activities of man.

**Microclimatology: Boundary Layer Climatology**

See Geog 622.01-Theory of exchanges of energy and mass at the earth-atmosphere interface as it relates to microclimates with particular emphasis upon radiation and climate.

**Microclimatology: Microclimatological Measurements**

See Geog 622.02-Practical experience in the fabrication of instruments, deployment of measurement systems in the field and recording of data related to microclimates.

**Synoptic Meteorology: Synoptic Analysis and Forecasting**

See Geog 623.01-Theory and practice in synoptic weather analysis and forecasting.

**Synoptic Meteorology: Severe Storm Forecasting by Radar and Satellite**

See Geog 623.02-The theory and application of radar and satellite imagery in weather forecasting; emphasis on severe thunderstorms, tornadoes, and hurricanes; analysis of their evolution and structure.

**Fundamentals of Atmospheric Dynamics**

See Aero Eng 765-Advanced level treatment of basic topics in the dynamics and thermodynamics of atmospheric motion.

**Dynamic Climatology**

See Geog 821-Dynamics, thermodynamics, energy conservation, flows, conversion processes; large scale circulation patterns with particular emphasis upon turbulence at the synoptic scale; weather processes, and regional climates.

**Microclimatology**

See Geog 822-Radiation and turbulence processes, conduction; variation wind, temperature, humidity, soil moisture, evaporation, soil temperature; influence of vegetation and artificial structures.

**Applied Climatology**

See Geog 823-Analysis of climatic and environmental change on various time scales; man's impact on climate; theory and application of long-range and climate forecasting.

**230 Basic Meteorology U 5**

Introduction to the underlying physics of the atmosphere; basic equations of thermodynamics, radiation, and dynamics are presented and used to explain selected atmospheric phenomena.

Sp Qtr. 5 cl. Prereq: Math 152 and Physics 132. Not open to students with credit for Geog 520.

**620 Synoptic Meteorology Laboratory U G 3**

Introduction to reading and interpretation of synoptic weather maps and diagram- and data-communication systems.

Au Qtr. 2 cl, 1 lab hr. Prereq or concur: 230 or Geog 520. Not open to students with credit for Geog 620. Cross-listed in Geography.

**629 Climate System Modeling: Basics and Applications U G 5**

An examination of climate system modeling, including their component atmospheric, oceanic, sea ice and land surface models, and their coupling, and their applications.

Prereq: 230 or Geog 520 or permission of instructor.

**631 Atmospheric Thermodynamics U G 5**

An analysis of the fundamentals of atmospheric thermodynamics and their application to meteorological problems.

Au Qtr. 5 cl. Prereq: Math 153.

**637 Dynamic Meteorology I U G 5**

Fundamental problems in dynamic meteorology; components of the equations of atmospheric motion are derived, and vorticity and divergence in the development of meteorological systems.

Wi Qtr. 5 cl. Prereq: 631 or Aero Eng 505, and Math 415.

**638 Dynamic Meteorology II U G 5**

Advanced problems in dynamic meteorology; use of the equations of motion in numerical models of the atmosphere, especially those used by the National Weather Service.

Sp Qtr. 5 cl. Prereq: 637 or Aero Eng 765.

**693 Individual Studies in Atmospheric Sciences U G 1-5**

Independent studies on selected atmospheric sciences related topics.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**694 Group Studies in Atmospheric Sciences U G 1-5**

Special studies on topics directly related to the atmospheric sciences.

3 cl. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**881 Atmospheric Sciences Seminar G 2-4**

A multidisciplinary seminar reviewing selected topics in atmospheric sciences and related fields.

Au Qtr. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**893 Individual Studies in Atmospheric Sciences G 1-5**

Reviews the state-of-the-art of selected topics in the atmospheric sciences-related fields of meteorology and climatology, air environment studies, or aeronomy and solar-terrestrial relations.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**894 Group Studies in Atmospheric Sciences G 1-5**

Advanced studies on topics directly related to the atmospheric sciences.

Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**999 Research in Atmospheric Sciences G 1-18**

Research for thesis or dissertation purpose only.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in atmos sc. Repeatable. This course is graded S/U.

## Aviation

Aviation Building, 164 West 19th Avenue, 292-2405

**294^ Group Studies in Aviation U 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**300 The National Aviation System U 3**

A comprehensive survey of the national aviation system.

Au, Wi, Sp Qtrs. 2 cl or 1 3-hr cl.

**310 Private Pilot Fundamentals for Pilots and Management Majors**

Study of flight fundamentals, aircraft operation, weather, and regulations essential for the private pilot and air transportation professionals.

**310.01 Private Pilot Fundamentals U 5**

Study of flight fundamentals, aircraft operation, weather, and regulations essential for the private pilot.

Su, Au, Wi, Sp Qtrs. 5 cl, or 1 2-hr cl and 1 3-hr cl. Prereq: Eligible to enroll in Math 148. Not open to students with credit for 310.

**310.02 Private Pilot Fundamentals for Management Majors U 5**

Study of flight fundamentals, aircraft operation, weather, and regulations for future air transportation professionals.

Au, Wi, Sp Qtrs. 3 1-hr cl and 1 2-hr cl. Prereq: Math 104 or equiv. Not acceptable as prerequisite for Aviation 341.

**322 Aviation History U 3**

A survey of the evolution of aviation; emphasis on the development of the national aviation system and its social, economic, and political impact.

Wi Qtr. 2 cl, or 1 3-hr cl.

**341 Private Pilot Flight Lab I U 2**

Laboratory course providing students an opportunity to learn the fundamentals of flight and airplane operation leading to solo flight.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**342 Private Pilot Flight Lab II U 2**

Laboratory course providing students an opportunity to learn the fundamentals of flight and airplane operation leading to Private Pilot certification.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 310 and 341. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**410 Aviation Weather U 3**

Overview of weather theory; identification of aviation weather hazards and methods for obtaining current weather data.

Au, Wi Qtrs. 3 cl or 1 3-hr cl. Prereq: 300, 310. Requires one unit of high school physics.

**413 Commercial Pilot Fundamentals U 3**

A study of high-performance airplane operational considerations, systems, and components and the Federal Aviation Regulations which govern the operations, privileges, and limitations of commercial pilots.

Au, Sp Qtrs. 1 3-hr cl. Prereq: 410.

**415 Instrument Flight Fundamentals U 3**

Study of flight by reference to instruments, IFR regulations, and procedures in the national airspace system.

Au, Sp Qtrs. 3 cl or 1 3-hr cl. Prereq: 410.

**417 Advanced Multiengine Operations U 2**

The study of the principles of operation of the contemporary corporate airplane.

Wi Qtr. 1 2-hr cl. Prereq: 411.

**421 Flight Instruction Methodology U 3**

Principles of teaching aeronautical subjects.

Au Qtr. 1 3-hr cl. Prereq: 411, 413, and 415.

**422^ Instrument Instruction Methodology U 2**

Principles of teaching instrument flight theory and requirements.

Sp Qtr. 1 2-hr cl. Prereq: 421.

**441 Commercial Flight Lab 1 U 3**

Development of commercial pilot skills and experiences, fundamentals of instrument flight.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 342. Obtain equipment usage charge and permission slip at Ohio State Airport prior to scheduling.

**442 Commercial Pilot Flight Lab 2 U 3**

Further development of commercial pilot skills and experience, completion of instrument flight instruction.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 415 and 441. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**443 Commercial Pilot Flight Lab 3 U 3**

Complex airplane (SEL) flight instruction.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 442. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**444 Commercial Pilot SEL Flight Lab 4 U 3**

SEL commercial and instrument flight skills.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 413 and 443. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**445 Commercial Pilot SEL Flight Lab 5 U 3**

Leads to SEL commercial certificate.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 444. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**446 Commercial Pilot MEL Flight Lab 4 U 3**

Development of MEL commercial pilot flight skills; leads to multi-engine rating.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 413 and 443. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**447^ Commercial Pilot MEL Flight Lab 5 U 3**

Development of MEL instrument flight skills; leads to MEL instrument rating.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 446. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**461 Flight Instructor ASEL Flight Lab U 3**

Development of skills and experience necessary for certification as flight instructor airplane SEL.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 421 and 445 or 447. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**462 Flight Instructor Instrument Airplane Flight Lab U 3**

Development of skills and experience necessary for flight instructor instrument rating.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 422 and 445 or 447. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**463 Flight Instructor AMEL Flight Lab U 3**

Development of skills and experience necessary for airplane MEL rating.

Su, Au, Wi, Sp Qtrs. 5 1-hr labs. Prereq: 421 and 447. Obtain equipment usage charge and permission slip at University Airport prior to scheduling.

**489 Professional Practice in Industry U 2**

Actual employment in a co-op program in the aviation industry and the preparation of a report based on the work experience.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Admission to co-op program in aviation and written permission of dept. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**493 Individual Studies in Aviation U 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**530 Aviation Regulation U 3**

Introduction to federal regulations with particular emphasis on Title 14 of the Code of Federal Regulations governing Aviation.

Au, Sp Qtrs. 3 cl or 1 3-hr cl. Prereq: 310.01 or 310.02.

**540 Aviation Human Factors U G 3**

An examination of human factors problems in aviation safety including aircraft design, aviation systems design, and human behavior.

Au, Sp Qtrs. 3 cl or 1 3-hr cl. Prereq: 300, 310, Stat 135.

**550 Aviation Management U 3**

A blend of accepted business procedures and practical techniques applied to aviation management; includes general aviation, airlines, airports, aircraft, and air traffic control.

Au, Sp Qtrs. 3 cl or 1 3-hr cl. Prereq: 300, 310 and Econ 200.

**552 Airport Management U 3**

Comprehensive study of airport operations and management; role of the airport manager in planning, finance, administration, public relations, socio-political and environmental considerations, and operational requirements and maintenance.

Au, Sp Qtrs. 1 3-hr cl. Prereq: 550.

**560 Aviation Safety U G 3**

Review of safety concepts with emphasis on ground and flight safety.

Wi Qtr. 3 1-hr cl. Prereq: 540 or permission of instructor.

**590 Air Transport Practices and Design U G 5**

Analysis of principle issues in structuring air transportation markets, including financial impact of traffic management.

Wi Qtr. 2 2.5-hr cl. Prereq: 300 and 550.

**591 Flight Network Analysis and Optimization U G 3**

Introduction to planning and operating an airline, including route analysis, scheduling, fleet planning, and maintenance.

Wi Qtr. 2 1.5-hr cl. Prereq: 300 and 550.

**593 Individual Studies in Aviation U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**650 Air Transportation Analysis I U G 3**

Analysis and planning of air transportation systems; focus on air transportation supply and demand components, and examples from U.S. domestic and international airlines, passenger and cargo.

Au, Sp Qtrs. 3 cl or 1 3-hr cl. Prereq: 550 and Econ 400 or Econ 201.

**652 The International Aviation System U G 3**

Overview of the international system: aeropolitical framework, air transport, air navigation, and contemporary issues.

Wi Qtr. 3 cl or 1 3-hr cl. Prereq: 550.

**654 Airline Marketing U G 3**

Contemporary marketing concepts and procedures and their applications in the airline industry with emphasis on domestic and international passenger analysis and service planning.

Wi Qtr. 3 cl or 1 3-hr cl. Prereq: 550.

**674 Airport Systems Planning, Design, and Development U G 3**

Comprehensive study of airport planning, design, and development to support commercial and general aviation.

Au Qtr. 1 3-hr lab. Prereq: 552 (recommended).

**693 Individual Studies U G 2-5**

Individual conferences, assigned readings and reports on advanced topics in aviation.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**694 Group Studies in Aviation U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**699 Undergraduate Research in Aviation U 1-5**

Opportunity for undergraduate student to conduct research in Aviation.

Su, Au, Wi, Sp Qtrs. Prereq: Engineer 183. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**750 Air Transportation Analysis II U G 3**

Application and use of specific analytical techniques for analyzing aviation data for decision analysis.

Wi Qtr. 3 cl or 1 3-hr cl. Prereq: 650 or permission of instructor.

**H783 Honors Research U 2-5**

A research investigation resulting in an honors project for a senior thesis.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

## Biochemistry

776 Biological Sciences Building, 484 West 12th Avenue, 292-6771

**H200 Early Experience in Research in Biochemistry: Seminar U 2**

Two quarter introduction to biochemical research through seminars and laboratory tours by faculty in the Department of Biochemistry. The second quarter will link with Biochem H201 and will involve a seminar and student presentations.

Wi Qtr. 1 2-hr cl. This course is graded S/U.

**H201 Early Experience in Research in Biochemistry: Laboratory U 3**

A laboratory supplement to Biochem H200 to introduce undergraduate to biochemical research.

Sp Qtr. Arr. Prereq: Biology 113 or Chem 121 and Biochem H200. This course is graded S/U.

**211 Elements of Biochemistry I U 3**

A survey of biochemistry in a two-quarter sequence stressing the qualitative rather than the quantitative approach.

Au Qtr. 3 cl. Prereq: Chem 102 or 122. Credit does not count toward a major in biochem. This course is available for EM credit.

**212 Elements of Biochemistry II U 3**

A continuation of 211.

Wi Qtr. 3 cl. Prereq: 211. Credit does not count toward a major in biochem.

**294 Group Studies U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. For different subject matter only.

**511 Introduction to Biological Chemistry U G 5**

An introductory course in biochemistry dealing with the molecular basis of structure and metabolism of plants, animals, and microorganisms.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Chem 123 or 125 and 252, and 2 qtrs of biological sciences. The organic chemistry requirement (Chem 252) may also be satisfied by Chem 231 with a grade of at least C. This course is available for EM credit.

**521 Introduction to Biological Chemistry: Laboratory U G 5**

Assay techniques for chemical constituents and metabolic reactions of living cells.

Wi, Sp Qtrs. 2 cl, 2 3-hr labs. H521 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 521: 511 or 613 or equiv. Prereq for H521: 511 or 613 or equiv, and Chem 221.

**591 DNA Finger Printing Workshops in Columbus Public Schools U 2**

A service learning course whereby undergraduates mentor high school students in molecular biology workshops.

Sp Qtr. Repeatable to a maximum of 6 cr hrs. Undergraduates present workshops in Columbus Public Schools. Cross-listed in Microbiology and Molecular Genetics. This course is graded S/U.

**613 Biochemistry and Molecular Biology U G 4**

An introductory course in biochemistry and molecular biology developing in three quarters the molecular basis of structure and function of living cells.

Au Qtr. 4 cl. Prereq: Chem 253 and 2 qtrs of biological sciences. Not open to students with credit for 511 without written permission of instructor. Not open to students with credit for 513. This course is available for EM credit.

**614 Biochemistry and Molecular Biology U G 4**

Continuation of 613.

Wi Qtr. 4 cl. Prereq: 613. This course is available for EM credit.

**615 Biochemistry and Molecular Biology U G 4**

Continuation of 614.

Sp Qtr. 4 cl. Prereq: 614. This course is available for EM credit.

**693 Individual Studies U G 2-10**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs. for grad credit and a maximum of 20 cr hrs for undergrad credit. This course is graded S/U.

**694 Group Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Research in Biochemistry U G 1-15**

Undergraduate research in biochemistry, structural and molecular biology.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**702 Molecular Genetics: Regulation of Gene Expression U G 3**

Transcription, translation, and regulation of gene expression in prokaryotes and eukaryotes; emphasis on concepts and experimental analysis of gene regulatory mechanisms.

Wi Qtr. 3 cl. Prereq: Mol Gen 701 or permission of instructor.

**706 Advanced Biological Chemistry Lab U G 5**

Advanced laboratory integrating recombinant DNA technology including cloning and mutagenesis with protein expression, purification, and characterization.

Au Qtr. 3 4-hr labs. Prereq: 511 and 521 or equiv or permission of instructor.

**708<sup>A</sup> Protein and Enzyme Laboratory U G 5**

Purification, characterization, and study of the physical and catalytic properties of enzymes and proteins.

Sp Qtr. 2 4-hr labs. Prereq: 521 and 761; or equivs; or permission of instructor.

**710<sup>A</sup> Molecular Biology Laboratory U G 5**

Isolation of recombinant phage and phage DNA, subcloning of DNA fragments, restriction enzyme analysis, nucleic acid hybridization, RNA metabolism.

Wi Qtr. 2 4-hr labs. Prereq: 521 and 511 or 702; or equivs; or permission of instructor.

**721 Physical Biochemistry****721.01 Physical Biochemistry I U G 3**

Introduction to physical chemistry with emphasis on biological applications; designed for students in the life sciences.

Au Qtr. 3 cl. Prereq or concur: 511 or 613, Math 153 (254 recommended), and Physics 113 or 133; or permission of instructor.

**721.02 Physical Biochemistry II U G 3**

A continuation of 721.01.

Wi Qtr. 3 cl. Prereq 511 or concur: 614 and 721.01; or permission of instructor.

**721.03 Physical Biochemistry III U G 3**

A continuation of 721.02.

Sp Qtr. 3 cl. Prereq: 721.02.

**735<sup>A</sup> Plant Biochemistry I U G 3**

The biochemistry of plant chloroplasts and mitochondria: photosynthesis, carbohydrate metabolism, sulfate and nitrate reduction, chlorophyll and heme synthesis, chloroplast development, respiration, and mitochondrial development.

Au Qtr. 3 cl. Prereq: 511 or 614. Not open to students with credit for PCMB 735. Cross-listed in PCMB.

**736<sup>A</sup> Plant Biochemistry II U G 3**

The biochemistry of plants with emphasis on the synthesis and structure of cell walls, lipids, secondary compounds, phytohormones, and nitrogen fixation.

Wi Qtr. 3 cl. Prereq: 735. Not open to students with credit for PCMB 735. Cross-listed in PCMB.

**761 Advanced Biochemistry: Proteins U G 3**

An advanced treatment of protein biochemistry.

Au Qtr. 3 cl. Prereq: 615 and Chem 253, 255, and 521; or equivs. Not open to students with credit for Chem 761 or Molbioch 761. Cross-listed in Chemistry, and Molecular and Cellular Biochemistry.

**762 Advanced Biochemistry: Enzymes U G 3**

An advanced treatment of enzymology.

Au Qtr. 2 1.5-hr cl. Prereq: 615 and Chem 253, 255, and 521; or equivs. Not open to students with credit for Chem 762, or Molbioch 762. Cross-listed in Chemistry, and Molecular and Cellular Biochemistry.

**763 Advanced Biochemistry: Membranes and Bioenergetics U G 2**

An advanced treatment of membranes and bioenergetics.

Wi Qtr. 2 cl. Prereq: 615 and Chem 253, 255, and 521; or equivs. Not open to students with credit for Chem 763 or Molbioch 763. Cross-listed in Chemistry, and Molecular and Cellular Biochemistry.

**765 Advanced Biochemistry: Physical Biochemistry U G 3**

Nuclear magnetic resonance, optical spectroscopy, and mass spectroscopy.

Sp Qtr. 1 2.5-hr cl. Prereq: 615 and Chem 253, 255, and 521; or equivs. Not open to students with credit for Chem 765 or Molbioch 765. Cross-listed in Chemistry, and Molecular and Cellular Biochemistry.

**766 Advanced Biochemistry: Nucleic Acids U G 3**

Physico-chemical properties of nucleic acids and their polymers; chemistry, biochemistry, and structural biology of DNA and RNA.

Wi Qtr. 3 cl. Prereq: 615 and Chem 253, 255, and 521; or equivs. Not open to students with credit for Molbioch 766. Cross-listed in Molecular and Cellular Biochemistry.

**770 Protein Engineering U G 3**

Current research on genetic engineering of proteins for biotechnological and theoretical studies.

Au Qtr. 2 1.5-hr cl. Prereq: 702, 761, and Micrbiol 680 or Mol Gen 701.

**775<sup>A</sup> Biophysical Chemistry U G 3**

Techniques and principles of physical biochemistry, emphasizing chromatography, electrophoresis, centrifugation, ultrafiltration, and circular dichroism.

Sp Qtr. 3 cl. Prereq: Introductory courses in biochemistry and physical chemistry or permission of instructor.

**H783 Honors Research U 3-5**

A program of reading and research for each student with individual conferences, reports, and honors thesis.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a grade of A in at least half of the courses in biochem and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 2 qtrs are required of candidates for the degrees BA or BS with distinction in biochem. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**785 Research Principles and Techniques U G 2-10**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs. for grad credit and a maximum of 20 cr hrs for undergrad credit.

**795 Special Topics in Biochemistry U G 1-3**

Lecture/discussion in a seminar format of publications, current research, or research techniques in biochemistry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 521 and 615; or permission of instructor. Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**850 Seminar in Biological Chemistry G 2**

Au, Wi, Sp Qtrs. 1 or 2 cl. Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**890<sup>A</sup> Interdepartmental Seminar in Molecular, Cellular, and Developmental Biology G 2**

Students will present oral reports and lead discussion on research progress in specific areas of developmental biology.

1 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Given cooperatively by Biochemistry, Molecular Genetics, Microbiology, and Plant Biology. This course is graded S/U.

**900 Advanced Topics in Biochemistry G 1-3**

Advanced treatment of areas of current interest in biochemistry; topics will be announced each quarter.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 613 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**999 Research in Biochemistry G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Biological Sciences: Interdisciplinary**

105 Biological Sciences Building, 484 West 12th Avenue, 292-8772

**100 Biological Sciences Survey U 1**

Academic requirements, University procedures, grading system, resources; student rights and responsibilities; overview of Biological Sciences areas of study, Arts and Sciences services.

Au Qtr. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for Agr Int 100, Arts Col 100.01 or 100.02, Arts&Sci 100 or 100.01 or 100.02, Engineer 100, Hum Col 100, MPS Col 100, SBS Col 100, or any decimal subdivision of Univ Col 100. This course is graded S/U.

**293 Individual Studies U 1-10**

Individual Study projects in selected interdisciplinary topics in the Biological Sciences.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Studies U 2-5**

Group studies of special interdisciplinary topics not otherwise offered in the Biological Sciences.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**489 Internship in the Biological Sciences U 1-5**

A cooperative education or internship assignment conducted under the supervision of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**500 Biological Roots in England U 3**

A short-term study abroad course examining the history of biology in England.

Wi Qtr. 3 cl. Prereq: 10 cr hrs of biological sciences.

**693 Individual Studies U G 1-10**

Designed to give a properly qualified student opportunity for independent reading, study or laboratory work in a specialized field of interest in the Biological Sciences.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered in the Biological Sciences.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**797 Interdepartmental Seminar G 1-5**

Two or more departments or colleges may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable by permission. This course is graded S/U.

**Biology**

260 Jennings Hall, 1735 Neil Ave, 292-9861

See also courses in Biochemistry; Entomology; Evolution, Ecology, and Organismal Biology; Microbiology; Molecular Genetics; Plant Biology.

**101 Introductory Biology U 5**

Basic principles of biology; topics include nature of science, organismal diversity, evolution, ecology, genetics, reproduction, cell structure and function.

Su, Au, Wi, Sp Qtrs. 3 cl, 1 3-hr rec/lab; or 2 1.5-hr cl, 1 3-hr rec/lab. Prereq: Math 075 or 076 or 104 or Mathematics Placement Level R. Not open to students with credit for 113 or H115, or Entomol 101, or PCMB 101. Not intended for the

student pursuing an undergraduate major in one of the biological sciences. This course is available for EM credit. GEC bio sci course. E101 may be available for honors embedded experience at the Newark Campus.

**102 Human Biology U 5**

Exploration of human biology; topics include structure and physiological function, reproduction and development, genetics and disease, ecology and evolution.

Su, Au, Wi, Sp Qtrs. 3 cl or 2 1.5-hr cl, 1 2-hr film/video presentation, 1 rec. Prereq: 101. Not open to students with credit for 114 or H116. Not intended for the student pursuing an undergraduate major in one of the biological sciences. This course is available for EM credit. GEC bio sci course.

**103 Living Chemistry U 5**

Explores the nexus between biology and chemistry to advance understanding of biology studies in Biology 101, and to consider the relationship of biology to current issues.

Wi Qtr. 3 cl, 2 1-hr rec. Prereq: 101 and concurrent enrollment in Chem 100. GEC bio sci course. Biology 103 is a sequence to Biology 101 and is part of a two-course cluster with Chem 100.

**113 Biological Sciences: Energy Transfer and Development U 5**

Exploration of biology and biological principles; evolution and the origin of life, cell structure and function, bioenergetics, and genetics. A broad introduction to biology comprises both Biology 113 and 114.

Su, Au, Wi, Sp Qtrs. 3 cl or 2 1.5-hr cl, 1 3-hr lab, 1 1-hr rec. Prereq: Chem 101 or 121 or H201. Not open to students with credit for H115. This course and 114 provide a comprehensive two-qtr sequence in general biology. This course is available for EM credit. GEC bio sci course. NS Admis Cond course.

**114 Biological Sciences: Form, Function, Diversity, and Ecology U 5**

Exploration of biology and biological principles; evolution and speciation, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. A broad introduction to biology comprises both Biology 113 and 114.

Au, Wi, Sp Qtrs. 4 cl, 1 3-hr lab. Prereq: 113. Not open to students with credit for H116. This course is available for EM credit. GEC bio sci course. NS Admis Cond course.

**H115 Honors Biology I U 5**

Exploration of biology and biological principles; evolution and the origin of life, cell structure and function, bioenergetics, and genetics, with emphasis on current research. A broad introduction to biology comprises both Biology H115 and H116.

Au, Wi Qtrs. 3 cl, 1 3-hr lab, 1 1-hr rec. Prereq: Chem 121 or H201, and enrollment in an honors program. Not open to students with credit for 113. Intended for the undergraduate student pursuing a major in the life sciences. GEC bio sci course. NS Admis Cond course.

**H116 Honors Biology II U 5**

Exploration of biology and biological principles; evolution and speciation, diversity in structure, function, behavior and ecology among prokaryotes and eukaryotes, with emphasis on current research. A broad introduction to biology comprises both Biology H115 and H116.

Wi, Sp Qtrs. 3 cl, 1 3-hr lab, 1 1-hr rec. Prereq: H115. Not open to students with credit for 114. GEC bio sci course. NS Admis Cond course.

**293 Individual Studies U 1-10**

Individual Study projects in selected topics in Biology.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Studies U 2-5**

Group studies of special topics not otherwise offered in Biology.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**401 Integrated Biology I U 5**

A case studies approach is used to gain a better understanding of biological concepts and principles. This course is designed for biology majors.

Prereq: Biology 113 and 114 and Chem 123 and Math 150; or permission of instructor.

**402 Integrated Biology II U 5**

A case studies approach is used to gain a better understanding of biological concepts and principles. This course is designed for biology majors.

Prereq: 401; and Chem 123; and Math 150; or permission of instructor.

**597 Biology of Human Diversity: Race, Gender, and Ethnicity U 5**

Historical perspectives on contemporary issues in human biology and biocultural problems.

Au, Sp Qtrs. 3 cl, 1 2-hr rec. Prereq: 10 cr hrs of biological sciences course work and sr standing. GEC contemporary world and social diversity course.

**693 Individual Studies U 1-5**

A program of individual research in the biological sciences appropriate for the student's needs.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 113 or H115, and 114 or H116, and permission of adviser and supervising instructor. Biology majors carrying out research in the College of Biological Sciences should register for 693 in supervising instructor's dept. Repeatable to a maximum of 20 cr hrs. Not more than 5 cr hrs of 693, 699, or H783 may be counted toward an undergrad major in biology. This course is graded S/U.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of College of Biological Sciences academic adviser or biology adviser. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**699 Undergraduate Research in Biology U 1-15**

Undergraduate research in biology.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of adviser and supervising instructor. Repeatable to a maximum of 15 cr hrs. Biology majors carrying out research in the College of Biological Sciences should register for 699 in supervising instructor's department. Not more than 5 cr hrs of 693, 699 or H783 may be counted toward an undergraduate major in biology. This course is graded S/U.

**701 Biology College Teaching G 3**

Students take a scholarly approach to studying theory-based methods to help undergraduates learn biology. Students consider the methods as an instructor, peer reviewer, and student.

Offered only to graduate students in the College of Biological Sciences.

**H783 Honors Research U 1-5**

A program of individual research in the biological sciences appropriate for the student's needs and culminating in an honors thesis.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 113 or H115, and 114 or H116, and permission of adviser and supervising instructor. Biology majors carrying out research in the College of Biological Sciences should register for H783 in supervising instructor's dept. Repeatable to a maximum of 20 cr hrs. Not more than 5 cr hrs of 693, 699, or H783 may be counted toward an undergrad major in biology. This course is graded S/U.

**Biomedical Engineering**

270 Bevis Hall, 1080 Carmack Road, 292-7152

Advanced Mammalian Physiology II

See Physio CB 601-First of a two-quarter sequence presenting the following areas of physiology: neuromuscular, heart and circulation, endocrine, brain and special senses, body fluids and kidney, respiration, digestion, temperature control, and metabolism.

Advanced Mammalian Physiology II

See Physio CB 602-Continuation of 601.

**202 Introduction to Biomedical Engineering U 3**

Introduction to the engineering aspects of life science, utilizing lectures from engineering, medicine, and life science.

Wi Qtr. 2 1.5-hr cl. Prereq: Mech Eng 410 or equiv; Biology 113 or equiv; prereq or concur Math 415; or permission of instructor. Open only to Biomed E undergrad students.

**205 Numerical Simulations in Biomedical Engineering U 2**

Computer based simulations for problems in biomedical engineering.

Wi Qtr. 2 1-hr cl. Prereq or concur: Introductory MATLAB experience (OSU ENG 183 or equiv), Biomed E 202 concurrently; or permission of instructor.

**402 Biomedical Engineering Laboratory U 2**

Measurement and interpretation of data from living systems; measurement and analysis of signals generated by bioelectrical potentials, and their relationship to human physiology and function.

Wi Qtr. 1 hr lecture, 3 hr lab. Prereq: 202; EEOB 232 or equiv; prereq or concur: EEOB 415; or permission of instructor.

**403 Quantitative Physiology U 4**

Introducing and building on fundamentals of control system theory. Quantitative models of physiological systems will be developed and studied.

Sp Qtr. 4 1-hr cl. Prereq: 205; EEOB 232 and 415; Math 415.

**411 Bioimaging U 4**

Introduction to medical imaging techniques, including data collection and image processing for projection x-ray, computed tomography, ultrasonic, and magnetic resonance.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 205; Physics 133; EEOB 232 or equiv; or permission of instructor. Biomed E Bioimaging "domain class".

**421 Biotransport U 4**

Integrating fundamental engineering and life science principles to cover key mass plus momentum transport concepts, and contemporary applications in biomedical engineering.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 205; Mech Eng 420 or equiv and Mech Eng 500 or equiv; EEOB 232 or equiv; prereq or concur: EEOB 415; or permission of instructor. Biomed E Biotransport "domain course".

**431 Biomaterials U 4**

Review of basic concepts of materials science; biocompatibility and biological reactions to implanted materials; natural biomaterials and synthetic materials used in biological applications.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 205; MatSc&En 205; Mech Eng 420; Mech Eng 500 or equiv; EEOB 232; prereq or concur: EEOB 415; or permission of instructor. Biomed E Biomaterials "domain class".

**441 Biomechanics U 4**

Mechanical characterization of biological tissues at the organ and system level; exploration of biomechanical factors on physiological and pathological conditions.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 205; Mech Eng 420 or equiv and Mech Eng 500 or equiv; EEOB 232 or equiv; prereq or concur: EEOB 415; or permission of instructor. Biomed E Biomechanics "domain course".

**451 Molecular, Cell, and Tissue Engineering U 4**

Introduction to the incorporation of living components and compatible biomaterials to repair or replace biological functions.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 205; Mech Eng 500 or equiv; EEOB 232 or equiv; prereq or concur: EEOB 415; Biochem 511; or permission of instructor. Biomed E Molecular, Cell, Tissue Engineering "domain course".

**461 Biomedical Micro/Nanotechnology U 4**

Micro/nanotechnology focusing on integrating basic physics, chemistry, biochemistry and physiology of micro- and nanoscale devices in biomedical applications.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 202, 205; MatSc&En 205; Biochem 511; EEOB 232; or permission of instructor. Biomed E Micro/Nano tech "domain course".

**500 Introduction to Biomedical Engineering U G 3**

Introduction to the engineering aspects of life science, utilizing lectures from medicine, engineering, and life science.

Wi Qtr. 2 1.5-hr cl. Prereq: EEOB 232, PhysioCB 311, or equiv; Mech Eng 410 or equiv. Not open to students with credit for 400.

**501 Biomedical Engineering Design I U 4**

Biomedical device design, prototyping, testing, material considerations, regulatory requirements, product documentation, ethics. Application of design principles via student team projects to aid the disabled.

Au Qtr. 2 2-hr cl, 1 3-hr lab. Prereq: Sr standing in Biomed E and completion of at least 2 Biomed E domain classes; concur: Biomed E 503. First Biomed E capstone course.

**502 Biomedical Engineering Design II U 5**

Biomedical device design, prototyping, testing, material considerations, regulatory requirements, product documentation, ethics. Application of design principles via student team projects to aid the disabled.

Wi Qtr. 2 2-hr cl, 2 3-hr labs. Prereq: 501. Continuation of Biomed E design capstone.

**503 Professional Development in Biomedical Engineering U 1**

Development of professional skills; engineering economy; project planning; ethics, best business practices in biomedical engineering.

Prereq or concur: 501.

**571 Introduction to Bioinstrumentation U G 3**

Measurement and analysis of signals generated by biomedical transducers and bioelectric potentials, and their relationship to human physiology and bodily function.

Wi Qtr. 2 1.5-hr cl. Prereq: 400, Elec Eng 300 or equiv.

**581 Biomedical Engineering Seminar**

Weekly biomedical engineering seminars by students and faculty.

1 credit awarded upon completion of 3 quarters of 581 (581.01-581.03).

**581.01 Biomedical Engineering Seminar I U 0**

Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Biomed E sr standing. This course is graded S/U.

**581.02 Biomedical Engineering Seminar II U 0**

Au, Wi, Sp Qtrs. 1-hr cl. Prereq: 581.01. This course is graded S/U.

**581.03 Biomedical Engineering Seminar III U 1**

Au, Wi, Sp Qtrs. 1-hr cl. Prereq: 581.02. This course is graded S/U.

**600 Survey of Biomedical Engineering U G 3**

Multi-lecturer survey course designed to introduce fundamental technologies and design methodologies relevant to biomedical engineering product development and clinical applications.

Au Qtr. 2 1.5-hr cl. Prereq: Grad standing or permission of instructor.



**631 Fundamentals of Biomaterials U P G 3**

Review of basic concepts of materials science; biocompatibility and biological reactions to implanted materials; natural biomaterials and synthetic materials used in biological applications.

Au Qtr. 2 1.5-hr cl. Prereq: Mech Eng 410; Mech Eng 420; and EEOB 232 or PhysioCB 311 or PhysioCB 601; or permission of instructor.

**662 Introduction to Nanofabrication and Nanomanufacturing U G 3**

Novel nanomanufacturing techniques will be introduced with a focus on top down approaches and a brief introduction of bottom up approaches.

Au Qtr. 3 cl. Prereq: ECE 331 or MatSc&En 205 or permission of instructor. Not open to students with credit for ChBE 632 or ECE 632 or Ind Eng 652.02. Cross-listed with ChBE 632, ECE 632, and Ind Eng 652.02..

**686 Introduction to Biomedical Ultrasound U G 3**

Introduction to use of ultrasound in biomedical applications, including interaction of ultrasound with tissue; generation, reception and interpretation of ultrasonic signals; and clinical instrumentation.

Au Qtr. 2 1.5-hr cl. Prereq: Math 255 or 415 or equiv and Physics 133 or equiv; or grad standing.

**694 Group Studies in Biomedical Engineering U G 1-5**

Provides groups of students opportunities to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**701 Survey of Cardiovascular Bioengineering U P G 3**

Overview of biomedical engineering approaches in imaging and intervention in cardiovascular medicine.

Wi Qtr. 2 1.5-hr cl. Prereq or concur: 400; or grad standing in engineering, medicine or science; or permission of instructor.

**706 Medical Imaging U G 3**

Introduction to medical imaging techniques, including data collection and image processing for projection x-ray, computed tomography, ultrasonic, and magnetic resonance.

Au, Sp Qtrs. 3 cl. Prereq: ECE 352, prereq or concur: ECE 582; or grad standing in EE/ECE or BME. Not open to students with credit for ECE 706. Cross-listed in Electrical and Computer Engineering.

**721 Biological Transport U G 3**

Theoretical and phenomenological derivation of transport mechanisms important for biological systems. Includes passive, active and extracellular transport.

Sp Qtr. 2 1.5-hr cl. Prereq: Math 255 or 415; Mech Eng 500 or equiv; Chem 125 or equiv; Biomed E 400 or grad standing; or permission of instructor.

**732 Soft-Tissue Biomaterials U G 3**

Study of soft-tissue biomaterials and their uses, including tissue engineering, drug delivery, cosmetic surgery and prosthetics.

Wi Qtr. 2 1.5-hr cl. Prereq: 631 or permission of instructor. This course will enable students to understand requirements, classes, and properties of biomaterials used in effective device design.

**733 Hard-Tissue Biomaterials U P G 3**

Structure and material properties of musculoskeletal materials and the synthetic materials used in musculoskeletal reconstruction.

Sp Qtr. 2 1.5-hr cl. Prereq: 631 or permission of instructor.

**739 Biopolymer Structure and Function U G 3**

Discussion of biopolymers, critical for normal body function, including those involved in bone structure, coagulation, elasticity, extracellular matrix, genetics.

Au Qtr. 2 1.5-hr cl. Prereq: Chem 125 or equiv; Chem 231 or equiv; Biomed E 400 or grad standing; or permission of instructor.

**741 Tissue Mechanics U G 3**

Mechanical characterization of biological tissues at the organ and system level; exploration of interactions with physiological and pathological conditions.

Wi Qtr. 2 1.5-hr cl. Prereq or concur: 400, 500, or 600; Mech Eng 410; EEOB 232 or PhysioCB 311 or PhysioCB 601; or permission of instructor.

**751 Professional and Ethical Issues in Biomedical Research U P G 2**

Discussion course based on case scenarios dealing with ethical issues facing biomedical researchers such as publishing practices, confidentiality, mentoring, etc.

Au Qtr. 1 2-hr cl. Prereq: Grad or professional standing; or permission of instructor. Not open to students with credit for 551 or Pharmacol 751. Cross-listed in Pharmacology. This course is graded S/U.

**761 Biomedical Nanotechnology U G 3**

Survey of biomedical technology with particular emphasis on nanoscale mass transport, nanomechanics, nanofluidics and medical therapeutics.

Sp Qtr. 2 1.5-hr cl. Prereq: 400 or grad standing in engineering, medicine, or life science. Cross-listed with Chem Eng 769.

**762 Biomedical Microdevices G 3**

Basics of the application of microdevices to biomedical uses, including review of microfabrication and biophysical chemistry. Discussion and analysis of current research.

Sp Qtr. 2 1.5-hr cl. Prereq: 400 or 500 or 600 or permission of instructor. This course will enable students to understand requirements, classes, and properties of biomaterials used in effective device design.

**763 Introduction to Micro and Nano Fluidics U G 3**

Introduction to basic principles of incompressible fluid mechanics appropriate to micro and nano fluidics.

Au Qtr. 2 1.5-hr cl. Prereq: Mech Eng 504 or permission of instructor. Not open to students with credit for Mech Eng 715. Cross-listed with Mech Eng 715.

**765 Cellular Nanotechnology U G 3**

An introduction and overview of the role of nanotechnology in soft materials and biotechnology. Applications in polymer devices for biomedical and diagnostics are emphasized.

Prereq: Sr or grad standing in engineering or permission of instructor. Not open to students with credit for CHBE 735. Cross-listed with CHBE 735.

**771 Biomedical Instrumentation U G 4**

Study of instruments and measurement techniques used in obtaining data from living systems.

Sp Qtr. 2 1.5-hr cl and 1 2-hr lab. Prereq: 400 or 600; EEOB 232 or PhysioCB 601 or equiv; Elec Eng 300 or equiv; or permission of instructor.

**793 Individual Studies in Biomedical Engineering U G 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**813 Magnetic Resonance Spectroscopy and Imaging I G 3**

Presentation of the basic principles of MRI/MRS, including basic MR physics, pulse sequences, adiabatic excitation coil design, MR hardware image formation, localized spectroscopy.

Wi Qtr. 2 1.5-hr lectures. Prereq: Grad standing and permission of instructor. Cross-listed in Radiology.

**814 Magnetic Resonance Spectroscopy and Imaging II G 3**

Presentation of the basic principles of MRI/MRS, including basic MR physics, pulse sequences, adiabatic excitation coil design, MR hardware image formation, localized spectroscopy.

Sp Qtr. 2 1.5-hr lectures. Prereq: 813, grad standing and permission of the instructor. Cross-listed in Radiology.

**881 Seminar in Biomedical Engineering**

Weekly seminars by students and faculty.

Au, Wi, Sp Qtrs. 1 cl. Required of all biomed eng students. Final grade awarded upon completion of 3 quarters. All biomed eng students must complete the following series of 881 classes for 2 hrs credit.

**881.01 Seminar in Biomedical Engineering I G 0**

This course is graded S/U.

**881.02 Seminar in Biomedical Engineering II G 0**

1 hr cl. Prereq: 881.01. This course is graded S/U.

**881.03 Seminar in Biomedical Engineering III G 1**

1 hr cl. Prereq: 881.02. This course is graded S/U.

**881.04 Seminar in Biomedical Engineering IV G 0**

1 hr cl. Prereq: 881.03. This course is graded S/U.

**881.05 Seminar in Biomedical Engineering V G 0**

1 hr cl. Prereq: 881.04. This course is graded S/U.

**881.06 Seminar in Biomedical Engineering VI G 1**

1 hr cl. Prereq: 881.05. This course is graded S/U.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.

Cross-listed in Biomedical Informatics, Biophysics, Computer Science and Engineering, Electrical and Computer Engineering, Integrated Biomedical Science, Pathology, Radiology, Statistics, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**894 Group Studies in Biomedical Engineering G 1-18**

Provides graduate students with an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**990 Advanced Topics in Biomedical Engineering**

Advanced study of topics of special interest in Biomedical Engineering.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Biomed eng grad standing or permission of instructor.

**990.02 Cardiovascular Fluid Mechanics, Transport and Imaging G 1-3**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**990.03 Sensory Integration, Neural Networks and Life-Cycle Design G 1-3**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**990.04 Hard-Tissue Biomaterials G 1-3**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**990.05 Optical Techniques, Lasers, and Tissue Response G 1-3**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**999 Research in Biomedical Engineering G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Biomedical Informatics**

3184 Graves Hall, 333 West 10th Avenue, 292-4831

**730 Biomedical Informatics I U P G 3**

Introduce students to the development of methods for carrying out detailed, realistic and predictive simulations of biological phenomena at many time and length scales.

Au Qtr. Prereq: Cptr/Inf 230. Not open to students with credit for IBGP 730. Cross-listed in Integrated Biomedical Science.

**731 Biomedical Informatics II U P G 3**

Continuation of Biomedical Informatics I.

Wi Qtr. Prereq: 730 and/or Cptr/Inf 230. Not open to students with credit for IBGP 731. Cross-listed in Integrated Biomedical Science.

**881 Seminar in Biomedical Informatics G 2**

Faculty and outside speakers will give presentations on current BMI research and theory. Alternate classes will consist of journal-club style discussions moderated by faculty.

Sp Qtr. 2 cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.

Cross-listed in Biomedical Engineering, Biophysics, Computer Science and Engineering, Electrical and Computer Engineering, Integrated Biomedical Science, Pathology, Radiology, Statistics, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**Biomedical Science**

1190 Graves Hall, 333 West 10th Avenue, 247-8060

**100 Biomedical Science Survey U 1**

Academic requirements and resources, careers in healthcare, university policies, student rights and responsibilities.

Au Qtr. 1 1.5-hr cl. Prereq: Admission to the Biomedical Science major or permission of instructor.

**180 Reading and Analyzing the Biomedical Literature**

A two part seminar series designed to introduce students to the process of searching the literature in the biomedical sciences, determining its validity, and critiquing.

**180.01 Reading and Analyzing the Biomedical Literature I U 2**

Introduce students to the process of searching the literature in the Biomedical Sciences and determining its relevance and validity.

Wi Qtr. 1 2-hr cl. Prereq: Admission to the Biomedical Science major or permission of instructor. This course is graded S/U.

**180.02 Reading and Analyzing the Biomedical Literature II U 1**

Continues the process of searching the literature in the Biomedical Sciences for relevance and validity and begins critiquing selected research articles.

Sp Qtr. 1 1-hr cl. Prereq: 180.01 and admission to the Biomedical Science major or permission of instructor. This course is graded S/U.

**H220 Honors Reading and Analyzing the Biomedical Literature**

A two part seminar series designed to introduce students to the process of searching the literature in the biomedical sciences, determining its validity, and critiquing.

Wi, Sp Qtrs. May be available to students enrolled in an honors program or by permission of dept or instructor.

**H220.01 Honors Reading and Analyzing the Biomedical Literature I U 2**

Introduce students to the process of searching the literature in the Biomedical

Sciences and determining its relevance and validity.

Wi Qtr. 1 2-hr cl. Prereq: Admission to the Biomedical Science major or permission of instructor. This course is graded S/U.

**H220.02 Honors Reading and Analyzing the Biomedical Literature II U 1**

Continues the process of searching the literature in the Biomedical Sciences for relevance and validity and begins critiquing selected research articles.

Sp Qtr. 1 1-hr cl. Prereq: H220.01 and admission to the Biomedical Science major or permission of instructor. This course is graded S/U.

**H320 Honors Introduction to Biomedical Research**

Two part seminar series introducing students to the departments in the School of Biomedical Science and the six signature programs of the Medical Center.

Au, Wi Qtrs. May be available to students enrolled in an honors program or by permission of dept or instructor.

**H320.01 Honors Introduction to Biomedical Research I U 1**

First course in a two part seminar series; introduces students to three of the six OSUMC signature programs and various departments in the School.

Au Qtr. 1 1-hr cl. Prereq: Admission to the Biomedical Science major or permission of instructor. This course is graded S/U.

**H320.02 Honors Introduction to Biomedical Research II U 1**

Second course in a two part seminar series. Concludes introduction of the six OSUMC signature programs and departments in the School of Biomedical Science.

Wi Qtr. 1 1-hr cl. Prereq: Admission to the Biomedical Science major or permission of instructor and H320.01. This course is graded S/U.

**H480 Biomedical Science Laboratory Techniques U 3**

Provide biomedical science students with the necessary background and experience in basic cellular and molecular techniques, which are in general use in most research laboratories.

Sp Qtr. 2 3-hr labs. Prereq: Admission to the biomedical science major or permission of instructor. May be available to students enrolled in an honors program or by permission of dept or instructor.

**693 Individual Studies U 1-5**

A program of individual research or study in the biomedical sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**H720 Biomedical Science Honors Research Experience**

A three part research sequence designed to give students an in depth experience in the research process.

Prereq: Admission to the biomedical science major or permission of instructor.

**H720.01 Honors Research Experience I U 5**

First course in a three part research sequence designed to give students an in depth experience in the research process.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 10 cr hrs.

**H720.02 Honors Research Experience II U 5**

Second course in a three part research sequence designed to give students an in depth experience in the research process.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 10 cr hrs.

**H720.03 Honors Research Experience III U 5**

Third course in a three part research sequence designed to give students an in depth experience in the research process.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 10 cr hrs.

**H783 Honors Research U 1-5**

A program of individual research in the biomedical sciences culminating in an honors thesis and defense.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of the supervising instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**Biophysics**

105 Biological Sciences Building, 484 West 12th Avenue, 292-8772

Introduction to Sensory Biophysics

See SensBiop 601-Anatomy and function of sensory systems; psychophysical research methods; mathematical descriptions of information transfer; biophysical models.

Introduction to Biophysics

See Microbiol 603-Introductory course in the approach to biological phenomena from conceptual viewpoint to viewpoint of physical sciences; molecular to organismic levels of biological hierarchical structure.

Introduction to Quantum Biology

See Microbiol 641-An introduction to applications of elementary quantum mechanics to problems in biology; conceptual rather than mathematical aspects are stressed.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of program director. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**702^ Advanced Experimental Methods in Biophysics U G 1-3**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**789 Free Radicals in Biomedicine G 3**

A background introductory course in free radical biology and medicine, focused on biologically relevant radicals, their physiological and pathophysiological roles and underlying physico-chemical processes.

Sp Qtr. Prereq: Graduate level biochemistry, physical chemistry and/or biophysics recommended. Undergraduates only by permission of instructor. Cross-listed in Internal Medicine.

**793 Individual Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**795 Seminar in Biophysics U G 1-2**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**813 Magnetic Resonance Spectroscopy and Imaging I G 3**

Basic principles of MRI/MRS including basic MR physics, pulse sequences, adiabatic excitation coil design, MR hardware, image formation, localized spectroscopy.

Au Qtr. 2 1.5-hr cl or 3 cl. Prereq: Chem 521 or equiv, Biochem 511 or equiv, grad standing, and permission of instructor. Not open to students with credit for Biomed E 813 or Radiology 813. Cross-listed in Biomedical Engineering and Radiology.

**814 Magnetic Resonance Spectroscopy and Imaging II G 3**

Continuation of 813.

Wi Qtr. 2 1.5-hr cl or 3 cl. Prereq: 813 or Biomed E 813 or Radiology 813, grad standing, and permission of instructor. Not open to students with credit for Biomed E 814 or Radiology 814. Cross-listed in Biomedical Engineering and Radiology.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.

Cross-listed in Biomedical Engineering, Biomedical Informatics, Computer Science and Engineering, Electrical and Computer Engineering, Integrated Biomedical Science, Pathology, Radiology, Statistics, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**999 Research in Biophysics G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Biostatistics

404 Cockins Hall, 1958 Neil Avenue, 292-2866

**H318^ Introduction to Biostatistics U 5**

Descriptive statistics, probability, models for population distributions, estimation, hypotheses testing, correlation, regression, categorical data analysis; emphasizes analysis of biomedical data using statistical software.

Su Qtr. 3 1.5-hr cl. Prereq: Math 153 or 162 or H162, or permission of instructor. Not open to students with credit for Mol Gen 650, or Stat 145 or 245. For honors students majoring in biological/medical sciences.

**605^\* Applied Survival Analysis U G 4**

Techniques for analyzing censored data including: life table and product limit estimator, k-sample tests, and proportional hazards regression.

Wi Qtr. 2 2-hr cl. Prereq: Stat 521 and 645; or permission of instructor. Not open to students with credit for PubH-Bio 605. Cross-listed in Public Health: Biostatistics.

**615 Design and Analysis of Clinical Trials U G 3**

Design, monitoring, and analysis of clinical trials; includes protocol development, randomization schemes, sample size methods, and ethical issues.

Wi Qtr. 3 cl. Prereq: Stat 528 and 529, or equivalents.

**709 Biostatistical Collaboration G 2-3**

Basic biomedical research methodologies; team with biomedical PhD students to design experiments and plan analyses; writing statistical sections of biomedical research grants and reports.

Wi Qtr. Prereq: Grad standing and permission of instructor; sufficient coursework in statistics or biostatistics to serve as a biostatistical consultant. Not open to students with credit for IBGP 709.

**805\* Survival Analysis I G 3**

Counting process approach to life history data: Nelson-Aalen estimators; product limit estimators; K-sample estimators.

Wi Qtr. Prereq: Stat 722 or permission of instructor.

**806\* Survival Analysis II G 3**

Parametric models, semiparametric proportional hazards regression, additive hazards regression, multivariate survival models.

Sp Qtr. 3 cl. Prereq: 805.

**865^\* Analysis of Discrete Data G 3**

Theory of techniques for the analysis of discrete data including: two-way and multidimensional tables; logistic regression; loglinear models; chi-squared tests; numerical methods.

Au Qtr. 3 cl. Prereq: Stat 622, 742, or permission of instructor.

**882 Advanced Topics in Biostatistics G 3**

Selected topics in biostatistics.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**999 Research in Biostatistics G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Bulgarian

400 Hagerty Hall, 1775 College Road, 292-6733

**101 Elementary Bulgarian I**

Development of oral and written language skills.

Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

Au Qtr.

**101.51 Individualized Track U 1-5**

Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**102 Elementary Bulgarian II**

Development of oral and written language skills.

Prereq: 101 or 101.01 or 5 cr hrs of 101.51. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

Wi Qtr.

**102.51 Individualized Track U 1-5**

Prereq: B- or above in 101 or 101.01, or 5 cr hrs of 101.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 103.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 101.51 and 102.51 concurrently with permission of instructor.

**103 Intermediate Bulgarian I**

GEC for lang course.

**103.51 Individualized Track U 1-5**

Prereq: B- or above in 102.01 or 5 cr hrs of 102.51 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 102.51 and 103.51 concurrently with permission of instructor.

**104 Intermediate Bulgarian II**

GEC for lang course.

**104.51 Individualized Track U 1-5**

Continuation of 103; development of the four skills.

Prereq: 5 cr hrs of 103.51 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 103.51 and 104.51 concurrently with permission of instructor.

**111 Intensive Intermediate Bulgarian U 10**

Readings, oral and written practice, grammar review.

Sp Qtr. Prereq: 102 or equiv. Equiv to the 3rd and 4th courses of the foreign language sequence. GEC for lang course.

## Business Administration

100 Schoenbaum Hall, 210 West Woodruff Avenue, 292-2715

### 100 College of Business Survey U 1

Academic requirements and resources; University policies college procedures and resources; student rights and responsibilities; academic areas of specialization; careers in accounting and business administration.

Au Qtr. 2 cl. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 1st qtr freshman standing in direct enrollment program in BUS. Not open to students with credit for UVC 100.

### 201 Business Career Planning U 2

Exploration of business careers through self-assessment, informational interviews, and employer presentations; information on co-ops/internships and job search strategies.

2 1-hr cl. Prereq: Soph standing and enrollment in the College of Business, others by permission of instructor.

### 489 Professional Experience Field Study U 1

For students completing an internship requiring credit; internship is supervised by the employer, three assignments related to the internship are evaluated by the Director, Undergraduate Internship Services.

Su, Au, Wi, Sp Qtrs. Prereq: Admission to College of Business major and permission of the instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

### 493 Individual Studies U 1-10

Individual study projects in selected interdisciplinary topics in business administration.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

### 494 Group Studies U 1-10

Group study projects in selected interdisciplinary topics in business administration.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

### 499 Business Skills and Environment I U 4

Introduction to the environment of business and development of skills preparatory to the multi-disciplinary upper division curriculum in business.

Su, Au, Wi, Sp Qtrs. 1 hr lec, 2 2-hr rec. H499 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Soph standing in the Business Administration major. This course is a prerequisite for specialization courses in Business.

### 501 Job Search Preparation and Transition-to-Work for Business Students

Development of job/internship search skills.

#### 501.01 Job Search Preparation and Transition to the World of Work U 1

Practical techniques and skill development in conducting a job/internship search, researching career information, evaluating career decisions and beginning a successful career.

Au, Wi, Sp Qtrs. 2 1-hr cl. Prereq: Soph standing and enrollment in the Fisher College of Business (must be admitted to your major).

#### 501.02 Internship Search Preparation for the Fisher Futures Investment Banking Program U 1

Practical techniques and skill development in conducting an internship search in investment banking, researching career information, financial modeling and financially based case interviewing, and evaluating internship decisions.

Wi Qtr. 2 1-hr cl. Prereq: Permission of instructor.

### H502 Honors Seminar U 1-2

Seminar on current business topics for students enrolled in the Business Administration Honors Program. Topics may vary.

Au, Wi, Sp Qtrs. Prereq: 499 and jr standing. Open only to students enrolled in the B.A. Honors Programs. Repeatable to a maximum of 6 cr hrs. This is a Progress course. The seminar is a year long companion course to the set of honors courses taken by students enrolled in the B.A. Honors Program during the junior year. Progress grades are assigned for autumn and winter quarters; final grade (A-E) assigned at the end of spring quarter.

### 503 Undergraduate Speaker Series U 2

Business enrichment speaker series open to sophomore business majors. Business and community leaders will share personal and professional life stories. Participation will be encouraged.

Au, Wi, Sp Qtrs. Open to sophomores in the Fisher College of Business. This course is graded S/U.

### 555 Introduction to International Business U 4

Basic coverage of world trade and investment problems, and introduction to multinational corporation strategies and the various types of environments in which they do business.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Econ 201 or 400. H555: Open only to students in the Honors Business Administration cohort Program.

### H657 Establishing Import-Export Firms U 4

Designed to teach students how to get an export business started, how to compete in a global market and how to expand the business globally.

2 2-hr cl. Available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 4th yr standing; must be enrolled in BUS in any of the honors programs. Not open to students with credit for Bus-MHR 694H.

### 689 Professional Experience in Business U 0

Students complete a co-op or internship assignment in private industry or for a government agency; assignment is supervised by the employer and monitored and evaluated by the Professional Experience Program.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of the Director of Professional Experience Program. Repeatable. This course is graded S/U.

### 693 Individual Studies U G 1-6

Individual study projects in selected interdisciplinary topics in business administration.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 694 Group Studies

Group study projects in selected interdisciplinary topics in business administration.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

#### 694.11 Group Studies U G 1-6

Repeatable to a maximum of 15 cr hrs.

#### 694.12 Group Studies U G 1-6

Repeatable to a maximum of 15 cr hrs.

#### 694.13 Group Studies U G 1-6

Repeatable to a maximum of 15 cr hrs.

#### 694.14 Group Studies U G 1-6

Repeatable to a maximum of 15 cr hrs.

#### 694.15 Group Studies U G 1-6

Repeatable to a maximum of 15 cr hrs.

### 697 Study at a Foreign Institution U G 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

### 698 Study Tour

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. Repeatable for different titled study tours only.

#### 698.01 Domestic U G 1-15

Au Qtr. Repeatable.

#### 698.02 Foreign U G 1-15

Repeatable.

### 750 Resolving Social Conflict G 4

A multidisciplinary examination of social conflict, its dynamics, and its negotiated and consensual resolution; offers a broad-based framework for diagnosing and managing conflict; applied to legal, environmental, organizational, and geopolitical conflict.

Au Qtr. 1 4-hr cl. Prereq: Grad standing or permission of instructor. Cross-listed in City and Regional Planning and Natural Resources.

### H783 Honors Research U 1-5

Special topics research in business administration; research evaluated through papers, thesis, and/or special examinations.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing in business, 3.40 CPHR, and permission of instructor. Repeatable to a maximum of 15 cr hrs. This is a Progress course.

### 790 Teaching Business Students G 3

Preparation for business instruction at the undergraduate level; focuses on development of college business teachers through practice-centered inquiry.

Su Qtr. 1 cl. Prereq: Ph.D. student enrolled in College of Business. Limited to 20 students.

### 798 International Business Policy and Strategy U G 4

Analysis and simulation of major policy decisions in the context of international business; emphasis on consideration of international business.

Sp Qtr. 2 2-hr cl. Prereq: Approved application for BSBA in international business, Bus Adm 555, Bus-Fin 725, and Bus-M&L 757; or written permission of instructor.

**799 Business Policy U G 4**

Analysis of policy/strategy management issues in the context of entire firms and their industries, using professional tools and concepts helpful in strategy formulation and implementation.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Bus-Fin 510 and 620, Bus-Mgt 630, Bus-M&L 650, Bus-MHR 701, and registration for final qtr BSBA program prior to graduation, others by permission of instructor. H799: Open only to students in the Honors Business Administration cohort Program. First class attendance required.

**856 Introduction to Multinational Business G 4**

Introduction to the environment of international business and to the operations of the multinational firm, including an understanding of the dimensions of international trade and investment and their importance to the US economy and business firms.

Wi Qtr. 2 2.5-hr cl. arr. field research.

**857 International Business Policy and Strategy G 4**

Comprehensive study of policy and strategy formulation of firms in an international context with simulated cross-cultural negotiations, and the development of an international strategy for a local firm.

Sp Qtr. 2 2.5-hr cl. Prereq: 555 or 856 or equiv.

**889 Professional Experience Field Study G 0**

For international students completing an internship. Internship is supervised by employer. One assignment required and evaluated by career services international graduate contact.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: MBA standing and permission of instructor. This course is graded S/U.

**893 Individual Studies G 1-6**

Individual study projects in selected interdisciplinary topics in business administration.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**894 Group Studies**

Group study projects in selected interdisciplinary topics in business administration.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**894.90 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**Business Administration: Finance**

700 Fisher Hall, 2100 Neil Avenue, 292-5026

**220 Personal Finance U 4**

Budgeting, credit, borrowing money, bank relationships, savings, insurance, real estate, stocks and bonds, income taxes, social security, annuities, wills, trusts, estates, and taxes.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 2nd yr standing. Not open to students in the College of Business majoring in either accounting or finance.

**420 Foundations of Finance U 4**

Survey of topics in finance for non-business students including: discussion of investment, time value of money, financial markets, financial institutions, risk and return, corporate and international business.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Acct&MIS 310, Math 130 or equiv; Econ 200 and CS&E 100 or equivs. Not open to students with credit for Bus-Fin 494 (Spring 2001) or 620; or to students enrolled in the BSBA program. Credit does not count toward the BSBA degree.

**493 Individual Studies U 1-10**

Individual study projects in selected areas in finance.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**494 Group Studies U 1-10**

Group study projects in selected areas in finance.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**510 Legal Environment of Business U 4**

An introduction to American legal institutions and sources of law and an analysis of basic concepts of public and private law related to business decisions.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H510 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Jr standing. Honors section open only to students in the Honors Business Administration cohort Program.

**522 Investment Management U 4**

Principles and methods of investment for non-Business majors. Financial instruments; portfolio theory; security prices and yields.

Wi Qtr. 2 2-hr cl. Prereq: Acct&MIS 310 or 212; Bus-Fin 420; Econ 200 and 201; Stat 133 or equiv. Not open to students with credit for Bus-Fin 722; or

to students enrolled in the BSBA Program. Credit does not count toward the BSBA Degree.

**590 Entrepreneurial Finance U 4**

Explores the financial needs of entrepreneurial ventures. Considers financial challenges facing entrepreneurs, framing the issues, evaluating the needs, developing financial strategies and structuring deals.

Sp Qtr. 2 2-hr cl. Prereq: Econ 200, or AED Econ 200, or equiv; Math 130 or equiv.

**620 Business Finance U G 4**

Introduction to financial management of business firms; financial analysis, planning and control; working capital management; capital investment decisions and required rates of return; capital structure decisions and sources of financing.

Su, Au, Wi, Sp Qtrs. 2.2-hr cl. Prereq: Econ 200 and 201, or equivs; and Acct&MIS 201 or 212 or equiv. H620: Open only to students in the Honors Business Administration cohort Program. This course is available for EM credit.

**640 Insurance and Risk U G 4**

Principles and practices of insurance and risk management, including personal, business, and social viewpoints in regard to insurance for life, health, property, and liability risks.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Econ 200 and 201, or equivs.

**670 Real Estate and Urban Land Economics U G 4**

Introduction to urban land economics and real estate markets; topics include land use, property taxation, income taxation, and property rights.

Su, Wi Qtrs. 2 2-hr cl. Prereq: Econ 200 and 201, or equivs.

**693 Individual Studies U G 1-6**

Individual study projects in related areas in finance.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies**

Group study projects in selected areas in finance.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**694.21 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.22 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.23 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.24 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.25 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**721 Corporate Finance U G 4**

Effects of projects and financial policy on stockholder wealth; capital budgeting, project cost of capital, dividend policy, debt policy, leasing policy, and option pricing.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 620 or equiv (H620 and 3.4 CPHR required for honors version) and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

**722 Investment Management U G 4**

Investment objectives; types of investments and their relative merits; security prices and yields; investment programs; and taxes.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 620 or equiv and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

**723 Special Topics Investment Management U G 4**

Traditionally focuses on the valuation and use of derivatives. At the discretion of the professor, other special topics might be covered.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 722 or equiv.

**724 Stock Market U G 5**

Practices, procedures, and evaluations relating to buying and selling securities in the organized security markets.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: 722 and 3.20 CPHR or permission of instructor.

**725 International Finance U G 4**

The international financial environment; management of financial risks inherent with international business; problems of implementing corporate finance principles overseas; financial aspects of parent-subsidiary relationships.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 620 or equiv and Bus Adm 499 and 555 and Bus-Mgt 330 and 331; or permission of instructor.

**726 Management of Financial Institutions U G 4**

Overview of the role of financial institutions; study of asset and liability management in commercial banks and savings institutions; cases and simulation.

Su, Au, Wi, Sp Qtrs. 2-2-hr cl. Prereq: 620 and Econ 520 or equivs, and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

**727 Treasury Management U G 4**

Coverage of principles of treasury management including working capital, banking systems and services, e-commerce, short-term investing and borrowing, and international cash management.

Wi Qtr. 2 2-hr cl. Prereq: 620 and Bus Adm 499.

**728 Portfolio Management U G 4**

Designed for students who are pursuing careers in the investment field and those who want to learn more about investments.

Sp Qtr. 2 2-hr cl. Prereq: 722. Not open to students with credit for 694P (Sp 04) or 694.21 (Sp 05, Sp 06, Sp 07).

**730 Trading and Markets U 4**

For students interested in a career in investment management, securities trading, or the brokerage industry. An excellent course for students targeting a career as a financial advisor.

Sp Qtr. 2 2-hr cl. Prereq: 620 or equiv and Bus Adm 499 and Bus-Mgt 330 and 331.

**741 Life and Health Risk Management U G 4**

Management of risks involving health or death; employee benefit programs for corporations, non-profit organizations, and government institutions; the life and health insurance industry.

Wi Qtr. 2 2-hr cl. Prereq: 640 or equiv, and Bus-Mgt 330 and 331 or equiv and Bus Adm 499; or permission of instructor.

**749 Property and Liability Risk Management U G 4**

Management of risks involving property damage or legal liability for businesses, hospitals, and government institutions; identification of resources for managing these risks.

Sp Qtr. 2 2-hr cl. Prereq: 640 or equiv and Bus-Mgt 330 and 331 and Bus Adm 499; or permission of instructor.

**771 Real Estate Investment Analysis U G 4**

Feasibility and market analysis with consideration of property and income taxation and urban land developments.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 620 or equiv and Bus-Mgt 330 and 331 or equivs and Bus Adm 499; or permission of instructor.

**772 Real Estate Finance U G 4**

Sources and methods of obtaining funds for real estate investment; financial institutions, legal considerations, the construction industry and cycles, and financing policies, practices, and experiences.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 620 or equiv and Bus-Mgt 330 and 331 or equivs and Bus Adm 499; or permission of instructor.

**773 Real Estate Valuation U G 4**

Professional valuation as a guide to business decisions; valuation theory and procedures; factors influencing real estate values, and the selection and analysis of data.

Au Qtr. 2 2-hr cl. Prereq: Econ 200 or equiv or permission of instructor.

**774 Income Property Valuation U G 4**

The value-creating attributes of investment properties; methodologies of income-property valuation and investment analysis.

Sp Qtr. 2 2-hr cl. Prereq: Econ 200 or equiv or permission of instructor.

**775 Real Estate Law U G 4**

Legal aspects of real estate transactions and documents (deeds, mortgages, and leases) and selected elements of the law of real estate brokerage.

Wi Qtr. 2 2-hr cl. Prereq: 510 or equiv or permission of instructor.

**H783 Honors Research U 1-5**

Special topics research in finance, business law, insurance and risk, and/or real estate; research evaluated through papers, thesis, and/or special examinations.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing in business, 3.40 CPHR, and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**811 Financial Management II G 4**

This course continues the development of the principles of finance begun in MBA 810, and covers the valuation of derivatives, corporate financing decisions, mergers and acquisitions, and an introduction to international finance.

Au, Sp Qtrs. Prereq: MBA 810.

**821 Advanced Corporate Finance G 4**

Advanced topics in corporate finance are covered in this course, such as the interaction between financial policy and corporate strategy, the market for corporate control, bankruptcy and restructuring.

Au Qtr. 2 2-hr cl. Prereq: 811.

**822 Securities Markets and Investments G 4**

Taking the perspective of an investor, topics in this course include the fundamental principles of risk and return, diversification, asset allocation, style-based investing, index investing and the efficiency of markets.

Au, Wi Qtrs. 2 1.5-hr cl. Prereq: MBA 810.

**823 Derivatives G 4**

Explores the valuation of forwards, options, forward-based and option-based financial instruments.

Wi Qtr. 2 2-hr cl. Prereq: 811 and 822.

**824 The Stock Market G 4**

Practices, procedures, and evaluations for managing equity portfolios.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 822.

**825 International Finance G 4**

The international financial environment, management of financial risks inherent with international business; problems of implementation corporate finance principles overseas; financial aspects of parent-subsidiary relationships.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 822 and 823 recommended; permission of instructor for PhD students.

**826 Financial Institutions G 4**

Financial management of commercial banks and savings institutions; review, analysis and evaluation of pertinent literature and research; readings and cases.

Au Qtr. 2 2-hr cl. Prereq: MBA 810 and 811 or permission of instructor.

**827 Treasury and Fixed Income Management G 4**

Forecasting cash flows, short term asset and liability management and long term bond management.

Wi Qtr. 2 2-hr cl. Prereq: 811 and 822 and MBA 810.

**828 Cases in Corporate Finance G 4**

Intensive analysis of case studies to develop the students' abilities to make financial decisions. Applying and integrating ideas learned in MBA 810/811.

Au, Sp Qtrs. 2 2-hr cl. Prereq: MBA 810 or 811.

**829 Risk Management G 4**

Designed to train the participants in evaluating and managing risks using an enterprise-wide approach.

Sp Qtr. 2 2-hr cl. Prereq: 811.

**830 Trading and Markets G 4**

How today's financial markets work; how governments and exchanges regulate them; and how traders create liquidity, volatility, informative prices, trading profits, and transaction costs.

Sp Qtr.

**831 Corporate Insurance and Risk Management G 4**

Review of insurance contracts, markets and institutions. Emphasis is placed on risk management methods in the context of the insurance industry.

Wi, Sp Qtrs.

**832 Behavioral Finance G 4**

Recent research suggests that psychological biases of investors can cause misvaluation. Review of the causes of market inefficiency, and its practical implications for portfolio management and corporate financial management.

Sp Qtr. Prereq: MBA 810.

**834 Applied Enterprise Risk Management G 4**

An examination of the nature and practice of ERM in different organizational settings. The course features a series of presentations by corporate risk management specialists.

Sp Qtr. 2 2-hr cl. Prereq: 831.

**835 Financial Engineering G 4**

Focuses on financial engineering, which is the use of sophisticated mathematical modeling techniques to design, price and hedge securities and portfolios.

Sp Qtr. Prereq: 822 and 823. Counts toward MBA Degree.

**841\*\* Risk Management and Insurance G 4**

Principles of risk management and insurance; overview of insurance coverages and employee benefit programs; and risk management for businesses, hospitals, and government institutions.

2 2-hr cl. Prereq: Permission of instructor.

**843 Risk Management: Property and Liability Risks G 4**

Management of risks involving damage to property and losses imposed by the legal environment and resources for businesses, hospitals, and government institutions to manage these risks.

2 2-hr cl. Prereq: 841.

**845 Risk Management: Benefit Programs G 4**

Management of employee benefit programs for businesses, hospitals, and government institutions; alternatives for funding and claims control; and social insurance systems, including social security.

2 2-hr cl. Prereq: 841.

**846 Venture Capital and Private Equity G 4**

Designed to challenge MBA students to critically think about international finance and how it is likely to change during their professional careers.

Sp Qtr. 2 2-hr cl. Only open to MBA students or permission of instructor.

**847 Business Change of Control Transactions G 2**

A review of the key business and legal issues associated with mergers and acquisitions, and the working relationships of investment bankers and attorneys for the deal participants.

Au Qtr. 1 4-hr cl for 5 weeks. Open only to MBA students or permission of instructor.

**849 Financial Spreadsheet Modeling in Excel G 4**

Challenges the student to model 53 financial spreadsheets.

Wi Qtr. Prereq: Basic Excel.

**850 KAIST Seminar Series G 2**

Seminars are presented weekly to Korean Advanced Institute of Science and Technology (KAIST) students by faculty on current research topics.

1 2-hr cl. Repeatable to a maximum of 4 cr hrs.

**852 Mergers and Acquisitions in the Private Market G 2**

Devoted to unique legal and financial aspects of merger and acquisition activity in the private equity market.

Au Qtr. 1 2-hr cl. Open only to students enrolled in MBA Program.

**868 Contemporary Employment Practices and the Law G 4**

An examination of individual rights in the workplace; unjust discharge, employee privacy rights, and employer liability for intentional injuries; equal employment opportunity law; emphasis on recent legal developments.

Sp Qtr. 2 2-hr cl. Prereq: Bus-MHR 612 or permission of instructor. Not open to students with credit for Bus-Adm 694C or Bus-MHR 868. Cross-listed in Business Administration: Management and Human Resources.

**870 Real Estate Development G 4**

Micro-economics of real estate development, valuation of properties and leases. Components of real estate development: residential, shopping centers, offices, apartments and pure land.

Au Qtr. Prereq: MBA 810. Not open to students with credit for 870.01 or 870.02.

**871 Real Estate Development G 4**

Components of real estate development: residential, shopping centers, offices, apartments, and pure land. Market analysis, financing, feasibility and taxation.

Wi Qtr. 2 2-hr cl.

**872 Real Estate Finance G 4**

Examines real estate as investments. Analysis of the mortgage market, mortgage derivatives, and bond portfolio management when mortgage-backed securities and derivatives are used.

Sp Qtr. 2 2-hr cl.

**873 Urban Real Estate Analysis G 4**

Analysis and administration of urban real estate resources, including property valuation, investment analysis, financing, market analysis of local economies, and legal considerations.

Sp Qtr. 2 2-hr cl. Prereq: Permission of instructor.

**880 Research in Finance G 2**

Readings-based survey covering topics spanning the material that comprises the 2nd year MBA Finance curriculum. Topics include investment management, corporate finance and derivatives.

Au, Wi, Sp Qtrs. Prereq: 1st yr PhD student in Finance or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**893 Individual Studies G 1-6**

Individual study projects in related areas in finance.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies**

Group study projects in selected areas in finance.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**894.40 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.41 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**920 Theory of Finance G 5**

Examination of the modern theory of asset pricing and its theoretical foundations.

Au Qtr. 3 2-hr cl. Prereq: Successful completion of Finance Qualifying Exam or permission of instructor.

**921 Specifying and Testing Models of Asset Pricing G 5**

Focuses on applied econometric research on asset pricing; emphasis on understanding the flow of research and methods used in financial research.

Wi Qtr. 3 2-hr cl. Prereq: Successful completion of Finance Qualifying Exam or permission of instructor.

**922 Advanced Theory of Corporate Finance G 5**

Emphasizes developments in corporate financial policies including capital structure, compensation, and dividends; contracting costs and firms' interaction with capital markets.

Sp Qtr. 2 1.5-hr cl. Prereq: 920 and 921.

**923 Research in Finance G 5**

Review and access of the research methodologies of finance, and the development and completion of a research paper.

Au Qtr. 3 2-hr cl. Prereq: 920, 921, and 922 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**924 Advanced Topics in Business Finance G 3-5**

Presents a selection of recent research topics in finance.

Sp Qtr.

**998 Research in Finance: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**999 Research in Finance: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Business Administration: Management and Human Resources

700 Fisher Hall, 2100 Neil Avenue, 292-5028

**290 Entrepreneurship U 5**

Assesses economical, sociological, and psychological foundations of entrepreneurship and its impact on society. Examines perspectives, characteristics of entrepreneurs, and role of personal creativity in entrepreneurship.

Au, Wi Qtrs. 2 2.5-hr cl. GEC soc sci human, natural, and economic resources course.

**390 The Spirit of Personal Enterprise U 1**

Introduces concepts, experiences, strategies and proven processes related to personal enterprise - entrepreneurship. Unlocks mysteries surrounding how entrepreneurs create opportunities and generate wealth through enterprising activities.

Sp Qtr. 1 1-hr cl.

**400 Foundations of Management and Human Resources U 4**

Survey of topics in management and human resources for non-business students. The material includes a discussion of organizational behavior, human resource management and labor markets.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Math 130, CS&E 100, and Econ 200 or equivs. Not open to students with credit for 500, 500X or 701; or to students enrolled in the College of Business. Credit does not count toward the BSBA degree.

**490 New Venture Creation U 4**

Examines the creation of businesses in the face of uncertainty. Analyzes market opportunities, entrepreneurial strategies, innovative business concepts, business plans and financing new ventures.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: Econ 200 or AED Econ 200.

**493 Individual Studies U 1-10**

Individual study projects in selected areas in management and human resources.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**494 Group Studies U 1-10**

Group study projects in selected areas in management and human resources.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**566\* Diversity in the Workplace U 4**

An examination of the historical and social theories of difference (gender, race, class, sexual orientation) in order to understand diversity in the workplace and possible organizational responses.

Prereq: 400, or 660 or 701 or equiv; jr standing or second writing course.

**590 Leading High Performance Ventures U 4**

Explores key managerial practices for leading successful growing businesses. Examines issues in human resources management, business law, financial management, competitive strategy and organizational design.

Wi Qtr. 2 2-hr cl. Prereq: Econ 200 or AED Econ 200 or equiv.

**651 Human Resource Management in a Market Economy U 4**

Application of economic theory to organizations and labor markets; emphasis on the role of labor market analysis in human resource decision-making.

Au, Sp Qtrs. 2 2-hr cl. Prereq: Econ 200 and 201 or permission of instructor.

**652 Employee Benefits U G 4**

Analyzes private and public benefits offered to employees including healthcare, pensions, leave unemployment insurance and Workers Compensation; examines alternatives for administering employer benefit plans.

2 2-hr cl. Prereq: 701 or 400; or permission of instructor.

**653 Human Resource Practices and the Law U 4**

Review of federal laws and administrative bodies regulating employee management in the workplace; emphasis on gaining practical skills for managing human resource issues legally.

Wi Qtr. 2 2-hr cl. Prereq: 701 or 400; or permission of instructor.

**660 Managing Human Resources U 4**

Overview of human resource skills for non-HR managers; emphasis on practices and techniques for hiring, developing, compensating, and appraising employees.

Au, Sp Qtrs. 2 2-hr cl. Prereq: Econ 200 or equiv.

**693 Individual Studies U G 1-6**

Individual study projects in related areas in management and human resources.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies**

Group study projects in related areas in management and human resources.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**694.51 Group Studies U G 1-6**

Repeatable to a maximum of 10 cr hrs.

**694.52 Group Studies U G 1-6**

Repeatable to a maximum of 10 cr hrs.

**694.53 Group Studies U G 1-6**

Repeatable to a maximum of 10 cr hrs.

**694.54 Group Studies U G 1-6**

Repeatable to a maximum of 10 cr hrs.

**694.55 Group Studies U G 1-6**

Repeatable to a maximum of 10 cr hrs.

**701 Managing Individuals in Organizations: Organizational Behavior and Human Resources U 5**

Principles for managing the performance of individuals and groups in organizations; introduction to organizational behavior theory and its application to staffing, training, compensation, and appraisal.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Jr standing. Not open to students with credit for 400. H701: Open only to students in the Honors Business Administration cohort Program.

**703 Human Resource Training and Development U 4**

Introduction to concepts and organization practices associated with designing, implementing, and evaluating different types of employee training and development programs.

Au, Sp Qtrs. 2 2-hr cl. Prereq: 701, Bus-Mgt 330, and Bus Adm 499; or permission of instructor.

**704 Concepts and Competencies for Managing People U 4**

Application of concepts for managing oneself and others in real work situations; includes practice of behavioral skills such as delegation, persuasion and performance feedback.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 701 or 400 and BA 499; or permission of instructor.

**756 Staffing Organizations U 4**

Introduction to the scientific, legal, and administrative issues associated with the recruitment, hiring, and placement of individuals by organizations.

Sp Qtr. 2 2-hr cl. Prereq: 653, 701, Bus-Mgt 330, and Bus Adm 499; or permission of instructor.

**761 Labor Relations and Collective Bargaining U 4**

Examination of basic aspects of labor relations and collective bargaining including labor history, labor law, union structure and governance, labor-management bargaining, and contract administration.

Au Qtr. 2 2-hr cl. Prereq: Jr standing.

**762 Compensation Administration U 4**

Provides a comprehensive framework and state-of-the-art tools for designing compensation systems via assessment of organizational needs, internal and external equity and compensation administration.

Wi Qtr. 2 2-hr cl. Prereq: 701, Bus-Mgt 330, and Bus Adm 499; or permission of instructor.

**763 Employment Relationships around the World U G 4**

Overview and comparison of employment practices and labor-management relations in other industrialized countries including Europe, East Asia, Central and South America, and Canada.

Au, Wi Qtrs. 2 2-hr cl. Prereq: Jr standing, Bus-Mgt 330, and Bus Adm 499; or permission of instructor.

**764 Negotiation and Conflict Management U 4**

Introduction to the psychology of bargaining and negotiation, the dynamics of interpersonal and intergroup conflict and its resolution; emphasis on analyzing bargaining and conflict relationships.

2 2-hr cl. Prereq: 701 or 400; or permission of instructor.

**765 International Human Resource Management U 4**

Examination of the human resource challenges that emerge in multi-national organizations; emphasis on issues to be considered when preparing oneself and others for international assignments.

Sp Qtr. 2 2-hr cl. Prereq: 701, Bus-Mgt 330, and Bus Adm 499; or permission of instructor.

**769 Strategic Human Resource Management U 4**

Examination of a strategic perspective for managing employees that emphasizes the use of ethical practices and evaluates how practices fit together and with organizational objectives.

Au Qtr. 2 2-hr cl. Prereq: 701 or 400; or permission of instructor.

**H783 Honors Research U 1-5**

Special topics research in management and human resources; research evaluated through papers, thesis, and/or special examinations.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing in Business, 3.40 CPHR, and permission of instructor. Repeatable to a maximum of 15 cr hrs. This is a Progress course.

**801 Self-Management, Professional Development and Career Success G 4**

Uses behavior modeling techniques to teach students a variety of interpersonal skills needed by generalist managers.

1 4-hr cl.

**802 Managerial Negotiations G 4**

Exploration of the major concepts and theories of the psychology of bargaining and negotiation, and the dynamics of interpersonal and intergroup conflicts and their resolution.

Au, Wi, Sp Qtrs. 2 2-hr cl.

**803^ Organization Theory and Design G 4**

An examination of the theories and practices involved in the design of formal organizations.

2 1.5-hr cl. Not open to students in structured MBA.

**804 Producing Change in Organizations G 4**

Study of requirements to produce and manage change in organizations.

Sp Qtr. 1 4-hr cl.

**805^ Career Development G 4**

Study of career development within organizations and organizational perspectives.

2 2-hr cl. Prereq: 800 or 860 or MBA 820 or permission of instructor.

**806 Management and Individual Behavior G 4**

A focus on the manager's role in dealing with individuals and work teams. Other topics include: work design, communications, leadership and motivation.

Wi Qtr. 1 4-hr cl. Prereq: Grad standing. Not open to MBA and PT MBA.

**807 Organization Development and Change for Human Resources G 4**

A practical and pragmatic investigation into the conduct of change in organizations in order to improve organization performance.

Wi Qtr. 1 4-hr cl. Prereq: Grad standing.

**808 Mergers, Acquisitions and Corporate Development G 4**

Analyzes mechanisms underlying the creation and destruction of value in M&A by studying issues such as: drivers of M&A, value creation strategies, valuation and integration.

Wi Qtr. 2 2-hr cl. Prereq: MBA 980.



**809 Leading and Managing Change in Organizations G 4**

The course focuses on the issues and challenges of successfully leading and managing organizational change. Although this course focuses on both the design and implementation of change, the emphasis is primarily on successful implementation.

Au Qtr. 2 2-hr cl. Prereq: MBA 860 or permission of instructor.

**811 Human Resource Management Research Methods G 4**

Examination of the concepts, methods, and tools needed to conduct and evaluate research for effective Human Resources Management decision making.

Wi Qtr. 1 4-hr cl. Prereq: Grad standing.

**815 Enhancing Written Communication G 2**

Familiarize students with tools and techniques for enhancing and improving written skills in business settings; written projects cover leadership and management roles in business.

Wi Qtr. 1 2-hr cl. Open only to MBA students or permission of instructor.

**822 Advanced Managerial Negotiation G 4**

The purpose of this course is to extend and enhance knowledge about, and skills in negotiation processes in a managerial context.

Sp Qtr. 1 4-hr cl. Prereq: 802. Open only to MBA students or permission of instructor.

**824 Building Professional Services G 4**

Innovative ideas for building professional service organizations; best practices; strategies; market trends/service capabilities at product-centric companies; cultural issues facing service businesses within product companies.

Au Qtr. 1 4-hr cl. Open only to MBA students or permission of instructor.

**825 Entrepreneurship and Business Plan Development G 4**

Provides student experiences in entrepreneurship and entrepreneurial concepts and provides the opportunity to develop entrepreneurial skills.

Sp Qtr. 2 2-hr cl. Open only to MBA students or permission of instructor.

**826 International Business Simulation G 4**

Utilizes the Super Tycoon Simulation to teach concepts of International Business.

Wi Qtr. 2 2-hr cl. Prereq: Completion of MBA core courses.

**827 The Globalization of Smaller Firms G 4**

An interdisciplinary course with international business as the core, the class will be grounded in theory with an in depth investigation of a case study.

Wi, Sp Qtrs. 2 2-hr cl. Only open to MBA students or permission of instructor.

**828 Understanding and Enhancing Leadership Capability G 4**

Designed to improve the student's ability to lead and to increase the student's capability to apply leadership theory and research.

Wi Qtr. 2 2-hr cl. Prereq: MBA 860 or 861.

**829 Insights into Executive Leadership G 1**

Provides participating students with a better understanding of the realities of leadership in corporate environments.

Wi, Sp Qtrs. 1 2-hr cl. Open only to MBA students or permission of instructor. Repeatable to a maximum of 2 cr hrs. This is a Progress course. This course is graded S/U.

**831 Creativity: Skills and Practice G 1**

How people, places, practices foster creativity. Readings: academic, spiritual, confessional, self-help literature on creativity, productivity, happiness, experience. Assignments: daily writings and self-assessments of personal creativity.

Au, Wi Qtrs. 2 hours 1 day/week over 2 quarters. Prereq: MBA or PT-MBA major or permission of instructor. Repeatable to a maximum of 2 cr hrs. This is a Progress course. This course is graded S/U.

**834 Mastery in Execution G 4**

The ability to successfully execute any project or assignment; attaining mastery in identifying, resolving problems, gaining mastery in causing results in any condition/circumstance.

Wi Qtr. 2 2-hr cl. Prereq: MBA 860. Open only to PT MBA student or permission of instructor. Not open to MBA.

**835 Enhancing Professional Interchange (EPI) G 4**

Enhance current levels of skills in professional business environment presentations. Course covers: feedback, commentary, agreement, disagreement, change and the opportunity for continued communication: interchange.

Wi Qtr. 1 4-hr cl. Open only to MBA students or permission of instructor.

**836 Intopia: Applied Competitive Strategy G 4**

Course focuses on international operations business simulation INTOPIA and student's companies operations in it. Each company must be well prepared to make and execute decisions.

Wi Qtr. 2 2-hr cl. Open only to MBA students or permission of instructor.

**838 Advanced Competitive Analysis G 4**

Advanced Competitive Analysis provides tools to identify, parse, and analyze the economic and market data necessary to complete a comprehensive strategic

analysis of business competition.

Au Qtr. 2 2-hr cl. Open only to MBA students or permission of instructor.

**839 Advanced Strategic Analysis G 4**

A study of corporate strategies, actions firms take to gain competitive advantages: strategies studied will include vertical integration, strategic alliances, corporate diversification, and mergers/acquisitions.

Au Qtr. 2 2-hr cl. Open only to MBA students or permission of instructor.

**840 Leadership Values and Decision Making G 4**

How technology strategy may lead to creation/persistence of competitive advantage. In contrast to core strategy course, provides series of strategic frameworks for managing high-tech businesses.

Wi Qtr. 2 2-hr cl. Open only to MBA students or permission of instructor.

**841 Business and the Environment: Strategies for Sustainability G 4**

Integrating the environment into business processes to improve company competitive advantage. Environmental sustainability: includes operating principles and establishing the business case for sustainable business practices.

Au Qtr. 1 4-hr cl.

**842 Advanced Topics in Leadership Effectiveness G 4**

Will expose students to executive-level guest speakers; engage them in a real-time strategy development project; and help them develop a personal leadership legacy plan.

Sp Qtr. 2 2-hr cl. Prereq: Major MBA, PT-MBA, MLHR, or permission of instructor.

**845 Advanced Professional Interchange (API) G 4**

This course builds on the baseline skills developed in the Enhancing Professional Interchange (EPI) course; presentations are improved and strategies are formed for next steps.

Sp Qtr. 1 4-hr cl. Open only to MBA students or permission of instructor.

**846 Talent Management G 4**

Overview of concepts, practices, issues and learnings related to strategically managing talent to develop organizational capability and meet strategic business goals and objectives.

Wi Qtr. 1 4-hr cl. Open only to MBA students or permission of instructor.

**847 Strategy Implementation G 4**

Building high performance systems in a competitive global marketplace: strategic planning, resource allocation, decision making, learning, performance management, leadership development, relationship management, and strategic renewal.

Wi Qtr. 1 4-hr cl. Open only to MBA students or permission of instructor.

**848 Technology Strategy and Innovation Management G 4**

How technology strategy may lead to creation/persistence of competitive advantage. In contrast to core strategy course, provides series of strategic frameworks for managing high-tech businesses.

Wi Qtr. 2 2-hr cl. Open only to MBA students or permission of instructor.

**850 Leadership and Competitive Analysis for Action G 4**

Creation and maintenance and long term value for the organization.

Sp Qtr. Prereq: Enrollment in EMBA. Distance Learning course (Web taught).

**851 Conceptual and Historical Foundations of Labor and Human Resources I G 4**

Appraisal of theories, principles, and concepts related to macro labor and human resources.

Au Qtr. 1 4-hr cl. Prereq: Grad standing.

**852 Conceptual and Historical Foundations of Labor and Human Resources II G 4**

Examination of micro labor human resources issues including the role of the HR professional and the structure of the HR department.

Wi Qtr. 1 4-hr cl. Prereq: 851 or permission of instructor.

**853 Human Resource Information Systems G 4**

Examination of the practical and conceptual issues in the development, acquisition, implementation and application of Human Resource Information Systems and other data management techniques.

Sp Qtr. 1 4-hr cl. Prereq: Bus-Mgt 801.01 or equiv, or permission of instructor.

**854 Seminar in Human Resource Policy G 4**

The employment relationship from an economic perspective; economic analysis applied to important managerial decisions involving the coordination and motivation of organizational members.

Sp Qtr. 1 4-hr cl. Prereq: Grad standing. Not open to MBA or PT-MBA majors.

**855 Employee Training and Development G 4**

Study of training processes including strategic training, needs assessment, transfer of training, learning, training methods, evaluation and employee development; based on theory, research and best practices.

Sp Qtr. 1 4-hr cl. Prereq: Grad standing. Not open to students with credit for 703.

**856 Staffing the Organization G 4**

Examination of the scientific, legal, and administrative issues associated with the recruitment, selection, employment and retention of individuals by organizations.

Au Qtr. 1 4-hr cl. Prereq: Grad standing. Not open to students with credit for 756.

**858 International Human Resources G 4**

Survey of human resource management practices of selected countries. Economics, politics and culture examined to understand the peculiarities of human resource management in each situation.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**859 Business Ethics G 4**

Overview of moral issues in business. Focuses on unethical theories and traditions bearing on these activities.

Au Qtr. 1 3-hr cl. Prereq: Grad standing.

**860 Management of Human Resources G 4**

Analysis of human resources practice and policies, value configurations, leadership, job design, motivation, and reward systems as these relate to individual performance and organizational effectiveness.

Wi Qtr. 2 1.25-hr cl. Not open to students with credit for 660 or H660.

**861 Human Resources Negotiations G 4**

Examination of major concepts and theories of bargaining and negotiations as they relate to in labor and human resources.

Au Qtr. 1 4-hr cl. Prereq: Grad standing.

**862 Seminar in Human Resource Management G 4**

Special topics in selecting, developing, retaining, motivating, utilizing, and allocating human resources within complex organizations.

Au Qtr. 1 4-hr cl. Prereq: Grad standing.

**863 Business Practices and the Human Resource Manager G 4**

Introduction to business practices for the human resource practitioner.

Au Qtr. 1 4-hr cl. Prereq: Grad standing.

**864 Labor Dispute Settlement G 4**

Analysis of the functional role of labor conflict in the industrial relations system; evaluation of institutions for dispute resolution in the public and private sectors.

1 2-hr cl. Prereq: 761 or 861.

**865 Compensation Theory and Practice G 4**

Introduction to pay systems; including job evaluation, pay surveys, performance appraisals, and benefits.

Sp Qtr. 1 4-hr cl. Prereq: Grad standing. Not open to students with credit for 762.

**867 Statistical Analysis for Labor and Human Resources Management II G 4**

Second quarter of a sequence preparing students to analyze and use Human Resource data in decision-making, focusing on hierarchical regression, moderated regression, ANOVA with multiple independent variables, non-parametric analysis.

Wi Qtr. 1 4-hr cl. Prereq: Bus-Mgt 801.01 or equiv or permission of instructor.

**868 Contemporary Employment Practices and the Law G 4**

Title VII of the 1964 Civil Rights Act, The Equal Pay Act, the Age Discrimination in Employment Act, the Civil Rights Act of 1967, and federal affirmative action program are discussed.

Wi Qtr. 2 2-hr cl. Prereq: 612 or permission of instructor. Not open to students with credit for Bus-Fin 866. Cross-listed in Business Administration: Finance.

**869 Strategic Management of Human Assets G 4**

Acquaint students with theory and research regarding teamwork and leadership, and apply concepts to enhance understanding/build skills in team leadership, membership, change and followership.

Au Qtr. 2 2-hr cl. Open only to MBA students or permission of instructor.

**890 Technology Entrepreneurship and Commercialization G 4**

Focuses on proven techniques and business development strategies for evaluating the commercial potential of leading technologies that have significant new business development potential.

Au Qtr. 1 4-hr cl.

**891 Technology Ventures G 4**

Course introduces technology analysis, market research tools, legal analysis, operational analysis, team issues, and financial analysis for commercial

assessments of technologies from Bus-MHR 890.

Wi Qtr. 1 4-hr cl. Open only to MBA students or permission of instructor.

**893 Individual Studies G 1-6**

Individual study projects in related areas in labor and human resources.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. Bus-MHR major 253 limited to 4 hrs. Bus-MHR major 753 limited to 15 hrs. This course is graded S/U.

**894 Group Studies**

Group study projects in related areas in management and human resources.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**894.60 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.61 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.62 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.63 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.64 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.65 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.66 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.67 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.68 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.69 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.70 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.71 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.72 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.73 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.74 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.75 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.76 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.77 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.78 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.79 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.80 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.81 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.84 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**895 Seminar in Entrepreneurship**

Lecture, discussion, and case analysis on managing growth in the new or emerging firm.

2 cl.

**895.01 Seminar in Entrepreneurship-BA G 4**

Au Qtr. Prereq: BA core and permission of instructor. Not open to students with credit for 895 or 895.02.

**895.02 Seminar in Entrepreneurship-NB G 4**

Open to non-business graduate students only. Not open to students with credit for 895 or 895.01.

**911 Introduction to Behavioral Research Methods in Business G 5**

Introduction to research design and methodology as it relates to the study of business and organizational phenomena.

1 5-hr cl.

**912 Advanced Research Methods Seminars**

Seminars in advanced research design, methods, and analysis.

**912.01\* Advanced Micro-Behavioral Research Methods G 5**

Advanced evaluation of research design, methods, and analysis relevant to micro-behavioral organizational theory.

Sp Qtr. 1 5-hr cl. Prereq: 911 or permission of instructor.

**913 Human Resource/Organizational Behavior Seminars**

Seminars in human resource management and organizational behavior.

**913.01\* Foundations of Human Resources/Organizational Behavior G 5**

Discussions of theory and research that serve as a foundation for the fields of human resources and organizational behavior.

1 5-hr cl.

**913.02\* Topics in Human Resources G 5**

Discussions of theory and research on human resource management.

Wi Qtr. 1 5-hr cl. Prereq: 913.01 or permission of instructor.

**913.03\* Topics in Organizational Behavior G 5**

Discussions of theory and research on organizational behavior.

Sp Qtr. 1 5-hr cl. Prereq: 913.02 or permission of instructor.

**914 Advanced Human Resource/Organizational Behavior Seminars**

Advanced seminars in human resource management and organizational behavior.

**914.01\* Advanced Topics in Human Resources G 5**

Advanced discussions of theory and research on human resource management.

Au Qtr. 1 5-hr cl. Prereq: 913.03 or permission of instructor.

**914.02\* Advanced Topics in Organizational Behavior G 5**

Advanced discussions of theory and research on organizational behavior.

Wi Qtr. 1 5-hr cl. Prereq: 914.01 or permission of instructor.

**915 Advanced Organizational Theory G 5**

Theory, research on environmental and structural characteristics of formal organizations and their correlates with particular emphasis on management of the organization in dynamic, global environment.

1 5-hr cl.

**920 Management Seminars**

Seminars in business policy and strategic management.

**920.01 Strategic Management G 5**

An examination of the concepts, models, theories, and research underlying contemporary thinking on strategic management.

1 3-hr cl. Prereq: Permission of instructor. Offered Odd years.

**920.02\* Strategic Management Problems G 5**

An examination of current theoretical developments and research in the business policy and strategic management field.

1 3-hr cl. Prereq: Permission of instructor. Offered Even years.

**925 International Management Seminars**

Seminars in international management and business.

**925.01\* Seminar in International Business G 5**

A critical study of current theories and research methodologies and findings in the field in international business.

1 3-hr cl. Prereq: Permission of instructor.

**925.02 Selected Issues in International Business G 5**

Current and key issues in international management analyzed from an interdisciplinary perspective.

1 3-hr cl. Prereq: Permission of instructor.

**950 Advanced Experience in Labor and Human Resources**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 12 cr hrs in Bus-MHR.

**950.01 Internship G 4**

Supervised practical experience relating to labor and human resources.

**950.02 Tutorial G 4**

Preparation of investigative paper relating course work to specific problem in labor and human resource.

**998 Research in Labor and Human Resources: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 12 cr hrs in BUS-MHR at 800 level or above. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**999 Research in Labor and Human Resources: Dissertation G 1-15**

Research for disertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

600 Fisher Hall, 2100 Neil Avenue, 292-1275

**330 Decision Sciences: Statistical Techniques U 5**

Examination of the use of statistical techniques in managerial decision-making processes; confidence intervals, hypothesis testing, simple and multiple regression, quality control.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Cptr/Inf 200 and Stat 133 or equiv.

**331 Decision Sciences: Operations Research, Modeling and Applications U 4**

Examination of the use of operations research models in managerial decision making processes: linear programming, decision analysis and simulation applications. Emphasis on formulation and interpretation of models; supported by spreadsheet based software.

Su, Au, Wi, Sp Qtrs. 2-2-hr cl. Prereq: Cptr/Inf 200 and Stat 133 or equiv.

**430 Foundations of Operations Management U 4**

A survey of operations management for non-business students including discussion of operations management issues in both manufacturing and service organizations including management and purchasing.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Math 130, CS&E 100, and Econ 200 or equivs. Not open to students with credit for Bus-Mgt 630; or for students enrolled in the College of Business. Credit does not count toward the BSBA degree.

**493 Individual Studies U 1-10**

Individual study projects in selected areas in management sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**494 Group Studies U 1-10**

Group study projects in selected areas in management sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**630 Introduction to Operations Management: Improving Competitiveness in Organizations U G 4**

Key operating issues in service and manufacturing organizations that have strategic and tactical implications. Students participate in discussions relating current business events to operations management and case analysis.

Su, Au, Wi, Sp Qtrs. 2-2-hr cl. Prereq: Jr standing and Stat 133 or equiv. H630: Open only to students in the Honors Business Administration cohort Program.

**693 Individual Studies U G 1-6**

Individual study projects in selected areas in management sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies**

Group study projects in selected areas in management sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**694.31 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.32 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.33 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.34 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.35 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**731 Quality Management U G 4**

Examines quality management topics such as statistical process control, process design, capability analysis, house of quality, performance measurement, Baldrige Quality Award, cost of quality, etc.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 330, 331, 630 and Bus Adm 499; or permission of instructor.

**732 Operations Planning and Control U G 4**

An analysis of the planning and control of materials as they flow within an organization; topics include production planning, material requirements planning (MRP), capacity management, master production scheduling, and just-in-time techniques.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 330, 331, 630 and Bus Adm 499, or permission of instructor.

**733 Information Systems in Operation Management U G 4**

A study of the impact that information systems have on strategic and tactical decisions of operations managers; emphasis on applying decision support systems to problems faced by these managers.

Sp Qtr. 2 2-hr cl. Prereq: 630 and a course in computer programming and Bus Adm 499, or permission of instructor.

**735 Purchasing and Materials Management U G 4**

Explores the industrial-institutional purchasing cycle for operating supplies, raw materials components and capital equipment within the context of the materials management organization concept.

Au Qtr. 2 2-hr cl. Prereq: 630 and Bus-M&L 650 and Bus Adm 499.

**736 Purchasing Strategy U G 4**

Focus on the importance of developing an integrated purchasing management strategy which is consistent and congruent with the business firm's strategy. Purchasing is viewed as a competitive tool.

Wi Qtr. 2 2-hr cl. Prereq: 330, 331, 630 and Bus Adm 499.

**737 International Operations Management U G 4**

This course focuses on managing manufacturing and service operations across national boundaries to provide an organization with a competitive advantage.

Sp Qtr. 2 2-hr cl. Prereq: 630 and Bus Adm 499 or permission of instructor.

**739 Managing Process Improvement U G 4**

Examines process reengineering and quality management for manufacturing and service organizations. Topics covered include process flow and waiting line analysis, quality by design, service/quality guarantees, team problem solving tools, Malcolm Baldrige National Quality Award criteria and statistical process control.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 330, 331, 630 and Bus Adm 499, or permission of instructor.

**H783 Honors Research U 1-5**

Special topics research in management sciences; research evaluated through papers, thesis, and/or special examinations.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing in business, 3.40 CPHR, and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**801 Quantitative Methods in Business**

Derivation and application of analytical, mathematical, and statistical techniques to the solution of recurring management problems.

2 1.5-hr cl. Prereq: Stat 133 or equiv or permission of instructor.

**801.01^ Business Data Modeling I G 4**

Introduction to quantitative management techniques for first year Masters in Labor and Human Resource candidates.

Au Qtr. 1 4-hr cl. Prereq: Grad standing in MLHR or permission of instructor.

**810 Six Sigma Principles G 4**

Technical and managerial body of knowledge for Six Sigma management.

Au Qtr. Prereq: MBA 850 and 870.

**811 Six Sigma Projects G 2-4**

Course allows teams of students to apply Six Sigma Principles and Concepts.

Au Qtr. Prereq or concur: 810. Repeatable to a maximum of 6 cr hrs. This is a Progress course.

**814 The Business of Health Care G 4**

Focuses on the evolving and competitive issues facing the health care industry today.

Sp Qtr. Prereq: Permission of instructor. Enrolled in MBA Program.

**820 Project Management G 4**

Examines the management of complex projects and the tools that are available to assist managers with such projects.

Au Qtr. 1 4-hr cl. Prereq: Students who enjoy applying a spreadsheet based on modeling approaches to business decisions.

**830 Service/Quality Management G 4**

Study of the strategic and tactical issues concerning services in both service and manufacturing industries. Topics include service process re-engineering, performance measurement, service/quality, standards, and employee empowerment.

Sp Qtr. 2 2-hr cl. Prereq: MBA 850 or permission of instructor.

**832 Matching Supply with Demand G 4**

Examination of major issues in planning and scheduling in an information systems context; production database, requirements planning, and scheduling processing; decision support systems in operations management and computerized manufacturing systems.

Au Qtr. 2 2-hr cl.

**834 Strategic Design of Operations/Logistics Systems G 4**

Managing systems of people and technology to create capabilities in operations. Emphasis is on new approaches to managing operations and logistics that promise strategic advantage.

Wi Qtr. 2 2-hr cl. Prereq: MBA 850 or 851, and 870; or permission of instructor.

**835 Operations Planning and Control for Supply Chain Management G 4**

The major responsibilities of materials managers; including aggregate planning

and master scheduling, inventory management, and scheduling; major issues and strategies including tactical purchasing methods, techniques for analysis, and Japanese manufacturing philosophies will be discussed.

Au Qtr. 2 1.5-hr cl. Prereq: MBA 850 or 851, and 871; or permission of instructor.

**836 Customer Driven Manufacturing in the Global Market G 4**

Development of effective linkages between the marketing and manufacturing functions in strategic planning for a business; application to case studies involving U.S. and overseas firms.

Au Qtr. 2 2-hr cl. Lecture, case discussion, projects. Prereq: 2nd yr standing in MBA or permission of instructor.

**837 Global Sourcing G 4**

This course first investigates the "make-buy" decision. Then it studies the management of products and/or services "bought" with an international focus.

Wi Qtr. Prereq: MBA 850.

**840 Lean Enterprise Leadership G 4**

An attractive, high visibility course that provides students with academic context and practical skills on lean manufacturing and supply chain practices.

Au Qtr. 1 4-hr cl. Prereq: Enrollment in the MBA program. This course is graded S/U.

**855 Simulation, Risk Analysis, and Decision Making G 4**

Focus on analyzing management decisions that involve uncertainty, risk, and complexity by using modeling tools.

Sp Qtr. 2 2-hr cl. Prereq: Enrollment in MBA Program.

**893 Individual Studies G 1-6**

Individual study projects in selected areas in management sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies**

Group study projects in selected areas in management sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**894.01 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.02 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.03 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.04 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.05 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**901 PhD Seminar in Decision Sciences I G 5**

PhD seminar in Decision Sciences I.

1 5-hr cl. Repeatable to a maximum of 15 cr hrs. This class is required for students in Management Sciences PhD programs. Others need permission of instructor.

**902 PhD Seminar in Decision Sciences II G 5**

PhD seminar in Decision Sciences II.

Au Qtr. 1 5-hr cl. Repeatable to a maximum of 15 cr hrs. This class is required for students in Management Sciences PhD programs. Others need permission of instructor.

**929 Current Research in Operations Management G 5**

A series of weekly lectures and seminar discussions on current research topics in operations management.

Au Qtr. 1 5-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**930 Special Topics in Operations Management G 5**

A critical study of selected topics in operations management focusing on the status of research efforts to date; topics vary.

Wi Qtr. 1 5-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**931 Seminar in Operations Management G 5**

A critical review of the literature in the field of operations management; in odd-numbered years, the review covers the process design, location, and layout areas while the production planning and control topics are covered in even-numbered years.

Sp Qtr. 1 5-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**998 Research in Management Sciences: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Management Sciences: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Business Administration: Marketing and Logistics

500 Fisher Hall, 2100 Neil Avenue, 292-8808

700-level courses are not available for graduate credit if taught by a graduate instructor. Please check Master Schedule for limitation codes.

**450 Foundations of Marketing Management U 4**

A survey of marketing for non-business students including discussion of marketing practice tools and concepts and their applications in profit and non-profit organizations.

Au, Wi, Sp Qtrs. 2-2-hr cl. Prereq: Math 130; Econ 200 and CS&E 100 or equivs. Not open to students with credit for Bus-M&L 494 (Summer 2001) or 650; or to students enrolled in the BSBA program. Credit does not count toward the BSBA degree.

**490 Entrepreneurship Marketing U 4**

Focuses on marketing concepts of entrepreneurs leading growth-oriented companies. Typically these are small, young companies with ambitions to become major enterprises.

Au Qtr. 2 2-hr cl. Prereq: Econ 200, or AED Econ 200, or equiv; Math 130 or equiv.

**493 Individual Studies U 1-10**

Individual study projects in selected areas in marketing.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**494 Group Studies U 1-10**

Group study projects in selected areas in marketing.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**553\* Retail Management U 4**

Principles and methods of management applied to retailing for non-business students.

2 2-hr cl. Prereq: 650 or 450. Not open to students with credit for 494 (Wi 2002) or 753; or to students enrolled in the BSBA program. Credit does not count toward the BSBA degree.

**555\* Promotional Strategy U 4**

Principles and methods of promotional strategy for non-business students, including fundamentals of communication, creative and media strategy.

2-2-hr cl. Prereq: 650 or 450. Not open to students with credit for 755 or to students in the BSBA program. Credit does not count toward the BSBA degree.

**650 Marketing U G 4**

Critical survey of field of marketing; structure, functions, policies, costs, and problems analyzed from consumer and other viewpoints; emphasis on principles, trends, and quantitative expression.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Econ 200 or equiv. H650: Open only to students in the Honors Business Administration cohort Program.

**693 Individual Studies U G 1-6**

Individual study projects in related areas in marketing.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies**

Group study projects in selected areas in marketing.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**694.41 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.42 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.43 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.44 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**694.45 Group Studies U G 1-6**

Repeatable to a maximum of 15 cr hrs.

**750 Consumer Behavior U G 4**

A review and synthesis of behavioral sciences applied to understanding consumer decision process; emphasis on the impact of consumer decisions upon the strategies of business, government, and consumer business cases.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 650 or equiv and Bus Adm 499 and Bus Mgt 330 and 331.

**751 Managerial Marketing U G 4**

Marketing policies and strategy; organization, demand analysis, product planning, pricing, physical distribution, and promotion from a managerial viewpoint.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 650 or equiv; and Bus-Mgt 330 and 331 and Bus Adm 499.

**752 Cases in Managerial Marketing U G 4**

Analysis of marketing policies and strategy, with emphasis on actual business cases.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 750 and 758 and 755 or 756.

**753 Retail Management U G 4**

Principles and methods of management as applied to retailing, including location, organization, personnel, buying, inventory control, selling and advertising, services, expenses, and profits.

Su, Au, Sp Qtrs. 2 2-hr cl. Prereq: 650 and Bus Adm 499.

**754 Principles of Electronic Marketing U 4**

Focus on marketing management and strategy, marketing research, advertising and services as they relate to use of World Wide Web technologies.

Sp Qtr. 2 2-hr cl. Prereq: 650 and Bus Adm 499.

**755 Promotional Strategy U G 4**

Consumer behavior, fundamentals of communication, setting goals and objectives, creative strategy, media strategy, and social and economic issues.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 750 and 758 and Bus Adm 499.

**756 Product Design and Pricing U 4**

Introduction to new product design processes. Focus on the tradeoffs people make when purchasing products and the critical role of price.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 750 and 758 and Bus Adm 499.

**757 International Marketing U G 4**

Theory and practice of marketing across national borders, as well as marketing and market research within different foreign environments, including the development of marketing strategies by the international company.

Au, Sp Qtrs. 2 2-hr cl. Prereq: 650 and Bus-Adm 499 and 555 and Bus-Mgt 330 and 331; or permission of instructor.

**758 Marketing Research U G 4**

The role of research in the solution of marketing problems; emphasis on available data analysis and methods of the field of investigation.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 650 and Bus-Mgt 330 and 331 and Bus Adm 499.

**759 Sales Management U G 4**

The sales force and its managerial hierarchy.

Wi Qtr. 2 2-hr cl. Prereq: 650 and Bus Adm 499.

**760 Services Marketing U 4**

Focus on the marketing of services. Issues addressed include service promotion, understanding service failure and recovery, management of service employees and service culture.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 650 and Bus Adm 499.

**780 Logistics Management U G 4**

Management of logistics activities and costs, including customer service, inventory, transportation, lot quantity costs, warehousing and information systems.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 650 and Bus-Mgt 330 and 331 and Bus Adm 499.

**781 Analysis and Design of Logistics Systems U G 4**

A quantitative course in logistics covering forecasting, vehicle routing, facility location and network design.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 780.

**782 Logistics Decision Making U G 4**

Analysis of decision making in the current logistics environment and the methods needed for finding solutions to integrated logistics problems.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 780.

**H783 Honors Research U 1-5**

Special topics research in marketing and/or transportation and logistics; research evaluated through papers, thesis, and/or special examinations.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing in business, 3.40 CPHR, and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**784 Transportation Management U G 4**

Study of general economic characteristics and government regulation of rail, motor, water, air, and pipeline carriers; consideration of competitive relations between modes of transportation, basic aspects of traffic management.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 650 and Bus-Mgt 330 and 331 and Bus Adm 499.

**785 Supply Chain Management U G 4**

Distinguishes logistics and supply chain management and discusses supply chain management processes and related topics.

Au Qtr. 2 2-hr cl. Prereq: Bus Adm 499.

**841 Principles of Electronic Marketing G 4**

Focus on marketing management and strategy, marketing research, advertising and services as they relate to use of World Wide Web technologies.

Au Qtr. 2 2-hr cl. Open only to MBA students or permission of instructor.

**842 Product Management Strategy G 4**

Comprehensive examination of product and communication design decisions facing product managers in consumer and industrial firms; case studies and industry-sponsored project; new product development and positioning.

Wi Qtr. Prereq: MBA 840 or permission of instructor.

**843 Services Marketing G 4**

Designed to equip students to become more effective executives of service organizations as well as more enlightened customers of service firms.

Wi Qtr. 2 2-hr cl. Prereq: 840 or permission of instructor. Open only to MBA students or permission of instructor.

**844 Applied Marketing Planning G 4**

Basic, practical elements of integrated strategic planning, current, and future planning techniques.

Au Qtr. 2 2-hr cl. Prereq: MBA 840 or equivalent other coursework with permission of instructor.

**845 International Marketing Strategy G 4**

Analysis of strategic, political, and philosophical issues faced by management and governments involved in international trade; emphasis on case analysis.

Au Qtr. 2 2-hr cl. Prereq: MBA 840 or permission of instructor.

**846 Advertising and Promotion Management G 4**

Discussion of specific consumer behavior theories that deal with consumer response to advertising and sales promotion tactics application of these theories in practice.

Wi Qtr. 2 2-hr cl. Prereq: MBA 840 or permission of instructor. Limited to MBA students.

**847 Analysis for Marketing Decisions G 4**

Exploration of issues related to data analysis for marketing decisions: costs/benefits of analysis in aggregate; difference between descriptive and structural models; complexities of imperfect information.

Au Qtr. 2 2-hr cl. Prereq: MBA 840 or permission of instructor.

**848 Business-to-Business Marketing G 4**

Exploring the value process in business to business relationships. Leading such relationships; facilitating alliances; leading customer solutions; understanding interfaces with other functions; quantifying/measuring value.

Au Qtr. 1 4-hr cl. Prereq: MBA 840 or permission of instructor.

**849 Marketing Field Studies G 4**

An advanced marketing course in which the students act as a consulting team and work with a client firm on a marketing problem.

Au Qtr. 2 2-hr cl. Prereq: 844 and 847. Open only to MBA students with 40 cr hrs.

**851 Pricing Strategy and Tactics G 4**

Focus on principles of pricing decision making and the integration of pricing decisions with product, promotion, and channel decisions.

Au Qtr. 2 2-hr cl. Prereq: MBA 840. Open only to MBA students or permission of instructor.

**852 Brand Management G 2**

An overview of the brand management process including concepts, methods and applications.

Au, Sp Qtrs. 2 2-hr cl. 2nd half of Qtr. Prereq: Enrollment in the MBA Program or permission of instructor. This course is graded S/U.

**853 Strategies in Sales Force Management G 4**

Focuses on management of the sales function and its coordination with other components of marketing strategy including pricing, product development, promotion, and distribution.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: MBA 840 or permission of instructor.

**854 Consumer Behavior G 4**

Development of the consumer decision process and its application to marketing strategy decisions.

Au Qtr. 2 2-hr cl. Prereq: MBA 840 or permission of instructor.

**880 Logistics Management G 4**

Management of movement services and coordination of demand and supply patterns for optimization of physical systems in terms of cost and customer service.

Au, Sp Qtrs. 2 2-hr cl.

**881 Analysis and Design of Logistics Systems G 4**

Examination of algorithms for managerial decision making in the design and operation of integrated logistics systems.

Wi Qtr. 2 2-hr cl. Prereq: 880 and MBA 871 or 872.

**882 Logistics Software and Technology G 4**

To provide strong knowledge and understanding of the tools and software being used in logistics and supply chain management; and interaction with industry professionals.

Sp Qtr. 2 2-hr cl. Prereq or concur: 880.

**884 Field Problems in Logistics G 4**

Provide students with supervised opportunity to test their problem solving skills on an actual business problem through developing, executing and evaluating a research design.

Wi Qtr. 2 2-hr cl. Prereq: 880.

**885 Supply Chain Management G 4**

Deals with the cross-functional integration of key business processes within the firm and across the network of firms that comprise the supply chain.

Au Qtr. 2 2-hr cl. Prereq: MBA student or permission of instructor.

**886 Advanced Supply Chain Management G 4**

Focus on the integration of cross-functional key business processes within the firm and across the network of firms that comprise the supply chain.

Wi Qtr. 1 4-hr cl. Prereq: 885.

**893 Individual Studies G 1-6**

Individual study projects in related areas of marketing.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies**

Group study projects in selected areas in marketing and logistics.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**894.80 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.82 Group Studies G 1-6**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**894.83 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.84 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.85 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.86 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.87 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**894.88 Group Studies G 1-6**

Repeatable to a maximum of 15 cr hrs.

**950 Seminar in Logistics and Supply Chain Management G 5**

Current research issues in logistics and supply chain management.

Su, Au Qtrs. Prereq: 880. Repeatable to a maximum of 10 cr hrs.

**951 Marketing Models G 5**

A study of recent model-based research in the marketing literature; emphasis on the strengths and weaknesses of various modeling approaches in specific problem areas and evaluation of model-based research.

Prereq: Enrollment in PhD in Bus ADM or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**952 Consumer Behavior G 5**

Study of the academic literature on consumer behavior with emphasis on the theoretical and empirical contributions of consumer research.

Au Qtr. Repeatable to a maximum of 10 cr hrs.

**954 Recent Advancements in Marketing Research G 5**

Provide students with exposure to leading marketing scholars and their most current research and give them an opportunity to critically evaluate it.

Au Qtr. 1 2-hr cl. Open only to doctoral students in marketing. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**955\*\* Seminar in Contemporary Marketing Problems G 5**

Review of current periodical literature and individual investigation by each student of a selected marketing problem of contemporary significance for seminar discussion and written report.

Prereq: Enrollment in PhD in Bus ADM or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**998 Research in Marketing: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Marketing: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Chemical and Biomolecular Engineering

120 Koffolt Laboratory, 140 west 19th Ave., 292-6591

**200 Chemical and Biomolecular Engineering Process Calculations I U 3**

The application of physico-chemical principles to problems of the chemical industry; emphasis on graphical methods, stoichiometry, heat, and material balances.

Au, Wi Qtrs. 2 cl, 2 comp lab hrs. Prereq: Chem 123 and a minimum CPHR of 2.00, and prereq or concur: Math 254 and Physics 131.

**201 Chemical and Biomolecular Engineering Process Calculations II U 3**

Continuation of 200.

Wi, Sp Qtrs. 2 cl, 2 comp lab hrs. Prereq: 200 or Chem Eng 200 and prereq or concur: Math 415 and Physics 132.

**294 Group Studies U 1-6**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**420 Elements of Chemical and Biomolecular Engineering Transport Phenomena I U 4**

Introduction to momentum, mass, and heat transfer with emphasis on the analogies between them; practical applications of momentum transfer (fluid flow).

Sp Qtr. 3 cl, 2 comp lab hrs. Prereq: 201, Math 415, Physics 132, or equiv with written permission of instructor.

**489 Professional Practice in Industry U 2**

Preparation of a comprehensive report based on employment experience in a co-op job in industry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Admission to co-op program in chbe. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**508 Chemical and Biomolecular Engineering Thermodynamics I U G 3**

Application of the fundamental concepts and laws of thermodynamics to problems of the chemical industry; stress on computational problem work.

Au Qtr. 2 cl, 2 comp lab hrs. Prereq: 201 or Chem Eng 201 and 420 or Chem Eng 420.

**509 Chemical and Biomolecular Engineering Thermodynamics II U G 3**

Continuation of 508.

Wi Qtr. 2 cl, 2 comp lab hrs. Prereq: 508 or Chem Eng 508.

**520 Transport Phenomena U G 3**

Momentum, mass, and heat transfer with emphasis on the analogies between them; practical applications of momentum transfer (fluid flow).

Sp Qtr. 3 cl. Prereq: Math 415. Not open to students with credit for 420 or Chem Eng 420.

**521 Elements of Chemical and Biomolecular Engineering Transport Phenomena II U G 3**

Continuation of transport theory with emphasis on heat transfer and introduction to radiation; basic principles developed and illustrated with problems from chemical and biomolecular engineering practice.

Au Qtr. 2 cl, 2 comp lab hrs. Prereq: 420 or 520 or Chem Eng 420 or 520, and a second writing course. GEC course.

**522 Elements of Chemical and Biomolecular Engineering Transport Phenomena III U G 3**

Continuation of the study of transport theory; emphasis on mass transfer and stagewise operations with applied computational problems.

Wi Qtr. 2 cl, 2 comp lab hrs. Prereq: 521 or Chem Eng 521.

**523 Chemical and Biomolecular Engineering Unit Operations U G 4**

The application of transport phenomena such as fluid, heat, and mass transfer to the chemical and biomolecular engineering operations of evaporation, distillation, drying, etc.

Sp Qtr. 3 cl, 2 comp lab hrs. Prereq: 522 or Chem Eng 522 and Chem 532.

**610 Chemical and Biomolecular Engineering Kinetics U G 4**

Chemical and engineering principles for the design and operation of chemical

reactors; kinetics of simple homogeneous systems and introduction to heterogeneous catalysis.

Sp Qtr. 3 cl, 2 comp lab hrs. Prereq: 509 or Chem eng 509 or Chem 532, and 522 or Chem eng 522.

**624 Chemical and Biomolecular Process Dynamics and Control I U G 4**

Study of the dynamics and control of chemical and biomolecular processes; mathematical models of simple processes, including feedback control, are derived, analyzed, and simulated.

Au Qtr. 3 cl, 2 comp lab hrs. Prereq: 523 or Chem Eng 523, 610 or Chem Eng 610.

**626 Digital Control Techniques in Chemical and Biomolecular Engineering U G 3**

Study of real-time data acquisition and digital control techniques as applied to chemical processes.

Sp Qtr. 2 cl, 3 lab hrs. Prereq: 624 or Chem Eng 624 and En Graph 200, or permission of instructor.

**630 Chemical and Biomolecular Engineering Unit Operations Laboratory U G 3-6**

The fundamental laboratory course in the chemical and biomolecular engineering operations; laboratory investigation of processes such as distillation, fermentation, filtration, etc.

Su, Wi, Sp Qtrs. 1-3 conf, 6-15 lab hrs. Prereq: 523; prereq or concur: 610; or permission of instructor. Repeatable to a maximum of 6 cr hrs. GEC course.

**632 Introduction to Nanofabrication and Nanomanufacturing U G 3**

Novel nanomanufacturing techniques will be introduced with a focus on top down approaches and a brief introduction of bottom up approaches.

Au Qtr. 3 cl. Prereq: ECE 331 or MatSc&En 205 or permission of instructor. Not open to students with credit for Biomed E 662 or ECE 632 or Ind Eng 652.02. Cross-listed with Biomed E 662, ECE 632, and Ind Eng 652.02.

**693 Individual Studies in Chemical and Biomolecular Engineering U G 1-8**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies in Chemical and Biomolecular Engineering U G 1-6**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**702 Multiphase Flow Dynamics U G 3**

An introduction to science and engineering principles associated with multiphase flows and their applications to chemical engineering processes.

Prereq: 521 or Mech Eng 510 or grad standing or permission of instructor.

**712 Catalysis and Catalytic Processes U G 3**

Kinetics of catalytic processes, mass transfer in catalysis, catalyst preparation and characterization, deactivation of catalysts, catalytic reactors, and application of catalytic phenomena in industrial processes.

Sp Qtr. 3 cl. Prereq: 522 or Chem eng 522 and 610 or Chem eng 610.

**713 Fuel Cells and Catalysis U G 3**

An introduction to the basic principles involved in fuel cells with special emphasis on catalytic phenomena.

Prereq: 508 or Chem 531 or Mech Eng 500 or Mech Eng 501 or MatSc&En 401; ChBE 610 or Chem 532 or MatSc&En 526; or permission of instructor.

**715 Particle Technology U G 3**

An introduction to engineering processes involving particulates and powders. Multiphase transport phenomena and fluidization are emphasized.

Sp Qtr. 2 cl, 2 comp lab hrs. Prereq: 523 or Chem eng 523, Math 415, or grad standing or permission of instructor.

**717 Colloids and Surfaces U G 3**

Introduction to various aspects of colloids and surfaces, including sedimentation, diffusion, thermodynamics, light scattering, surface tension, contact angle, and surfactants.

Su, Au Qtrs. 3 2-hr cl. Prereq: 509 or Chem eng 509 or Chem 531, Math 255, Chem 253.

**726 Chemical and Biomolecular Process Dynamics and Control II U G 3**

Further development of process dynamics and control topics begun in 624.

Sp Qtr. 3-hr cl. Prereq: 624 or Chem eng 624 or permission of instructor.

**733 Novel Separation Processes U G 3**

Provides further depth beyond 523 in the area of separations applied to chemical and biomolecular processing and introduces some novel techniques that are at the leading edge of separations research.

Su, Sp Qtrs. 3 cl. Prereq: 509 or Chem eng 509, 523 or Chem eng 523, or grad standing, or permission of instructor.

**735 Cellular Nanotechnology U G 3**

An introduction and overview of the role of nanotechnology in soft materials and biotechnology. Applications in polymer devices for biomedical and diagnostics are emphasized.

Prereq: Sr or grad standing in engineering or permission of instructor. Not open to students with credit for Biomed E 765. Cross-listed with Biomed E 765.

**739 Knowledge-Based Systems in Engineering U G 3**

Application of knowledge-based system principles to engineering problems, including practical knowledge engineering, techniques for problem assessment, and implementation.

Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: Cpnr/Inf 630 or CS&E 630 or permission of instructor. Cross-listed in Computer Science and Engineering; Civil Engineering.

**750 Profession of Chemical and Biomolecular Engineering U 0-1**

The roles in professional activities performed by chemical engineers, code of ethics, professional registration, professional societies, responsibilities to management and to labor and as an administrator.

Sp Qtr. 1-hr cl. Prereq: Jr standing. Repeatable to a maximum of 2 cr hrs. This is a Progress course. Progress graded Sp Qtr, credit/grade awarded upon completion of Au Qtr.

**755 Chemical Process Safety U G 3**

Familiarizes students with varied topics relating to chemical and industrial process safety. Covers PHA methods and tools.

Prereq: Jr or sr standing in ENG or grad standing in engineering or permission of instructor.

**760 Chemical and Biomolecular Engineering Economy and Strategy U G 4**

Economic and strategy considerations in research; development, design, and manufacturing in the chemical process industry; cost estimation and economic optimization of chemical and biomolecular engineering operations and processes.

Au Qtr. 3 cl. 1 recitation. Prereq: 610 or Chem eng 610. GEC course.

**761 Chemical and Biomolecular Engineering Processes U G 3**

Integration of fundamentals of chemistry, chemical and biomolecular engineering operations, thermodynamics, reaction kinetics, and economics for optimum design and operation of chemical process plants.

Au Qtr. 2 cl, 2 comp lab hrs. Prereq: Sr standing in chem eng or chem.

**762 Chemical and Biomolecular Engineering Process Development U G 4**

Library, laboratory, and pilot plant research and development of chemical and biomolecular processes of industrial potential justified by preliminary economic studies; preparation of optimum process flow sheets; plant design studies.

Sp Qtr. 1 cl, 11 lab hrs. Prereq: 624 or Chem Eng 624, 760 or Chem Eng 760. GEC course.

**764 Chemical and Biomolecular Engineering Process Design U G 4**

Process design studies on selected chemical and biomolecular processes encompassing a broad spectrum of fundamental engineering principles; optimization studies utilizing economic and technical simulation.

Wi Qtr. 2 cl, 2 4-hr labs. Prereq: 624 or Chem Eng 624, 760 or Chem Eng 760. GEC course.

**765 Principles of Biochemical Engineering U G 3**

The application of biochemical engineering principles for modern bioprocesses and in the area of industrial biotechnology.

Au Qtr. 2 1.5-hr cl. Prereq: 523 or Chem eng 523, 610 or Chem eng 610, or grad standing or permission of instructor.

**766 Biotechnology and Bioprocess Engineering U G 3**

Fundamentals of biotechnology and their applications to bioprocessing with emphasis on fermentation and bioseparation.

Wi Qtr. 3 1-hr cl. Prereq: 765 or BioChem 511 or Micrbiol 520 or Chem eng 765, or permission of instructor.

**769 Biomedical Nanotechnology U G 3**

Survey of biomedical technology with particular emphasis on nanoscale mass transport, nanomechanics, nanofluidics and medical therapeutics.

Sp Qtr. 2 1.5-hr cl. Prereq: Chem 231 or Math 153 or Physics 133 or Biomed E 400/600 or grad standing. Cross-listed with Biomed E 761.

**771 Air Pollution U G 3**

Sources of air pollutants, properties of small particles, chemistry of air pollution, dispersion and deposition of air pollutants, and air pollution control.

Sp Qtr. 3 cl. Prereq: ENG sr standing or permission of instructor.

**772 Principles of Sustainable Engineering U G 3**

Introduce systematic methods for evaluating broader impact of engineering activities on the environment and society, with emphasis on sustainability of emerging technologies and management strategies.

Prereq: 760 or permission of instructor.

**773 Introduction to High Polymer Engineering U G 3**

Engineering of polymerization and polymer forming processes based upon thermodynamics, transport phenomena, and reaction kinetics; relationships of engineering properties of high polymers to molecular characteristics.

Au Qtr. 3-hr cl. Prereq: 610 or Chem eng 610 and organic chem or permission of instructor.

**774 Polymer Membranes U G 3**

In-depth study of membrane separation mechanisms, transport models, membrane permeability computations/measurements, membrane materials/types/modules and membrane reactions.

Prereq: 509 or sr standing in MatSc&En or grad standing. Not open to students with credit for MatSc&En 774. Cross-listed in Materials Science and Engineering.

**775 Rheology of Fluids U G 3**

Principles of rheology including the characteristics of non-Newtonian materials, rheological equations of state, viscometric flows, measurements and applications to the flow of industrial materials.

Sp Qtr. 3 cl. Prereq: 420 or 520 or Chem eng 420 or 520 with written permission of instructor.

**776 Principles of Polymer Conversion Operations U G 3**

Principles of thermodynamics, transport phenomena, polymer chemistry and physics will be related to polymer processing (converting high polymers) through application of mathematical and analytical approaches.

Wi Qtr. 3 cl. Prereq: 773 or Chem eng 773 or permission of instructor.

**779 Chemical and Biomolecular Engineering Experimental Design U G 3**

Industrial and research experiments designed with special emphasis on reducing the number of experiments, interpreting final results, and ensuring against unknown factors.

Su, Au Qtrs. 3 cl. Prereq: En Graph 167 or equiv or permission of instructor.

**781 Chemical and Biomolecular Engineering Optimization U G 3**

Description, analysis, and comparison of the techniques in use in unimodel optimization; linear programming; geometric programming.

Sp Qtr. 3 cl. Prereq: En Graph 167 or equiv or permission of instructor.

**H783 Undergraduate Honors Program Research U 1-3**

Opportunity for honors students to pursue independent project/research. Thesis writing and oral presentations included.

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Sr standing in chem eng. GPA of at least 3.4 and permission of instructor. Repeatable to a maximum of 9 cr hrs.

**790 Process Modeling and Simulation U G 3**

Application of basic chemical and biomolecular engineering principles to construct mathematical models of industrial processes and the simulation thereof by digital and analog techniques.

Au Qtr. 3 cl. Prereq: Permission of instructor.

**801 Advanced Special Problems in Chemical and Biomolecular Engineering G 1-15**

A minor problems course covering the chemical engineering operation, instrumentation, thermodynamics, kinetics, the transport fields, and chemical technology.

Su, Au, Wi, Sp Qtrs. Conf, library, and/or lab. Prereq: Satisfactory courses in field of problem undertaken and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**808 Advanced Chemical and Biomolecular Engineering Thermodynamics G 3**

Detailed discussion of the thermodynamic properties of pure compounds and mixtures; computational problem work emphasizes the application of thermodynamics in industrial problems.

Sp Qtr. 3 cl. Prereq: 509 or Chem eng 509 with written permission of instructor.

**809 Advanced Chemical and Biomolecular Engineering Thermodynamics G 3****812 Advanced Chemical and Biomolecular Engineering Kinetics I G 3**

Chemical engineering kinetics from the viewpoint of industrial chemical processes.

Au Qtr. 3 cl. Prereq: 523 or Chem eng 523 and 610 or Chem eng 610; or permission of instructor.

**813 Advanced Chemical and Biomolecular Engineering Kinetics II G 3**

Continuation of 812.

Wi Qtr. 3 cl. Prereq: 812 or Chem eng 812.



**815 Advanced Chemical and Biomolecular Engineering Science and Applications**

Advanced concepts of science and engineering as applied to the chemical and biomolecular engineering field under various topics.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Chem eng grad standing or permission of instructor. Repeatable to a maximum of 45 cr hrs. Subdivisions are not repeatable.

**815.01 Advanced Mass Transfer-I G 3**

Repeatable.

**815.05 Advanced Heat Transfer-I G 3**

Conduction, radiation, and convection.

**815.08 Advanced Momentum Transfer-I G 3**

Basic theory, laminar flow, and phenomenological turbulence.

**815.09 Advanced Momentum Transfer-II G 3**

Turbulence, mixing, and chemical reaction.

**815.15 New or Unusual Chemical and Biomolecular Engineering Unit Operations G 3**

Examples: adsorption, atomolysis, dialysis exclusion, sublimation.

**881 Research Communications in Chemical and Biomolecular Engineering G 3**

Analysis and critique of chemical and biomolecular engineering research literature. Training and practice in written and oral communication of research ideas.

Su, Sp Qtrs. 3 conf hrs. Prereq: Grad standing in chem eng. Repeatable to a maximum of 12 cr hrs.

**899 Teaching Practicum in Chemical and Biomolecular Engineering G 1-6**

Teaching and instructional development under faculty guidance in the chemical and biomolecular engineering curriculum.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing. International students for whom English is not the first language must first become certified by passing English 105 and the mock-teaching test. Repeatable to a maximum of 20 cr hrs. Provides teacher training and evaluation that is recognized on transcript. This course is graded S/U.

**981 Research Proposal in Chemical and Biomolecular Engineering G 2**

Formal report or proposal in preparation for the candidacy examination in chemical and biomolecular engineering.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in chem eng.

**995 Seminar in Chemical and Biomolecular Engineering G 1**

Formal lectures and discussion of state of the art research and development in chemical and biomolecular engineering.

Au, Wi, Sp Qtrs. 1.5-hr cl. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**999 Research in Chemical and Biomolecular Engineering G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Chemical Physics

018 Celeste Laboratory, 120 West 18th Avenue, 292-2569

**880 Frontiers in Spectroscopy G 3**

An overview of both fundamental and applied topics on the frontier of spectroscopy.

Wi Qtr. 2 1.5-hr cl, 1 1.5-hr recit. Prereq: Chem 862 or Physics 828 or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U. 880A-- This alphabetical subdivision is letter graded.

**894 Group Studies G 1-5**

Group studies on special topics in chemical physics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Varies with the topic. Repeatable to a maximum of 15 cr hrs.

**999 Research in Chemical Physics: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable. This course is graded S/U.

## Chemistry

Undergraduate Chemistry Office: 100 Celeste Laboratory of Chemistry, 120 West 18th Avenue, 292-1204

Graduate Chemistry Office: 1110 Newman-Wolfrom Laboratory of Chemistry, 100 West 18th Avenue, 292-8917.

Extra sessions and/or night examinations are required in various courses in this department. Midquarter exams for 101-125 and 251-255 are given at night. If you miss the first laboratory class for any reason, immediately go to CE 100 for Chemistry 101 through 125, or go to CE 380D for courses 245, 246, 254, 255, or you may be disenrolled from the course.

**100 Chemistry and Society U 5**

Terminology, methods, and principles of chemistry; examination of the roles of chemistry in our modern technological society.

Au, Wi, Sp Qtrs. 5 cl. Prereq: Math 075 or 076 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for 101, 121 or H201, or chem courses having these as prereqs. GEC phys sci course.

**101 Elementary Chemistry U 5**

Introductory general chemistry for non-science majors, including dimensional analysis, atomic structure, bonding, chemical reactions, states of matter, solutions, chemical equilibrium, and acids and bases.

Su, Au, Wi, Sp Qtrs. 4 cl, 3 lab hrs. Prereq: Eligibility to enroll in Math 116. Not open to students with credit for 121 or H201. Safety glasses must be worn in lab. This course is available for EM credit with permission. GEC phys sci course. NS Admis Cond course.

**102 Elementary Chemistry U 5**

Introductory organic and biological chemistry, including saturated and unsaturated hydrocarbons, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amines, stereoisomerism, carbohydrates, lipids, proteins, and nucleic acids.

Au, Wi, Sp Qtrs. 4 cl, 3 lab hrs. Prereq: 101. Safety glasses must be worn in lab. This course is available for EM credit with permission. GEC phys sci course. NS Admis Cond course.

**121 General Chemistry U 5**

First course for science majors and engineering students, covering dimensional analysis, atomic structure, the mole, stoichiometry, chemical reactions, thermochemistry, electron configuration, periodicity, bonding, and molecular structure.

Su, Au, Wi, Sp Qtrs. 4 cl, 3 lab hrs. Prereq: One unit of high school chem and eligibility to enroll in Math 150. Not open to students with credit for H201. Safety glasses must be worn in lab. This course is available for EM credit with permission. GEC phys sci course. NS Admis Cond course.

**122 General Chemistry U 5**

Continuation of 121 for science majors, covering acids and bases, redox reactions, gases, liquids, solids, solutions, colligative properties, kinetics, and chemical equilibrium.

Su, Au, Wi, Sp Qtrs. 4 cl, 3 lab hrs. Prereq: 121 or completion of 101 with a grade of A or A- and eligibility to enroll in Math 150. Not open to students with credit for 125 or H202. Safety glasses must be worn in lab. This course is available for EM credit with permission. GEC phys sci course. NS Admis Cond course.

**123 General Chemistry U 5**

Continuation of 122 for science majors, covering solubility and ionic equilibria, qualitative analysis, thermodynamics, electrochemistry, descriptive chemistry, coordination compounds, and nuclear chemistry.

Su, Au, Wi, Sp Qtrs. 3 cl, 6 lab hrs. Prereq: 122. Safety glasses must be worn in lab. This course is available for EM credit with permission. GEC phys sci course.

**125 Chemistry for Engineers U 4**

Continuation of 121 for engineering students (other than chemical engineering), covering states of matter, solutions, thermodynamics, kinetics, equilibrium, acids, bases, and electrochemistry.

Wi, Sp Qtrs. 3 cl, 3 lab hrs. Prereq: 121; prereq or concur: Math 151. Not open to students with credit for 122, 123, or H202. Safety glasses must be worn in lab. This course is available for EM credit with permission.

**H201 General Chemistry U 5**

Fundamental chemical principles for selected students.

Au Qtr. 4 cl, 3 lab hrs. Prereq: ACT mathematics score of 30 or above and ACT science reasoning score of 28 or above; prereq or concur: Math 151; or permission of instructor. Safety glasses must be worn in lab. GEC phys sci course. NS Admis Cond course.

**H202 General Chemistry U 5**

Continuation of H201; fundamental principles and nonmetal chemistry.

Wi Qtr. 4 cl, 3 lab hrs. Prereq: H201. Safety glasses must be worn in lab. GEC course. NS Admis Cond course.

**H203 General Chemistry U 5**

Continuation of H202; fundamental principles and chemistry of metals.

Sp Qtr. 3 cl, 6 lab hrs. Prereq: H202. Safety glasses must be worn in lab. GEC phys sci course.

**211 Quantitative Chemical Analysis for Biological and Medicinal Sciences U 5**

Quantitative chemical analysis with particular focus on bioanalytical and pharmaceutical applications.

Su, Wi Qtrs. 4 cl, 4 lab hrs. Prereq: 123 or equiv. Not open to students with credit for 221.

**221 Analytical Chemistry I U 5**

Analytical chemistry for chemistry majors; quantitative analysis of the elemental and molecular composition of complex systems.

Au, Sp Qtrs. 3 cl, 8 lab hrs. H221 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 123 or equiv and eligibility to enroll in Math 151. Safety glasses must be worn in lab. GEC data analysis course.

**231 Introductory Organic Chemistry U 3**

A condensed presentation of organic chemistry organized by functional groups with an emphasis on practical applications.

Sp Qtr. 4 cl. Prereq: 122 or 125. Not open to students with credit for 102 or 251.

**245 Organic Chemistry Laboratory U 2**

Introduction to the scientific writing, computational chemistry and laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds.

Su, Au, Wi, Sp Qtrs. 1 cl, 1 3-hr lab. Prereq: 231 or 251. Not open to students with credit for 254. Safety glasses must be worn in lab.

**246 Organic Chemistry Laboratory U 2**

Further development of scientific writing, computational chemistry and laboratory techniques of organic chemistry as related to the organic compounds studied in 251 and 252.

Su, Au, Wi, Sp Qtrs. 1 cl, 1-3-hr lab. Prereq: 252, and 245 or 254. Not open to students with credit for 255. Safety glasses must be worn in lab.

**251 Organic Chemistry U 4**

Introduction to structure, nomenclature, physical properties, preparation and reactions of alkanes, alkenes, alkynes, alcohols, ethers, epoxides. Other topics include stereochemistry, acids and bases, reaction mechanisms.

Au, Wi Qtrs. 4 cl. H251 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 123 or H203.

**252 Organic Chemistry U 4**

Conjugated systems, aromatics, aldehydes, ketones, carboxylic acids, organometallic chemistry, radical reactions. Spectroscopic methods of organic chemistry including mass spectrometry, infrared spectroscopy, nuclear magnetic resonance spectroscopy.

Wi, Sp Qtrs. 4 cl. H252 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 251.

**253 Organic Chemistry U 4**

Aldehydes, ketones, carboxylic acid derivatives, substitution reactions of carbonyl compounds, amines, carbon-carbon bond forming reactions; polymers. Introduction to carbohydrates, amino acids, nucleic acids, lipids.

Su, Au, Sp Qtrs. 4 cl. H253 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 252.

**254 Organic Chemistry Laboratory U 3**

Introduction to scientific writing, computational chemistry, laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds.

Su, Au, Wi, Sp Qtrs. 1 cl, 2 3-hr labs. H254 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 254: Prereq or concur: 252. Prereq for H254: Prereq or concur: 252, and permission of instructor. H254: Wi Qtr only. Safety glasses must be worn in lab.

**255 Organic Chemistry Laboratory U 3**

Introduction to scientific writing, computational chemistry, laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds.

Su, Au, Wi, Sp Qtrs. 1 cl, 2 3-hr labs. H255 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 255: 252 and 254. Prereq for H255: 252, 254, and permission of instructor. H255: Sp Qtr only. Safety glasses must be worn in lab.

**294 Group Studies U 3-5**

Special studies in chemistry.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**520 Physical Chemistry U G 3**

The principles of physical chemistry for students in the biological sciences and for BA students majoring in chemistry.

Wi Qtr. 3 cl. Prereq: 211 or 221 or 251, Math 153, and Physics 113 or 133. Not open to students with credit for 531.

**521 Physical Chemistry U G 3**

A continuation of 520.

Sp Qtr. 3 cl. Prereq: 520. Not open to students with credit for 532.

**530 Physical Chemistry U G 3**

Quantum chemistry.

Au Qtr. 3 cl. Prereq: 221 or 251 or equiv; Physics 113 or 133; Math 254; prereq or concur: Math 255. Not open to students with credit for 533.

**531 Physical Chemistry U G 3**

Statistical mechanics and thermodynamics.

Wi Qtr. 3 cl. Prereq: 530.

**532 Physical Chemistry U G 3**

Thermodynamic equilibrium and chemical kinetics.

Sp Qtr. 3 cl. Prereq: 531.

**541 Physical Chemistry Laboratory U G 3**

Quantitative measurements of chemical phenomena and the application of chemical principles to their interpretation.

Au, Wi, Sp Qtrs. 1 cl, 8 lab hrs. Prereq or concur: 520 or 530; but desirable to have 1 or more physical chemistry courses completed. Safety glasses must be worn in lab.

**542^ Physical Chemistry Laboratory U G 3**

Continuation of 541.

Au, Wi, Sp Qtrs. 8 lab hrs. Prereq: 541; prereq or concur: 521 or 531. Safety glasses must be worn in lab.

**585 Research Principles in Chemistry U 1-5**

Independent chemical investigation under the direction of a faculty member, culminating in written and oral reports.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 15 cr hrs in chem at the 200 level or above and written permission of instructor under whose direction the student will work. Repeatable to a maximum of 20 cr hrs.

**587 Analytical Chemistry II: Instrumental Analysis U G 3**

Applications of physico-chemical principles to problems in qualitative and quantitative chemical analysis.

Sp Qtr. 3 cl. Prereq or concur: 521 or 532, and 541.

**588 Laboratory Practice in Instrumental Analysis U G 3**

Laboratory applications of physico-chemical principles to instrumental analysis.

Sp Qtr. 2 3-hr labs. Prereq or concur: 587 or permission of instructor. Safety glasses must be worn in lab.

**594 Group Studies U G 1-5**

Group studies of special topics not otherwise offered.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**632 Spectroscopic Methods in Organic Chemistry U G 3**

Advanced spectroscopic methods in organic chemistry, including proton and carbon NMR, IR, UV, and mass spectrometry.

Wi Qtr. 3 cl. Prereq: 253 or permission of instructor.

**641 Atmospheric Chemistry U G 3**

Chemistry and composition of the lower atmospheric (troposphere and stratosphere), including regional and global perspectives.

Wi Qtr. 2 1.5-hr cl. Prereq: 123 and at least jr standing or permission of instructor. Chem 231 or 251 recommended.

**644 Computational Chemistry U 3**

An introduction to computational chemistry including a survey of modern computational techniques and applications.

Au Qtr. 3 1-hr cl. Prereq: 252.

**651 Inorganic Chemistry I U G 3**

Introduction to the principles of inorganic structure and bonding, including molecular symmetry, atomic structure, molecular, and ionic bonding.

Au Qtr. 3 cl. Prereq: 253 or permission of instructor.

**652 Inorganic Chemistry II U G 3**

Chemistry of the transition metals, with emphasis on the stereochemistry, reaction mechanisms, and chemical reactivity of coordination complexes and organometallics.

Wi Qtr. 3 cl. Prereq: 651 or permission of instructor. Not open to students with credit for 751 or 752.

**661 Biochemistry**

A survey of biochemistry for the superior advanced undergrad or the beginning grad student who does not necessarily plan to do grad research in biochemistry.

Prereq: 253 and 521 or 532. Not recommended for students with grades of C or below in prereq courses.

**661.01^ Biochemistry U G 3**

Au Qtr. 3 cl.

**661.02^ Biochemistry U G 3**

Wi Qtr. 3 cl.

**673 Introduction to Quantum Chemistry and Spectroscopy U G 3**

Fundamental quantum chemistry with applications to molecular spectroscopy, suitable for all areas of chemistry.

Su Qtr. 3 cl. Prereq: 532 or equiv; or permission of instructor. Not open to students with credit for 861.

**685 Safety Seminar U G 2**

A survey of safe operational procedures and protocols to be followed in a laboratory environment.

Wi Qtr. 2 cl. This course is graded S/U.

**693 Individual Studies U G 0-15**

A qualified student may conduct a minor investigation in chemistry.

Su, Au, Wi, Sp Qtrs. Conf, library, and lab. Prereq: Satisfactory courses in field of the problem and permission of instructor. Repeatable to a maximum of 60 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Designed for students to pursue advanced special studies in chemistry.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**699 Undergraduate Research U 1-15**

Undergraduate research or creative activities in various topics.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**701^ Seminar in Teaching College Chemistry G 3**

Preparation for teaching lower-division chemistry laboratory and recitation sections.

Su Qtr. 2 2-hr cl. Prereq: Permission of Graduate Advising Committee.

**720 Principles of Analytical Chemistry G 3**

Introduces advanced topics in analytical chemistry that include: statistics, modeling of data, Fourier transforms, atomic spectroscopy, nuclear magnetic resonance and mass spectrometry.

Su Qtr. 3 1-hr cl.

**721 Advanced Analytical Chemistry U G 3**

Chemical and instrumental aspects of modern methods of analysis, emphasizing commonly used contemporary techniques of value to the research chemist.

Au Qtr. 3 cl. Prereq: 587 or equiv or permission of instructor.

**722^ Principles of Analytical Processes U G 3**

Speciation and multicomponent equilibria, analog versus digital data acquisition, applications of Fourier transforms, modeling chemical systems.

Wi Qtr. 3 cl. Prereq: 531.

**730 Intermediate Organic Chemistry U G 3**

Intermediate-level course for advanced undergraduates and beginning graduate students in organic reactions and mechanisms.

Au Qtr. 3 cl. Prereq: 253. Recommended for entering grad students in organic chemistry. 730, 731, 831, 832, 833 comprise the first year graduate organic sequence.

**731 Advanced Organic Chemistry I U G 3**

Fundamental aspects of physical organic chemistry.

Au Qtr. 3 cl. Prereq: 253, 521 or 532, or permission of instructor. 730, 731, 831, 832, and 833 comprise the first-year graduate organic sequence.

**733 Chemistry of Bio-Organic Catalysts and Enzymes U G 3**

Mechanisms of organic catalysts and enzymes; for students majoring in organic chemistry and biochemistry.

Wi Qtr. 3 cl. Prereq: 253 or equiv; also desirable to have undergraduate level physical chemistry and biochemistry.

**734 Chemistry at the Interface of Biology G 3**

Introduction to the fundamentals of biological chemistry and discussion of a variety of developments in the application of chemistry to biological processes; chemical approaches to biology.

Su Qtr. Prereq: 253 or equiv. Recommended for incoming graduate students as a refresher to biochemical and biological applications.

**740 Introduction to Astrochemistry U G 3**

A treatment of the chemistry occurring in regions outside of the solar system including interstellar clouds, areas of star formation, and envelopes and atmospheres of stars.

Wi Qtr. 3 1-hr cl. Prereq: Introductory courses in quantum mechanics, thermodynamics, and basic kinetics. Not open to students with credit for Astron 740 or Physics 740. Cross-listed in Astronomy and Physics.

**750 Fundamental Principles of Inorganic Chemistry U G 3**

Theory and application of modern inorganic chemistry for students who intend to take additional courses in chemistry.

Su Qtr. 3 cl. Prereq: Undergraduate degree in chemistry or permission of instructor.

**751 Transition-Metal Organometallic Chemistry U G 3**

Preparation, structure and bonding, reactivity, and applications to stoichiometric synthesis and catalysis of transition-metal compounds that contain metal-carbon bonds, including metal carbonyls, pi complexes, and metal alkyls.

Au Qtr. 3 cl. Prereq: Permission of instructor or an undergrad degree with a major in chem.

**752 Inorganic Biochemistry U G 3**

Roles of metal ions as biological redox and catalytic cofactors; coordination chemistry; spectroscopy and electrochemistry.

Au Qtr. 3 cl. Prereq: undergraduate degree with a major in chemistry, or permission of instructor.

**753 Inorganic Cluster Chemistry U G 3**

Bonding, structures, and chemistry of cluster and ring compounds of the transition and main group elements with applications to heterogeneous catalysis and inorganic polymers.

Wi Qtr. 3 cl. Prereq: undergraduate degree with a major in chemistry, or permission of instructor.

**754 Solid State Inorganic Chemistry U G 3**

Survey of the principles and concepts underlying the synthesis, structure, bonding, reactivity, and properties of solids.

Sp Qtr. 3 cl. Prereq: Undergraduate degree with a major in chem or equiv or permission of instructor.

**755 Inorganic Chemistry Laboratory U G 3**

Preparation and characterization of inorganic compounds employing a variety of synthetic techniques.

Wi, Sp Qtrs. 2 cl, 6 lab hrs. Prereq: 531, permission of instructor, or an undergraduate degree with a major in chemistry. Safety glasses must be worn in lab. Not open to students with credit for 655.

**761 Advanced Biochemistry: Proteins U G 3**

An advanced treatment of protein biochemistry.

Au Qtr. 3 cl. Prereq: 253, 255, and 521; and Biochem 615; or equivs. Not open to students with credit for Biochem 761 or Molbioch 761. Cross-listed in Molecular and Cellular Biochemistry.

**762^ Advanced Biochemistry: Enzymes U G 3**

Advanced treatment of enzymology.

Au Qtr. 2 1.5-hr cl. Prereq: 253, 255, and 521; and Biochem 615; or equivs. Not open to students with credit for Biochem 762 or Molbioch 762. Cross-listed in Molecular and Cellular Biochemistry.

**763 Advanced Biochemistry: Membranes and Bioenergetics U G 2**

An advanced treatment of membranes and bioenergetics.

Wi Qtr. 2 cl. Prereq: 253, 255, and 521; and Biochem 615; or equivs. Not open to students with credit for Biochem 763 or Molbioch 763. Cross-listed in Molecular and Cellular Biochemistry.

**775 Introduction to Thermodynamics and Kinetics G 3**

Fundamental treatment of the thermodynamics and kinetics of chemical systems.

Au Qtr. 3 1-hr cl. Prereq: 532 or equiv.

**H783 Honors Research U 3-5**

Independent investigation in chemistry culminating in a thesis and an oral examination.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the chem courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Satisfactory completion of at least 8 cr hrs is required of candidates for an undergrad degree with distinction in chem. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**821 Electroanalytical Chemistry G 3**

Advanced level discussion of electrochemical principles and mass transport processes; discussion of applications to organic and inorganic systems.

Au Qtr. 3 cl. Prereq: 532 or permission of instructor.

**822 Principles and Practice of Separation Processes G 3**

Principles and applications of equilibrium and kinetic separation processes such as precipitation, solvent extraction, ion exchange, liquid-liquid chromatography, gas-liquid chromatography, and zone refining.

Wi Qtr. 3 cl. Prereq: 821 or permission of instructor.

**823 Analytical Spectroscopy G 3**

Advanced course in the principles of measurement of the interaction of electromagnetic radiation with matter.

Sp Qtr. 3 cl. Prereq: 821 or permission of instructor.

**824 Nuclear Magnetic Resonance Spectroscopy G 3**

Introduces advanced topics in nuclear magnetic resonance spectroscopy including Bloch equations, relaxation, multidimensional NMR, density operator formalism solid state NMR, and other related concepts.

Sp Qtr. 2 1.5-hr cl, lab hrs arr. Prereq: Grad standing in chem or physics or permission of instructor.

**825 Mass Spectrometry: Principles and Applications G 3**

Introduction to the theory and principles of ionization, fragmentation, and mass analysis.

Wi Qtr. 3 cl, 5 lab hrs arr. Prereq: Physics 132 or equiv, and permission of instructor.

**831 Physical Organic Chemistry G 3**

Thermodynamics, kinetics, and mechanisms of organic reactions with a particular focus on organic reactive intermediates.

Wi Qtr. 2 1.5-hr cl. Prereq: 731.

**832 Advanced Organic Chemistry II G 3**

An advanced course in the fundamental principles of chemistry covering alicyclic, hydroaromatic, and aromatic compounds.

Wi Qtr. 3 cl. Prereq: 731.

**833 Advanced Organic Chemistry III G 3**

An advanced course in the fundamental principles of chemistry covering a survey of heterocyclic compounds, carbohydrates, proteins, and enzymes.

Sp Qtr. 3 cl. Prereq: 832.

**835 Advanced Organic Chemistry Laboratory G 3,5**

An advanced course in fundamental reactions and procedures with emphasis on recent advances in technique.

Su Qtr. 9 lab hrs. Prereq: Permission of student's grad adviser. Safety glasses must be worn in lab.

**836 Advanced Organic Chemistry Laboratory G 3,5**

Continuation of 835.

Su Qtr. 9 lab hrs. Prereq: Permission of student's grad adviser. Safety glasses must be worn in lab.

**851 Advanced Inorganic Chemistry G 3**

A survey of modern theories of valence and their application to the problems of structural inorganic chemistry.

Wi, Sp Qtrs. 3 cl. Prereq: 532 and 652 or 752 or permission of instructor.

**861 Quantum Chemistry I G 3**

Basic quantum mechanics as a foundation for quantum chemistry; postulates, operators, eigenfunctions, eigenvalues, and Schroedinger wave equations; one-dimensional problems including the harmonic oscillator.

Au Qtr. 3 cl. Prereq: 532, Math 255 or 415 or equiv, and Physics 133.

**862 Quantum Chemistry II G 3**

Angular momentum; matrix elements and representations; the hydrogenic atom; perturbation and variation methods, electron spin, and the helium atom; atomic structure and multiplet theory.

Wi Qtr. 3 cl. Prereq: 861 or equiv.

**863 Quantum Chemistry III G 3**

Electronic structure of molecules; hydrogen molecule and ion, methane, ethylene, benzene, etc.; molecular orbital, valence bond, and self-consistent field methods.

Sp Qtr. 3 cl. Prereq: 862.

**866 Electronic Spectra and Structure of Molecules G 3**

Application of quantum mechanics to the description and interpretation of molecular spectroscopic data with an emphasis on electronic transitions of polyatomic molecules.

Sp Qtr. 3 cl. Prereq: 863 or equiv or permission of instructor.

**876 Chemical Dynamics G 3**

Advanced chemical kinetics.

Wi Qtr. 3 cl. Prereq: 775 and 861 or equiv.

**880 Statistical Thermodynamics G 3**

Statistical thermodynamics of chemical systems.

Sp Qtr. 3 1-hr cl. Prereq: 775 or equiv.

**885 Colloquium in Chemistry G 1**

A discussion of current research in chemistry; all divisions.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing in chem. Required every qtr of all registered grad students in chem. Repeatable. This course is graded S/U.

**941 Theoretical Organic Chemistry G 3**

An advanced course in a special topic in organic chemistry; topic to be announced.

Au Qtr. 3 cl. Prereq: 832 and 2nd yr grad standing, or permission of instructor.

**942 Theoretical Organic Chemistry G 3**

An advanced course in a special topic in organic chemistry; topic to be announced.

Wi Qtr. 3 cl. Prereq: 832 and 2nd yr grad standing, or permission of instructor.

**943 Theoretical Organic Chemistry G 3**

An advanced course in a special topic in organic chemistry; topic to be announced.

Sp Qtr. 3 cl.

Prereq: 2nd yr grad standing and 831-832, or permission of instructor.

**944 Computational Chemistry G 3**

A practical and theoretical introduction to computational chemistry.

Sp Qtr. 3 cl. Prereq: Permission of instructor.

**990 Seminar on Topics in Biochemistry G 3**

Advanced topics in the biological aspects of chemistry.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**991 Seminar in Analytical Chemistry G 3**

Topic to be announced.

Sp Qtr. 3 cl. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

**992 Seminar in Organic Chemistry G 3**

Topic to be announced.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 832 and chem 2nd yr grad standing; or equivs and permission of instructor. Repeatable to a maximum of 12 cr hrs.

**995 Seminar in Inorganic Chemistry G 3**

Topic to be announced.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 752 or equiv and permission of instructor. Repeatable to a maximum of 6 cr hrs.

**996 Seminar in Theoretical Chemistry G 3**

Advanced topics in theoretical chemistry including quantum mechanics of molecular wave functions, energies, rate processes, and quantum and statistical mechanics of condensed phases.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 863 or equiv. Repeatable to a maximum of 9 cr hrs.

**997 Seminar in Physical Chemistry G 3**

Seminar course of special topics in experimental physical chemistry.

Au, Wi, Sp Qtrs. 3 1-hr cl. Prereq: 861 or permission of instructor. Repeatable to a maximum of 9 cr hrs.

**999 Research in Chemistry G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Chinese

398 Hagerty Hall, 1775 College Road, 292-5816

**101 Level One Chinese I**

Mandarin Chinese spoken communication and writing system.

Not open to native speakers of this language or to students with credit for 101 through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

Au Qtr. 5 cl. Students register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**101.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for and complete 5 cr hrs during the first 3 weeks of the quarter. This course is available for EM credit.

**101.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement.

**102 Level One Chinese II**

Continuation of 101.

Prereq: 101 or 101.01 or 5 cr hrs of 101.51. Not open to native speakers of this language or to students with credit for 102 through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

Wi Qtr. 5 cl. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**102.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for the course at the beginning of the quarter and complete 5 cr hrs during the second 3 weeks of the quarter. This course is available for EM credit.

**102.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement.

**103 Level One Chinese II**

Continuation of 102.

Prereq: 102 or 102.01 or 5 cr hrs of 102.51. Not open to native speakers of this language or to students with credit for 103 through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**103.01 Classroom Track U 5**

Sp Qtr. 5 cl. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**103.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for the course at the beginning of the quarter and complete 5 cr hrs during the third 3 weeks of the quarter. This course is available for EM credit.

**103.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 104.01 or 104.51. Progress is sequential from one cr hr to the next with a demonstrated proficiency of 80% required for advancement to next level.

**104 Level Two Chinese I**

Mandarin Chinese intermediate level spoken communication, development of reading skills, and written composition.

Prereq: 103 or 103.01 or 5 cr hrs of 103.51. Not open to native speakers of this language or to students with credit for 104 through regular course enrollment or EM credit. GEC for lang courses.

**104.01 Classroom Track U 5**

Au Qtr. 5 cl. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**104.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 103 or 103.01 or 5 cr hrs of 103.51. Students register for and complete 1 to 5 cr hrs during the qtr. Repeatable to a maximum of 5 cr hrs. Progress is sequential from one cr hr to the next with a demonstrated proficiency of 80% required for advancement to the next level.

**205 Level Two Chinese II U 5**

Continuation of 104.

Wi Qtr. 5 cl. Prereq: 104 or written permission of instructor. This course is available for EM credit.

**206 Level Two Chinese III U 5**

Continuation of 205.

Sp Qtr. 5 cl. Prereq: 205 or written permission of instructor. This course is available for EM credit.

**210 Intensive Second Level Chinese I -- Oral U 5**

First course in the sequence of intensive intermediate Chinese language courses focusing on speaking and listening.

Au Qtr. 5 cl. Prereq: 103 or 103.01 or 5 cr hrs of 103.51, or permission of instructor. Not open to students with credit for 104, 111, or 205.

**211 Intensive Second Level Chinese I -- Written**

First course in the sequence of intensive intermediate Chinese language courses focusing on written Chinese.

**211.01 Classroom Track U 5**

Au Qtr. 5 cl. Prereq: 103 or 103.01 or 5 cr hrs of 103.51, or permission of instructor. Not open to students with credit for 104 or 205 or 211 or 5 cr hrs of 211.51.

**211.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 103 or 103.01 or 05 cr hrs of 103.51, or permission of instructor. Not open to students with credit for 104 or 205 or 211 or 211.01. Repeatable to a maximum of 5 cr hrs. Students must register for and complete 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 311.51. Progress is sequential from one cr hr to the next with a demonstrated proficiency of 80% required for advancement to the next level.

**231 Traditional Chinese Culture U 5**

Chinese institutions, philosophical trends, religion, art, and literature prior to the 20th century.

Au, Wi, Sp Qtrs. 5 cl. Taught in English. GEC arts and hums cultures and ideas course.

**232 Modern Chinese Culture U 5**

Modern Chinese culture as reflected in family life, language, literature, art, etc.

Au, Wi, Sp Qtrs. 5 cl. Taught in English. GEC arts and hums cultures and ideas course.

**251 Chinese Literature in Translation U 5**

Representative masterpieces from 3,000 years of Chinese literature, fiction, drama, prose, and poetry in English translation.

Au, Wi, Sp Qtrs. 5 cl. GEC arts and hums lit course.

**283 Chinese Calligraphy U 3**

Techniques of writing Chinese characters with a brush; practice in different styles from oracle bone to grass.

Au, Wi, Sp Qtrs. 3 cl. Knowledge of Chinese not required. VPA Admis Cond course.

**293 Individual Studies U 1-5**

Individual investigation of problems in Chinese culture, language, and literature.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**310 Intensive Second Level Chinese II -- Oral U 5**

Second course in the sequence of intensive intermediate Chinese language courses focusing on speaking and listening.

Wi Qtr. 5 cl. Prereq: 210, and 211 or 211.01 or 5 cr hrs of 211.51; or permission of instructor.

**311 Intensive Second Level Chinese II -- Written**

Second course in the sequence of intensive Chinese language courses focusing on written Chinese.

**311.01 Classroom Track U 5**

Wi Qtr. 5 cl. Prereq: 210, and 211 or 211.01 or 5 cr hrs of 211.51; or permission of instructor. Not open to students with credit for 311 or 5 cr hrs of 311.51.

**311.51 Individualized U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 211 or 211.01 or 5 cr hrs of 211.51, or permission of instructor. Not open to students with credit for 311 or 311.01. Repeatable to a maximum of 5 cr hrs. Students must register for and complete 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 511.51. Progress is sequential from one cr hr to the next with a demonstrated proficiency of 80% required for advancement to the next level.

**501 Chinese Poetry in Translation U G 5**

Major genres of Chinese poetry from 600 B.C. to the 13th century A.D.

Au, Wi, Sp Qtrs. 5 cl. Taught in English. GEC arts and hums lit course.

**502 Chinese Fiction in Translation U G 5**

Novels and short stories from the Ming and Qing dynasties.

Au, Wi, Sp Qtrs. 5 cl. Taught in English. GEC arts and hums lit course.

**503 Modern Chinese Literature in Translation U G 5**

Chinese literature from the 1900's to the present day.

Au, Wi, Sp Qtrs. 5 cl. Taught in English. GEC arts and hums lit course.

**504 Chinese Drama in Translation U G 5**

The development of Chinese drama from the Yuan dynasty to modern times.

Au, Wi, Sp Qtrs. 5 cl. Taught in English. GEC arts and hums and lit course.

**505 China in Chinese Film U G 5**

An overview of Chinese cinema, with a focus on how film represents issues of nationhood, national identity, and national trauma.

Prereq: English 110 or equiv. Taught in English, no Chinese required.

**507 Level Three Chinese I U 5**

Continued study of spoken communication, including broadcast media, reading Chinese publications, and development of written composition.

Au Qtr. 5 cl. Prereq: 206 or equiv with written permission of instructor.

**508 Level Three Chinese II U G 5**

Continuation of 507.

Wi Qtr. 5 cl. Prereq: 507 or permission of instructor.

**509 Level Three Chinese III U G 5**

Continuation of 508.

Sp Qtr. 5 cl. Prereq: 508 or permission of instructor.

**510 Intensive Third Level Chinese III -- Oral U G 5**

Third course in the sequence of intensive intermediate Chinese language courses focusing on speaking and listening.

Sp Qtr. 5 cl. Prereq: 310, and 311 or 311.01 or 5 cr hrs of 311.51; or permission of instructor.

**511 Intensive Third Level Chinese III -- Written**

Third course in the sequence of intensive intermediate Chinese language courses focusing on written Chinese.

**511.01 Classroom Track U G 5**

Sp Qtr. 5 cl. Prereq: 310, and 311 or 311.01 or 5 cr hrs of 311.51; or permission of instructor. Not open to students with credit for 511 or 5 cr hrs of 511.51.

**511.51 Individualized Track U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 310, and 311 or 311.01 or 5 cr hrs of 311.51; or permission of instructor. Not open to students with credit for 511 or 511.01. Repeatable to a maximum of 5 cr hrs. Students must register for and complete 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next with a demonstrated proficiency of 80% required for advancement to the next level.

**580 The Chinese Language: Description and Analysis U G 5**

Important elements of the Chinese language, its structure, dialects, writing system, as well as language use and planning; taught in English.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 103 or equiv or permission of instructor. GEC third writing course.

**600 Performance Traditions of China U G 5**

Introduction to the panorama of oral and orally-related performance traditions of China; explores local traditions of professional storytelling, epic singing, folksongs, and local drama.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 231 or 251 or 252, or EALL 131, or Japanese 231 or 251 or 252, or Korean 231 or 251; or permission of instructor.

**601 Classical Chinese I U G 5**

Selected readings from representative authors of classical times.

Au, Wi Qtrs. 5 cl. Prereq: 206 or equiv with written permission of instructor.

**602 Classical Chinese II U G 5**

Continuation of 601.

Wi, Sp Qtrs. 5 cl Prereq: 601 or equiv with written permission of instructor.

**603 Classical Chinese III U G 5**

Continuation of 602.

Sp Qtr. 5 cl. Prereq: 602 or equiv with written permission of instructor.

**610 Fourth-Level Chinese I**

Fourth-level Chinese; continuation of 510 and 511.

**610.01 Classroom Track U G 5**

Au Qtr. 3 1.5-hr cl. Prereq: 509, or 510 and 511 or 511.01 or 5 cr hrs of 511.51; or written permission of instructor. Not open to students with credit for 610 or 5 cr hrs of 610.51.

**610.51 Individualized Track U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 509, or 510 and 511 or 511.01 or 5 cr hrs of 511.51; or written permission of instructor. Not open to students with credit for 610 or 610.01. Repeatable to a maximum of 5 cr hrs.

**611 Fourth-Level Chinese II**

Fourth-level Chinese; continuation of 610.

**611.01 Classroom Track U G 5**

Wi Qtr. 5 cl. Prereq: 610 or 610.01 or 5 cr hrs of 610.51 or written permission of instructor. Not open to students with credit for 611 or 5 cr hrs of 611.51.

**611.51 Individualized Track U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 610 or 5 cr hrs of 610.51 or written permission of instructor. Not open to students with credit for 611 or 611.01. Repeatable to a maximum of 5 cr hrs.

**612 Fourth-Level Chinese III**

Fourth-level Chinese; continuation of 611.

**612.01 Classroom Track U G 5**

Wi Qtr. 5 cl. Prereq: 611 or 611.01 or 5 cr hrs of 611.51; or written permission of instructor. Not open to students with credit for 612 or 5 cr hrs of 612.51.

**612.51 Individualized Track U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 611 or 5 cr hrs of 611.51 or written permission of instructor. Not open to students with credit for 612 or 612.01. Repeatable to a maximum of 5 cr hrs.

**615 China's Perspectives on Chinese Civilization U G 5**

Mainstream Chinese perspectives on major issues in Chinese civilization and major ways of developing and presenting viewpoints and arguments in discourse of Chinese civilization.

Prereq: 612.01 or 612.51 or equiv. Repeatable to a maximum of 10 cr hrs. Taught in Chinese.

**651 History of Chinese Literature I U G 5**

Chinese literature from antiquity to the end of Six Dynasties; various aspects of the classical tradition and new developments in the Age of Disunity.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Written permission of instructor. Taught in English. Partial texts in Chinese optional. Open to nonmajors.

**652 History of Chinese Literature II U G 5**

Chinese literature from Sui to the present; literary trends and achievements of the Sui-T'ang period; rise of vernacular writings; modern literature under

western impact.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Written permission of instructor. Taught in English. Partial texts in Chinese optional. Open to nonmajors.

**653 Classical Chinese Literature in Modern China U G 5**

Examines adaptations and uses of classical Chinese literature (novel, plays, poems, prose) in the modern Chinese-speaking world in order to better understand Chinese culture.

2 2-hr cl.

**674 Chinese Opera U G 5**

An introduction to Chinese (Peking) opera as dramatic literature and performing art; study of selected plays and illustrated discussions of various aspects of the theatre.

Au, Wi, Sp Qtrs. 5 cl.

**678 Studies in Chinese-American Literature U G 5**

Critical study of modern Chinese-American literature in historical and cultural context; topics vary: gender issues, genre studies, women's writing.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. Including cr hrs earned in Comp Std 678 or English 681.03. Cross-listed in Comparative Studies and with English 681.03.

**680 Introduction to Chinese Linguistics U G 5**

Investigation of the phonology, morphology, syntax, lexicon, and writing system of the Chinese language.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 103 and Linguist 601, or permission of instructor.

**681 History of the Chinese Language U G 5**

An investigation of the relations between modern Chinese and its earlier stages, ancient and archaic Chinese.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 680 or permission of instructor.

**683 Study of the Chinese Writing System U G 5**

A critical study of the origin, classification, composition, and development of the Chinese writing system, including problems in simplification and alphabetization.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 103 or permission of instructor.

**690 Chinese Translation Workshop U G 3**

Investigations of problems and techniques of translating Chinese into English and English into Chinese; practice of translation of selected passages; individual assignments and group discussion.

Au, Wi, Sp Qtrs. 2 cl. Prereq: 509 and 603, or equivs with written permission of instructor.

**693 Individual Studies U G 1-5**

Directed study to meet individual research needs of students in area studies and East Asian programs.

Su, Au, Wi, Sp Qtrs. Prereq: 509 or 603, and written permission of instructor. Repeatable to a maximum of 15 cr hrs. Not a substitute for regular language courses. This course is graded S/U.

**694 Group Studies U G 1-5**

Investigation of minor problems in Chinese language and literature.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. Not a substitute for regular language courses.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**717 Analysis of Contemporary Chinese Media U G 5**

Understanding the divisions and configuration of contemporary Chinese media and becoming able to analyze a chosen topic of contemporary Chinese media.

Prereq: 612 or equiv. Repeatable to a maximum of 10 cr hrs. Taught in Chinese.

**750 Negotiating in Chinese Culture U G 5**

Fifth-year-and-up Chinese in spontaneous professional discourse. Parallel to Chinese 751, 752 and 753, emphasizing oral presentation instead of reading and writing.

Su, Au, Wi, Sp Qtrs. Prereq: 612, 612.51 or equiv.

**751 Selected Readings in Scholarly Chinese Texts I U G 3**

Academic writings in the humanities and social sciences by modern Chinese scholars in both the wen-yen and pai-hua styles.

Au Qtr. 3 cl. Prereq: 509 or permission of instructor.

**752 Selected Readings in Scholarly Chinese Texts II U G 3**

Continuation of 751.

Wi Qtr. 3 cl. Prereq: 751 or permission of instructor.

**753 Selected Readings in Scholarly Chinese Texts III U G 3**

Continuation of 752.

Sp Qtr. 3 cl. Prereq: 752 or permission of instructor.

**755 Language in China U G 5**

Language issues in China, including language variation, writing systems, minority languages, and Chinese language issues in the information age.

Prereq: 613 or equiv. Taught in Chinese.

**760 Interpersonal Relations and Professional Networking U G 5**

Exploration of assumptions and expectations motivating behaviors in different cultures when developing interpersonal relations and professional networks. 2 2-hr cl. Prereq: 612.01 or 612.51 or equiv. Repeatable to a maximum of 10 cr hrs. Conducted in Chinese and English with Chinese cohort.

**761\* Modern Chinese Poetry U G 3**

Lectures and readings covering major poets since 1919.

Au Qtr. 3 cl. Prereq: 652 or permission of instructor.

**762\* Modern Chinese Prose U G 3**

Studies of various types of prose literature from the 1900's to the present.

Sp Qtr. 3 cl. Prereq: 652 or permission of instructor.

**763\* Modern Chinese Fiction U G 5**

Readings in twentieth-century Chinese fiction.

Au Qtr. 2 2-hr cl. Prereq: 651 or 652 or permission of instructor.

**764\* Modern Chinese Drama U G 3**

Lectures on and readings in works by major 20th-century playwrights including Hung Shen and Ts'ao Yu.

Wi Qtr. 3 cl. Prereq: 652 or permission of instructor.

**770 Literary Language in Modern Chinese U G 5**

Employment of literary language in spoken discourse among Chinese professionals - unscripted spoken discussions on topics in related domains such as business, education, and government.

Prereq: 612.01 or 612.51 or equiv. Repeatable to a maximum of 20 cr hrs. Taught in Chinese.

**771 Studies of Domain Resources**

A study of the major categories of resources for the student's chosen domain (I).

Prereq: 612 or equiv.

**771.51 Studies of Domain Resources U G 1-5**

Repeatable to a maximum of 5 cr hrs.

**772 Research and Presentation in a Domain**

Study of major categories of resources for student's chosen domain (II). Research and present a research topic that addresses a general or characteristic issue in chosen domain.

Prereq: 771.51 or equiv.

**772.51 Research and Presentation in a Domain U G 1-5**

Repeatable to a maximum of 5 cr hrs.

**773 Developing a Project in a Domain**

A study of the major categories of resources for the student's chosen domain (III). Develop and propose a project in the student's chosen domain based on Chinese resources in the domain.

Prereq: 772.51 or equiv.

**773.51 Developing a Project in a Domain U G 1-5**

Repeatable to a maximum of 5 cr hrs.

**782\* Chinese Phonology U G 3**

Mandarin phonology and Chinese dialectology.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 681 or permission of instructor.

**H783 Honors Research U 3-5**

A program of reading arranged for each student, with individual conferences, reports, and honors thesis.

Au, Wi, Sp Qtrs. Prereq: 4th yr standing; a grade of A in at least half of Chinese courses taken and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Open only to Chinese majors. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**784\* Chinese Syntax U G 3**

An investigation of the syntactic structure of Mandarin Chinese.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 680 or 681 or permission of instructor.

**785 Modern Chinese Dialects U G 3**

Investigation of the phonology, morphology, lexicon, and syntax of the major modern Chinese dialects from a cross-dialectal, comparative approach.

Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 680 or permission of instructor.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs. With permission of dept.

**800 Chinese Bibliography and Research Methods G 5**

An introduction to bibliographies and reference works in the Chinese humanities; general and specific problems for research.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 509 and 603, or equivs with written permission of instructor.

**804 Advanced Classical Chinese I G 3**

Designed for further study of the syntax and vocabulary of classical Chinese; texts are selected from literature, history, and philosophy.

Au Qtr. 3 cl. Prereq: 603 or equiv with written permission of instructor.

**805 Advanced Classical Chinese II G 3**

Continuation of 804.

Wi Qtr. 3 cl. Prereq: 804.

**806 Advanced Classical Chinese III G 3**

Continuation of 805.

Sp Qtr. 3 cl. Prereq: 805.

**871\* Traditional Chinese Poetry G 5**

Lectures and readings from ancient odes and songs and the later shih and tz'u poetry.

Au Qtr. 2 2-hr cl. Prereq: 651 and 652, or permission of instructor.

**872\* Traditional Chinese Prose G 5**

Lectures on and readings in various types of non-fiction prose in ku-wen and yu-lu-t'i styles of early times.

Sp Qtr. 2 2-hr cl. Prereq: 651 and 652, or written permission of instructor.

**873\* Traditional Chinese Fiction G 5**

Lectures and readings in classical and vernacular fiction.

Au Qtr. 2 2-hr cl. Prereq: 651 and 652, or permission of instructor.

**874\* Traditional Chinese Drama G 5**

A lecture and reading course in Yuan, Ming, and Ch'ing drama.

Sp Qtr. 2 2-hr cl. Prereq: 651 and 652, or permission of instructor.

**875\* Chinese Literary Criticism G 5**

The historical development of critical theories, with concentration on major critics.

Sp Qtr. 2 2-hr cl. Prereq: 3 Chinese literature courses at the 700 level or above, or equiv with written permission of instructor.

**879 Seminar in Chinese Literature G 3-5**

An intensive reading course in Chinese literature with a selected topic for each offering and research projects for individual students; topic to be announced.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**882\* Studies in Chinese Historical Phonology G 5**

Critical study of the rhyming dictionaries, the reconstruction of the phonology of old Chinese and its relations to modern Chinese dialects.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 782 or permission of instructor.

**884\* Studies in Chinese Historical Syntax G 3**

Problems of Chinese historical syntax; grammatical structures of classical Chinese; syntactic rules found in selected texts from various ancient writings.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 784 or permission of instructor.

**889 Seminar in Chinese Linguistics G 3-5**

Topics include the history of Chinese linguistics and related areas, specific studies in Chinese dialects, etc.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor(s). Repeatable to a maximum of 15 cr hrs. With permission of dept.

**998 Research in Chinese: Thesis G 1-18**

Research for thesis purposes only.  
Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Chinese: Dissertation G 1-18**

Research for dissertation purposes only.  
Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Circulation Technology

School of Allied Medical Professions  
152 Atwell Hall, 453 West 10th Avenue, 292-7261

**210 Information Technology in Medicine U 5**

An overview of computer-assisted technology in medicine in the areas of teleradiology, telemedicine, remote diagnosis and automated pharmaceutical dispensing.

Au, Sp Qtrs. 2 2-hr cl, 1 3-hr lab. Prereq: Math 148 or equiv.

**400 The Practice of Circulation Technology U 5**

An introduction to the practice of Circulation Technology with an emphasis on the student's function within the medical-surgical team.

Au Qtr. 2 cl, 2 3-hr labs. Prereq: Enrollment in Circulation Technology or permission of instructor.

**415 Applied Circulation Technology-Physiological Principles U 5**

The presentation of cardiac, respiratory, and renal physiology and their relationship to extracorporeal devices and technology.

Wi Qtr. 5 cl. Prereq: 400 or permission of instructor.

**420 Circulation Technology Instrumentation U 5**

The application of mechanical and electronic principles to the instrumentation unique to circulation technology with emphasis on design and selection of equipment.

Wi Qtr. 3 cl, 2 2-hr labs. Prereq: 400 or permission of instructor.

**430 Clinical Management of the Cardiac Patient U 5**

The presentation of cardiac anatomy, pathophysiology, and diagnosis and treatment of cardiac disease including the use of extracorporeal devices.

Sp Qtr. 2 2-hr cl, 1 1-hr cl. Prereq: 400 or permission of instructor.

**450 Cardiopulmonary Monitoring and Assessment U 5**

Lectures and laboratories involving invasive and non-invasive techniques of cardiopulmonary assessment and data interpretation.

Sp Qtr. 2 2-hr cl, 1 3-hr lab. Prereq: 420 or permission of instructor.

**460 Applied Circulation Technology-Phase I U 5**

An introduction to cardiopulmonary bypass circuits, components, and ancillary devices associated with the practice of extracorporeal technology.

Wi Qtr. 2 2-hr cl, 2 1.5-hr labs. Prereq: 400 or permission of instructor.

**470 Applied Circulation Technology-Phase II U 6**

Principles and practices of cardiopulmonary bypass; focus on physiological aspects of perfusion; laboratory simulation of cardiopulmonary bypass.

Sp Qtr. 3 2-hr cl. Prereq: 460 or permission of instructor.

**500 Circulation Technology Clinical Preparation U 5**

Principles and practices of perfusion; focus on special procedures and adjunctive techniques.

Su Qtr. 5 8-hr cl for 2 weeks. Prereq: 470 or written permission of instructor.

**505 Circulation Technology Pre CPBP Clinical Rotation U 3**

Concurrent clinical experiences augmenting principles and practices of perfusion; focus on special procedures and adjunctive techniques.

Su Qtr. 5 8-hr cl, 2 2-week rotations. Prereq: 470 or written permission of instructor. This course is graded S/U.

**510 Applied Circulation Technology-Cardiovascular U 8**

The presentation of cardiovascular physiology, pathology, and treatment of cardiovascular disease by the use of extracorporeal devices.

Au Qtr. 2 3-hr cl, 1 2-hr cl. Prereq: 460 or permission of instructor.

**512 Applied Circulation Technology-In Vitro Lab U 4**

The study of various extracorporeal devices and techniques in a controlled in vitro laboratory environment.

Au Qtr. 1 6-hr lab, 1 2-hr conf. Prereq: 460 or permission of instructor.

**513 Applied Circulation Technology-In Vivo Lab U 5**

The study of various extracorporeal devices and techniques in a controlled in vivo laboratory environment.

Au Qtr. 1 9.5-hr lab, 1 1-hr conf. Prereq: 460 or permission of instructor.

**560 Surgical Support Systems: Phase I U 5**

Case studies relating circulation technology to the clinical use of extracorporeal

circulation devices and monitoring instrumentation in surgery.

Wi, Sp Qtrs. Arr. Prereq: 510 or permission of instructor.

**561 Surgical Support Systems-Clinical Experience: Phase I U 10**

Clinical experience in the preparation and operation of extracorporeal circulation devices and monitoring instrumentation in support of surgery.

Wi, Sp Qtrs. Arr. Min: 40 hrs/wk. Prereq: 510 or permission of instructor.

**570 Surgical Support Systems: Phase II U 5**

Case studies relating circulation technology to the clinical use of extracorporeal circulation devices and monitoring instrumentation in surgery.

Su, Sp Qtrs. Arr. Prereq: 560 and 561; or permission of instructor; concur: 571.

**571 Surgical Support Systems-Clinical Experience: Phase II U 10**

Clinical experience in the preparation and operation of extracorporeal circulation devices and monitoring instrumentation in support of surgery.

Su, Sp Qtrs. Arr. Min: 40 hrs/wk. Prereq: 560 and 561, or permission of instructor.

**593 Individual Studies in Circulation Technology U 1-5**

Clinical, laboratory, or research experiences by individual arrangement for qualified students.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**595 Seminar in Circulation Technology U 1-5**

Conferences, group discussions, and presentations of selected topics.

Su, Au, Wi, Sp Qtrs. 1 cl. Prereq: Written permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

## City and Regional Planning

100 Knowlton Hall, 275 West Woodruff Avenue, 292-1012

**310 Introduction to City and Regional Planning U 4**

Introduction to fundamental concepts, including physical planning, transportation, housing, land use, urban development, and preservation.

Au, Wi, Sp Qtrs. 4 cl.

**320 Planning for Housing U 4**

An introduction to the American housing system, evolution of housing programs, and selected topics in planning for housing in urban and regional contexts.  
4 cl.

**330 Planning and Urban Design U 4**

Introduction to the use of concepts related to urban design and to the planning process.

4 cl.

**597 City Planning in the Contemporary World U 5**

Urban shelter and service delivery in developed/developing and capitalist/socialist regions of the world; role of income, jobs, and planning in housing.

Sp Qtr. 2 2-hr cl. Prereq: Sr standing. Not open to students with credit for 425. GEC/LAR course.

**607 Fundamentals of Geographic Information Systems U G 5**

Basic principles of geographic and land information systems and their use in spatial analysis and information management.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: Sr standing. Not open to students with credit for Geog 685; or 607 in Civil En, Geod Sci, Geog, Geol Sci, or Nat Res. Cross-listed in Civil Engineering, Geodetic Science, Geography, Geological Sciences, and Natural Resources.

**608 Geographic Information Systems in Professional Planning Practice U G 4**

Provides students with in-depth and hands-on training in GIS applications for city and regional planning.

Sp Qtr. 2 2-hr cl. Prereq: 607 or equiv with permission of instructor.

**628 Planning in Columbus U G 4**

An overview of current planning and policy initiatives in the Columbus region; the role of practitioners in developing and implementing those initiatives.

Wi Qtr. 1 2-hr cl

**643 American City Planning since 1900 A.D. U G 4**

Introduction to current American city planning processes and urban form through historic evolution of urban problems and related urban planning systems since 1900.

Au Qtr. 2cl, 1 lab hr. Not open to students with credit for 300 or 743 or 811.

**694 Group Studies U G 1-5**

Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 10 cr hrs.



**697 Study at a Foreign Institution U 1-15**

An opportunity for Ohio State students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**702\* Urban Planning Graphics U G 2**

Rudiments of graphic techniques employed most frequently in practice; basic drafting, printing processes, report preparation, and related subjects.

Wi Qtr. 1 cl, 2 lab hrs. Prereq: Grad standing in C&R Plan or permission of instructor.

**710\* Introduction to Urban and Regional Planning for Open Space, Recreation, and Conservation U G 3**

Review of leisure and recreational activities with associated design criteria, definition of the need for open space, and exploration of workable programs for its preservation and development.

Sp Qtr. 2 cl.

**712 Theory of City and Regional Planning U G 4**

Planning processes; the general plan; formulating goals; land development policies and decisions; alternative urban and regional forms; role and scope of planning.

Au Qtr. 4 cl. Not open to students with credit for 812.

**715 Integration of Science and Mathematics Learning Using Real Data Sets U G 3**

Project-based learning that integrates science concepts, technology skills, and web-based resources to build mathematical models.

Su Qtr. 3.5-hr cl. Not open to students with credit for Edu T&L 715. Cross-listed in Education: Teaching and Learning.

**720 Introduction to Analysis of Energy Factors in City and Regional Planning U G 3**

Covers the resource, technological, environmental, economic, and institutional dimensions related to coal, natural gas, electricity, solar, geothermics, environmental impacts, and energy conservation in cities.

Wi Qtr. 2 cl.

**721 Seminar on Mathematical Models of Energy Management and Planning U G 3**

Mathematical models in coal, electricity, energy storage and curtailment, solar energy, energy/environment interactions, and comprehensive urban and regional energy planning.

Au Qtr. 2 cl. Prereq: 770.

**722 Introduction to Analysis and Use of Environmental Factors in City and Regional Planning U G 4**

Introduction to application and utilization of environmental considerations in the formulation of land use policy and development plans.

Wi Qtr. 2 cl. Prereq: 745 or permission of instructor.

**724 Introduction to Planning for Sustainable Development U G 5**

Introduction to sustainable development and planning focuses on the relationship between land use and sustainability.

Wi, Sp Qtrs.

**731 Outlines of Urban Design U G 3**

Urban design as an area of specialization in urban planning; theories and processes in urban design; evaluation of criteria.

Sp Qtr. 3 cl.

**732 Urban Planning and Urban Form: Psychological Functions U G 3**

Urban planning for the organization and character of the physical environment as significant variables in psychological processes basic to effective individual functioning; emphasis on implications for urban design.

Wi Qtr. 3 cl.

**733 Urban Planning and Urban Form: Social Functions U G 4**

Urban planning for the organization and character of the physical environment as significant variables in social processes basic to effective individual functioning; emphasis on implications for urban design.

Wi Qtr. 2 2-hr cl.

**734 Research and Analytic Methods for Urban Designers U G 3**

Use of research and analytic methods in assisting the urban designer in problem formulation, search, prediction, evaluation, and choice.

Sp Qtr. 2 cl.

**735\* Programming Environments for Human Use U G 3**

Introduction to user oriented environment programming for planners and designers; application of several methods for specifying the characteristics required of an environmental setting to support user behavior.

Sp Qtr.

**741 Urban Sector and Project Planning in Developing Countries G 5**

Issues in urban sector planning with a focus on housing and service delivery, including financial intermediation, municipal finance and cost recovery, local administration, and urban land.

Wi Qtr. 2 2-hr cl. Prereq: 740 or equiv.

**745 Physical Element of Urban Development U G 5**

Physical components of urban areas; residential, commercial, industrial, pedestrian, and vehicular circulation; other community facilities; analysis of design criteria and standards.

Au Qtr. 3 cl, 3 lab hrs. Not open to students with credit for 845.

**746\* Managing the Urban Spatial Environment: Regulatory Techniques U G 3**

Physical planning, environmental and urban design policy design and implementation in central city and suburban settings; emphasis on innovative regulatory approaches.

Wi Qtr. 2 cl.

**749 Studio in Planning for Developing Countries G 5**

A studio with group projects on planning issues in developing countries.

Sp Qtr. 4 cl. Prereq: 741.

**750 Resolving Social Conflict G 4**

A multidisciplinary examination of social conflict, its dynamics, and its negotiated and consensual resolution; offers a broad-based framework for diagnosing and managing conflict; applied to legal, environmental, organizational, and geopolitical conflicts.

Au Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor. Cross-listed in Business Administration: Interdisciplinary and Natural Resources.

**752 Urban Planning for Housing U G 3**

Introduction to urban planning issues related to housing with regard to urban structure, markets, reform, suburbanization, new towns, urban renewal, and rehabilitation.

Au Qtr. 3 cl.

**753 Outlines of Regional Planning U G 3**

State, national, and regional planning; components of regional development; regional analysis and design.

Au Qtr. 3 cl. Not open to students with credit for 813.

**755 State Planning of Regional Growth and Development U G 3**

Rationale for state intervention in regional economics, growth centers and neoclassical models, development planning in foreign countries; comparison and evaluation of models and evidence.

Wi Qtr. 3 cl. Prereq: 753 or equiv with written permission of instructor. Not open to students with credit for 820.

**761 Land-Use Controls U G 4**

Legal basis of land-use controls in the United States, provisions, procedures and issues in zoning, subdivision regulation, urban renewal, building and housing codes, and acquisition of real property for public use.

Wi Qtr. 3 cl. Not open to students with credit for 861.

**762 Urban Planning Data and Forecasting U G 5**

Sources of information, data handling, forecasting, and basic studies in urban planning.

Sp Qtr. 3 cl, 6 lab hrs. Prereq: 770 or permission of instructor. Not open to students with credit for 832.

**763 Consequence Analysis in Urban Planning U G 4**

Urban planning studies using cost-benefit, cost-effectiveness, systems analysis, and PPBS approaches.

Au Qtr. 2 cl, 2 lab hrs. Prereq: 770 or permission of instructor.

**764 City Planning Administration U G 4**

Administration of official urban planning agencies; zoning administration; subdivision review practices; capital improvement programming; budget and work program preparation.

Au Qtr. 4 cl. Not open to students with credit for 862.

**765\* Social Policy Law U G 4**

Studies of law and social policy; topics vary.

Sp Qtr. 4 cl. Not open to students with credit for 865.

**766 Environmental Planning Law U G 4**

The interaction between law and environmental planning and protection.

Au Qtr. 4 cl. Prereq: 761 or equiv with written permission of instructor. Not open to students with credit for 866.

**770 Introduction to Quantitative Methods in Urban Planning U G 4**

Introduction of mathematical models in urban planning; descriptive statistics, probability, decision theory, and use of digital computer.

Au Qtr. 4 cl. Prereq: Permission of instructor.

**771 Applications of Quantitative Methods in Urban Planning U G 4**

Applications of statistical analysis in urban planning; hypothesis testing and parameter examination methods; computer analysis of urban planning data.

Wi Qtr. 4 cl. Prereq: 770.

**774 Transportation in City and Regional Planning U G 4**

Concepts and issues in urban transportation planning.

Wi Qtr. 1 3-hr cl.

**775 Urban Transportation Planning U G 4**

Discussion and examples of urban transportation planning processes, emphasizing quick-response models of locational and travel behavior, development and evaluation of alternatives, policies, and citizen reaction and participation.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: Civil En 670 or equiv with written permission of instructor or grad standing in C&R Plan. Not open to students with credit for Civil En 775. Cross-listed in Civil Engineering.

**776 Topics in Urban Transportation and Planning U G 3**

Survey of major topics in urban transportation planning, emphasizing policy concerns and analytical tools necessary to address these concerns.

Wi Qtr. 1 2-hr cl. Prereq: 770 or equiv; 781 or equiv; or permission of instructor.

**777\* Transportation Regulation U G 3**

Current U.S. transport regulation and tools needed to evaluate its desirability.

Sp Qtr. 1 2-hr cl. Prereq: 770 or equiv; 781 or equiv; or permission of instructor.

**780 Workshop in Urban and Regional Planning Techniques U G 3-5**

Techniques in the urban and regional planning process: spatial distribution and management of population and economic growth in the city and the region, stressing the applied aspects of the techniques as used in the profession.

Sp Qtr. Prereq: 770 or permission of instructor.

**781 Spatial Models in Urban Planning U G 4**

Urban planning applications of theories of spatial equilibrium and rent theory; impacts on spatial distribution of zoning, property taxation, and infrastructural investment.

Sp Qtr. 4 cl. Not open to students with credit for 880.

**793 Individual Studies in Urban Planning U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**794 Group Studies in Urban Planning U G 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs.

**815 Case Studies in Urban Planning for Housing G 4**

Review of empirical studies in urban planning for housing including aspects of density, spatial production, housing services, and price formation.

Wi Qtr. 2 cl, 2 lab hrs. Prereq: 752 or permission of instructor.

**816 Seminar in Urban Planning for Housing G 3**

Presentation and discussion of research related to urban planning for housing, including theoretical studies, modeling, simulation, and statistical testing.

Sp Qtr. 3 cl. Prereq: 752 or permission of instructor.

**821 Regional Planning Studio G 5**

Application of economic and environmental analysis to regional development projects.

Sp Qtr. 2 cl, 3 lab hrs. Prereq: 723. Repeatable to a maximum of 10 cr hrs.

**834 Decision Analysis in Urban Planning G 3**

Application of decision theory and analysis to case studies in urban planning.

Sp Qtr. 3 cl. Prereq: 770.

**835\*\* Land Use, Environmental Quality, and Regional Analysis G 4**

Introduction of land use and environmental models as tools in the planning process and as techniques for improving the quality of physical development plans.

Sp Qtr. Prereq: 770 or equiv or permission of instructor.

**851 Urban Precinct Planning G 5**

Preparation of detailed physical development plans for a small section of a city.

Au Qtr. 3 cl, 6 lab hrs. Prereq: 745 or 762 or permission of instructor.

**852 Urban Project and Policy Planning G 5**

Identification of options among planning policies and projects; development of analyses to aid in making choices between options in urban development.

Wi, Sp Qtrs. 2 cl, 9 lab hrs. Prereq: 745 or 762.

**853 The Urban General Plan G 5**

Current practice in preparation of the urban general plan; laboratory exercise in the preparation of a general plan for an urban community.

Wi Qtr. 3 cl, 6 lab hrs. Prereq: 745, 762, and 781; or permission of instructor.

**864 Urban Planning Theory Seminar**

Review of contemporary urban planning programs; analyses of objectives and strategies.

**864.01 History of Planning Thought G 5**

Examination of how planning thought evolved in relation to different stages of our civilization.

Au Qtr. 2 2-hr cl. Prereq: Permission of instructor.

**867\*\* Land Use Policy G 4**

Law and administration in land use planning programs.

Sp Qtr. Prereq: 761 or permission of instructor.

**870 Research on Quantitative Methods in Urban Planning**

Workshop application of quantitative planning methods to an urban or regional planning problem.

Au, Wi, Sp Qtrs. 1 cl, 3 lab hrs. Prereq: 770 or permission of instructor. Not open to students with cr for 870.

**870.01\* Static Optimization in Planning G 5**

The use of mathematical programming techniques to solve planning problems.

Au Qtr. 2 2-hr cl, arr. Prereq: Permission of instructor and Math 568 or equiv.

**870.02\* Dynamic Optimization in Planning G 5**

Provides advanced graduate students with a sound foundation on a set of quantitative planning techniques in a dynamic context.

Wi Qtr. 2 2-hr cl. Prereq: 870.01 and Math 255 or equiv.

**870.03\* Forecasting and Simulation in Planning G 5**

Overview of advanced methods in forecasting and simulation and application to urban and regional planning.

Sp Qtr. 2 2-hr cl. Prereq: 762 and 771, or permission of instructor.

**871 Research Seminar in Environmental Planning**

Au, Wi, Sp Qtrs. 1 2-hr cl, arr. Prereq: Permission of instructor.

**871.01 Environmental Planning G 5**

Processes and concepts for the design planning and management of the natural and built environment.

Not open to students with credit for 871. Repeatable to a maximum of 15 cr hrs.

**871.02 Development Planning G 5**

Research problems associated with urban and regional development including economic development, planning in developing countries, and related issues; topics vary.

Not open to students with credit for 872. Repeatable to a maximum of 15 cr hrs.

**871.03 Regional Science G 5**

Development of theoretical and methodological issues in regional science as they pertain to urban and regional planning.

Not open to students with credit for 873. Repeatable to a maximum of 15 cr hrs.

**871.04 Planning Processes G 5**

Institutional factors which affect the field of planning; topics vary.

Not open to students with credit for 874. Repeatable to a maximum of 15 cr hrs.

**871.05 Mathematical Planning G 5**

Developmental topics in mathematical planning, and its applications to selected planning problems.

Not open to students with credit for 875. Repeatable to a maximum of 15 cr hrs.

**871.06 Energy Planning G 5**

Developmental topics in energy planning and its application to selected energy problems.

Not open to students with credit for 876. Repeatable to a maximum of 15 cr hrs.

**871.07 Transportation Planning G 5**

Survey of current literature, structured around a general theme which varies.

Not open to students with credit for 877. Repeatable to a maximum of 15 cr hrs.

**871.08 Public Services Planning G 5**

In-depth review of selected recent literature in the field; focus varies. Not open to students with credit for 878. Repeatable to a maximum of 15 cr hrs.

**871.09 Environment-Behavior/Urban Design G 5**

Research on empirical aesthetics; seminal works, theories, and empirical findings. Su, Au, Wi, Sp Qtrs. 4-hr cl. Not open to students with credit for 301 and 302. Repeatable to a maximum of 15 cr hrs.

**879 Seminar in Planning Research G 1-5**

Topics to be announced each quarter. Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**881\* Foundations of Spatial Modelling in Planning G 5**

Analysis of behavioral foundations of spatial models. Sp Qtr. 2 2-hr cl arr. Prereq: 781 recommended.

**893 Individual Studies G 1-5**

Individual studies for Ph.D. students in city and regional planning. Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**990 Urban Planning Practicum G 1-5**

Supervised field experience in urban planning; analysis and critique of field experience. Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in c&r plan. Repeatable to a maximum of 5 cr hrs.

**998 Research in City and Regional Planning Master's Thesis G 1-18**

Research for thesis purposes only. Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**999 Research in City and Regional Planning PhD Dissertation G 1-18**

Research for dissertation purposes only. Su, Au, Wi, Sp Qtrs. Prereq: PhD standing. Repeatable. This course is graded S/U.

## Civil Engineering

470 Hitchcock Hall, 2070 Neil Avenue, 292-2771

**400 Introduction to Geomatics**

An introduction to geomatics, with an emphasis on basic data collection using ground-based measurement and basic engineering mapping techniques. Au, Sp Qtrs. Prereq or concur: 405, minimum CPHR of 2.0, civil en major; or written permission of dept. Not open to students with credit for 402, Survey 203. Needs both Civil En 400.01 and 400.03 to complete.

**400.01 Introduction to Surveying U 2**

An introduction to geomatics, with an emphasis on basic data collection using ground-based measurement techniques. 3 cl, 1 3-hr lab for 5 weeks. Cross-listed with Geod Sci 400.01. Course runs first half of quarter, for 5 weeks.

**400.03 Spatial Data Techniques for Civil Engineering U 2**

An introduction to geomatics, with an emphasis on spatial data collection and mapping techniques for civil engineers. 3 cl, 1 3-hr lab for 5 weeks. Course runs second half of the quarter, for 5 weeks.

**405 Observational Analysis U 5**

Theory and application of observational analysis. Au, Sp Qtrs. 5 cl. Prereq: A minimum CPHR of 2.00; acceptance into civil en major or written permission of dept chairperson. GEC course.

**406 Fundamentals of Civil Engineering Analysis U 5**

Application of numerical methods to problems in civil engineering. Wi Qtr. 5 cl. Prereq: 405; minimum CPHR of 2.00; civil en major or written permission of dept chairperson. GEC course.

**410 Environmental Pollution and Control U 3**

Environmental pollution: the causes and control of air, water, and land pollution in relation to their effects on health, aesthetics, economics, and ecology. Au Qtr. 3 cl. Prereq: Chem 101 or equiv with written permission of instructor. Not open to engineering majors or students with credit for 714.

**413 Fluid Mechanics U 4**

Fluid properties; fluid statics; flow concepts; continuity, energy, and momentum equations; dimensional analysis and dynamic similarity; viscous effects; drag; basic pipe flow; lab demonstrations and experiments. Au Qtr. 3 cl, 1 2-hr lab. Prereq: Env Eng or Civil En or FA&B Eng major; minimum

CPHR of 2.0; or written permission of dept chairperson. Not open to students with credit for Env Eng 413. Cross-listed in Environmental Engineering.

**431 Structural Engineering Principles U 3**

Structural forms, analysis of statically determinate structures, approximate analysis of indeterminate structures, and moving loads. Au, Wi Qtrs. 3 cl. Prereq: Eng Mech 440 or Mech Eng 420 or 440; prereq or concur: Civil En 405; minimum CPHR of 2.00, and standing as a civil en major or written permission of dept chairperson.

**451 Civil Engineering Materials U 4**

Composition and structure of civil engineering materials; elastic, plastic, and viscous behavior under various environmental and loading conditions. Au Qtr. 3 cl, 1 3-hr lab. Prereq or concur: 405, Eng Mech 420 or 440; minimum CPHR of 2.00, and standing as a civil en major or written permission of dept chairperson.

**460 Professional Aspects of Civil and Environmental Engineering U 1**

Topics in civil and environmental engineering ethics and practice. Wi, Sp Qtrs. 1 2-hr lab. Prereq: Civil en or Env Eng major; must be taken as soon as possible upon entering the major. Not open to students with credit for Env Eng 460. GEC course. Cross-listed in Environmental Engineering. This course is graded S/U.

**489 Professional Practice U 2**

Actual employment in a co-op program job and the preparation of a comprehensive report based on a pre-arranged outline and a pre-assigned topic. Su, Au, Wi, Sp Qtrs. Prereq: Admission to co-op program in civil en. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**510 Principles of Hydraulics U G 3**

Fluid properties; hydrostatics; flow concepts; continuity, energy, and momentum equations and applications; flow measurements, pipe and channel flow. Sp Qtr. 3 cl. Prereq: Math 151 and Physics 111 or 131. Not open to students with credit for 413. Majority of course will be conducted using self-paced programmed instruction manual.

**516 Water Resources Engineering U G 4**

Pipe systems, introduction to open channel flow, basic hydrology, demographic studies, water supply, and wastewater flows. Wi Qtr. 4 cl. Prereq: 413 and En Graph 200 or En Graph 167 and civil en or env eng major. Not open to students with credit for Env Eng 516. Cross-listed in Environmental Engineering.

**520 Design of Treatment Facilities U G 4**

Selection and design of processes for the purification of natural and used waters. Sp Qtr. 4 cl. Prereq: Chem 122 or 125. Not open to students with credit for Env Eng 520. Cross-listed in Environmental Engineering.

**531 Structural Analysis U G 4**

Deflections in trusses, beams, and frames; solution of indeterminate structures by methods of consistent deformations, and moment distribution. Au Qtr. 4 cl. Prereq: 431.

**532 Structural Steel Design U G 4**

Design of steel beams, columns, tensile members, beams-columns, connections, and plate-girders. Au Qtr. 4 cl. Prereq: 431.

**534 Behavior of Structural Elements U G 4**

Mechanics of beams, shear center, unsymmetrical bending, columns, plastic bending, limit loads, properties of structural metals, and proportioning beams for flexure. Sp Qtr. 4 cl. Prereq: 431.

**535 Basic Reinforced Concrete Design U G 5**

Analysis and proportioning of reinforced concrete members. Wi, Sp Qtrs. 5 cl. Prereq: 431.

**540 Civil and Environmental Engineering Systems U G 4**

Basic concepts and methods of systems engineering and applications to civil engineering problems in transportation and water resources planning, structural design, and construction management. Au Qtr. 4 cl. Prereq: 405. Not open to students with Env Eng 540. Cross-listed in Environmental Engineering.

**552^ Construction Materials U G 4**

Composition, properties, and production of portland cement concrete, bituminous materials, and bituminous mixtures. Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 451.

**554 Geotechnical Engineering U G 4**

Properties of natural soil deposits and subsoil exploration; engineering solutions to problems of slope stability, foundation settlement, and earth pressure.

Sp Qtr. 4 cl. Prereq: Eng Mech 440 or Mech Eng 420 or 440; prereq or concur: Civil En 405; or standing as agricultural engineering major, or written permission of dept chairperson.

**570 Transportation Engineering and Analysis U G 4**

Introduction to topics in transportation engineering and analysis; geometric design, traffic flow, freeway capacity, traffic signals, demand-performance equilibrium, pricing, and design under uncertainty.

Wi Qtr. 4 cl. Prereq: Eng Mech 430 or Mech Eng 430; prereq or concur: Civil En 405, minimum CPHR of 2.00, and standing as civil en major, or written permission of dept chairperson.

**576 Civil and Environmental Engineering Economics and Planning U G 4**

Engineering economics and theories of planning applied to private and public civil works.

Wi Qtr. 4 cl. Prereq or coreq: 406. Not open to students with credit for Env Eng 576. Cross-listed in Environmental Engineering.

**590 Special Topics in Civil Engineering**

Studies in analysis, design, test, fabrication, and construction.

Au, Wi, Sp Qtrs. Arr. Prereq: Jr standing in engineering or written permission of instructor.

**590.01 Steel Bridge Building Development U 2**

Repeatable to a maximum of 8 cr hrs.

**590.02 Timber Bridge Building Development U 2**

Repeatable to a maximum of 8 cr hrs.

**590.03 Concrete Canoe Development U 2**

Studies in analysis, design, test, and construction.

Repeatable to a maximum of 8 cr hrs.

**603 Remote Sensing of Environment U G 4**

The energies of the natural and cultural environment; current remote sensing systems and case histories of applications in measuring the environment.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 405 or Survey 450 or equiv with written permission of instructor. Not open to students with credit for Geod Sci 603. Cross-listed in Geodetic Science.

**604 Terrain Analysis U G 4**

Principles and applications of photo pattern analysis, geologic and geomorphologic patterns, terrain studies, and land use suitability and capability mapping.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 405 or Survey 450 or equiv with written permission of instructor. Not open to students with credit for Geod Sci 604. Cross-listed in Geodetic Science.

**606 Quantitative Remote Sensing U G 4**

An introduction to computer processing of digital image data from Landsat satellites; emphasis on concepts, techniques, and statistics important to numerical analysis.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: 405 or equiv, 603 or 604 or 605, and En Graph 200 or 167 or equiv.

**607 Fundamentals of Geographic Information Systems U G 5**

Basic principles of geographic and land information systems and their use in spatial analysis and information management.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: Sr standing. Not open to students with credit for Geog 685; or 607 in C&R Plan, Geod Sci, Geog, Geol Sci, or Nat Res. Cross-listed in City and Regional Planning, Geodetic Science, Geography, Geological Sciences, and Natural Resources.

**608\* Spatial Analysis Techniques in Civil Engineering U G 4**

Principles of spatial analysis techniques for application to civil engineering, particularly in the water resources and geotechnical areas.

Sp Qtr. 3 cl, 1 lab. Prereq: 405; 607; or equiv with written permission of instructor. Even years.

**613 Applied Hydrology U G 4**

Hydrologic cycle, meteorology, streamflow, evapotranspiration, hydrographs, runoff relations, runoff hydrographs, groundwater, unit hydrographs, flood routing, frequency and duration studies, and application of hydrologic techniques.

Au Qtr. 4 cl. Prereq: 510 or 516 or Env Eng 516. Not open to students with credit for Env Eng 613. Cross-listed in Environmental Engineering.

**624 Coastal and Ocean Engineering U G 4**

Linear and nonlinear waves, water level and wave forecasting spectra, forces on fixed structures; beach processes, littoral drift, and transport; shoreline protection.

Wi Qtr. 4 cl. Prereq: 516 or Env Eng 516. Not open to students with credit for Env Eng 624. Cross-listed in Environmental Engineering.

**640 Civil and Environmental Systems Engineering U G 4**

Critical path method; linear, integer, and nonlinear programming simulation; mathematical modeling and optimization with design applications in civil and

environmental engineering; research paper.

Au Qtr. 4 cl. Prereq: Permission of instructor. Not open to students with credit for 540 or Env Eng 540 or 640. Cross-listed in Environmental Engineering.

**651 Soil Mechanics U G 4**

Stress-strain properties and shear strength of soils; settlement and stability analyses.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 554.

**653 Principles of Rock Mechanics U G 4**

Engineering properties of rock and their measurement; in-situ stresses; analysis of rock slopes, tunnels, underground openings, and foundations.

Sp Qtr. 3 cl, 1 1-hr lab, 1 1-day field trip. Prereq: 554. Not open to students with credit for Mng Engr 653.

**660 Civil Engineering Capstone Design U 4**

Culminating course for the design component of the curriculum for students in Civil Engineering.

Au, Wi, Sp Qtrs. 4 cl. Prereq: Sr standing. Must be taken as close to graduation as possible. This course is graded S/U.

**662 Introduction to Mechanics of Composite Structures U G 4**

An introduction to the macromechanical analysis of anisotropic composite structures including governing constituent equations, strength and stiffness advantages, and failure envelopes.

Au Qtr. 4 cl. Prereq: Eng Mech 440 or Mech Eng 420 or 440 or equiv, or permission of instructor. Not open to students with credit for Eng Mech 662 or Mech Eng 662. Cross-listed with Mechanical Engineering.

**670 Urban Public Transportation U G 4**

Planning, analysis, and operation of urban public transportation systems; description and analysis of novel systems.

Wi Qtr. 4 cl. Prereq: 570 or equiv with written permission of instructor.

**672 Traffic Engineering Studies U G 3**

Methods of collecting and analyzing traffic flow data, parking, driver and pedestrian behavior; reduction and evaluation of traffic data for applications in traffic engineering.

Au Qtr. 2 cl, 1 2-hr lab. Prereq: 570 or equiv with written permission of instructor.

**673 Highway Location and Design U G 4**

Methods of highway route location; design standards for highways, intersections, freeways, and interchanges; discussion of computer programs for highway design.

Wi Qtr. 4 cl. Prereq: 570 or equiv with written permission of instructor.

**674\* Airport Design and Operation U G 4**

Airport configuration, design, and capacity; development of the terminal area; operational aspect of air traffic and the terminal area; design and operation of heliports.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 570 or equiv with written permission of instructor.

**675 Instrumentation, Signals, and Control in Transportation Applications U G 3**

An interdisciplinary course bringing together electrical engineering tools and transportation applications. Students gain valuable experience working in teams while learning traffic flow, surveillance and control.

Au Qtr. 2 1.5-hr cl. Prereq: Elec Eng 301 and Math 415; or Civil En 570; or grad standing in elec eng or civil en; or permission of instructor. Not open to students with credit for 694J or Elec Eng 694J. Cross-listed in Electrical Engineering.

**681\* Construction Methods, Equipment and Performance U G 4**

Procedures for selection, operation, quality control, and production estimating of construction equipment and construction methods for roads, bridges, hi-rise buildings, and other structures using software tools.

Au Qtr. 2 2-hr cl. Prereq: 431.

**682 Introduction to Construction: Buildings and Bridges U G 4**

Construction operations of various foundations, concrete and steel high-rises, and long-span bridges.

Au Qtr. 2 2-hr cl, 1 3-hr lab and field trips. Prereq: 431 or permission of instructor.

**683 Construction Safety: Avoiding Failures and Accidents U G 4**

Spectacular collapses of buildings and bridges around the world; injuries and fatalities in construction sites; maintaining safety in construction operations.

Wi Qtr. 2 2-hr cl. Prereq: 431 or permission of instructor.

**684 Construction Network Analysis U G 4**

Planning, scheduling, and supervision of engineering construction projects; use of Critical Path Method, bar charts, and other techniques.

Wi Qtr. 2 cl, 2 2-hr lab. Prereq: 540.

**685 Deterministic Construction Estimating and Pricing U G 4**

Generally accepted models and methods of estimating and pricing; identification of causes of underestimating and underpricing.

Au Qtr. 2 2-hr cl. Prereq: 576.

**686 Construction Contracts and Claims U G 4**

Contract documents and specifications; formulation of contracts; offer, acceptance, breach, and damages; responsibilities and liabilities; claims; labor agreements.

Sp Qtr. 2 2-hr cl. Prereq or concur: 576 or equiv with written permission of instructor.

**687<sup>A</sup> Construction Project Administration U G 4**

Duties of professional construction managers in project administration; CM practices and methods; practical forms for project and office use.

Sp Qtr. 2 2-hr cl. Prereq: 576.

**688 Construction Forensics U G 4**

Investigating construction failures and accidents, participating in Mock trials, and presenting testimony as an expert witness.

Sp Qtr. 2 2-hr cl. Prereq: 431 or permission of instructor.

**693 Individual Studies U G 1-5**

Individual conferences, assigned readings, and reports on minor investigations.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Limitations on number of cr hrs applicable toward degrees are governed by departmental rules. This course is graded S/U.

**694 Group Studies in Civil Engineering**

The student must register for particular decimals from fields of civil engineering listed; the topics, cr hrs, and instructors will be announced in quarter previous to the quarter offered.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs, not more than 10 of which shall be in any one of the decimals.

**694.01 Structural Engineering U G 1-5**

Repeatable to a maximum of 15 cr hrs.

**694.02 Geotechnical Engineering U G 1-5**

Repeatable to a maximum of 15 cr hrs.

**694.04 Highway and Transportation Engineering U G 1-5**

Repeatable to a maximum of 15 cr hrs.

**694.05 Remote Sensing and Environmental Surveys U G 1-5**

Repeatable to a maximum of 15 cr hrs.

**694.06 Construction U G 1-5**

Repeatable to a maximum of 15 cr hrs.

**694.07 Materials U G 1-5**

Repeatable to a maximum of 15 cr hrs.

**694.08 Hydraulics and Hydrology U G 1-5**

Repeatable to a maximum of 15 cr hrs.

**699 Undergraduate Research in Civil and Environmental Engineering U 1-5**

Opportunity for undergraduate student to conduct research in Civil and Environmental Engineering.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**721<sup>A</sup> Design of Hydraulic Structures U G 4**

Basic engineering economic studies, water laws, design concepts, reservoir engineering, river training, spillways, and dissipators; hydromachinery.

Sp Qtr. 4 cl. Prereq: 516.

**722 Open Channel Hydraulics U G 4**

Flow classifications, channel properties, energy and momentum principles, critical flow, uniform flow formulas, erodible and nonerodible channel design, and gradually varied flow profile computations.

Sp Qtr. 4 cl. Prereq: 516 or Env Eng 516. Not open to students with credit for Env Eng 722. Cross-listed in Environmental Engineering.

**723 Transport Phenomena in Water Resources Engineering U G 4**

Water environment momentum mass energy transport, laminar and turbulent mixing; applications include river and lake pollutant dispersal, heated effluent plumes, eutrophication processes.

Au Qtr. 4 cl. Prereq: 516 or Env Eng 516 and Math 255 or 415, or equivs. Not open to students with credit for 614 or Env Eng 723. Cross-listed in Environmental Engineering.

**731\* Intermediate Reinforced Concrete Design U G 4**

Analysis and design of reinforced concrete systems.

Sp Qtr. 4 cl. Prereq: 535. offered in an odd year

**734\* Structural Analysis and Design for Dynamic Disturbances U G 5**

Structural dynamics; principles and practice of dynamic design; numerical and

graphical methods.

Au Qtr. 5 cl. Prereq: or concur: 532, Eng Mech 410, and grad standing, or sr standing with permission of instructor. Not open to students with credit for 834.

**735\* Matrix Structural Analysis U G 4**

Analysis of skeletal structures by force and displacement methods using matrices.

Wi Qtr. 4 cl. Prereq: 531 or equiv with written permission of instructor. offered in Even years.

**736<sup>A</sup> Bridge Engineering U G 4**

Principles and methods used in design and construction of bridge structures.

Sp Qtr. 4 cl. Prereq: 531, 532, and 535; or equivs. offered in Even years.

**737\* Prestressed and Precast Concrete Structures U G 4**

Structural analysis and proportioning of prestressed concrete members and precast structural concrete systems.

Wi Qtr. 4 cl. Prereq: 531 and 535. offered in an odd year

**738 Intermediate Structural Steel Design U G 5**

Structural behavior in the inelastic range; plastic analysis and design of framed structures; load and resistance factor design of steel structures.

Wi Qtr. 5 cl. Prereq: 531 and 532.

**739 Knowledge-Based Systems in Engineering U G 3**

Application of knowledge-based system principles to engineering problems, including practical knowledge engineering, techniques for problem assessment, and implementation.

Sp Qtr. 2 1.5-hr cl. Prereq: Cptr/Inf 630 or permission of instructor. Cross-listed in Computer and Information Science and Chemical Engineering.

**750 Seepage in Permeable Materials U G 4**

Analysis of seepage; saturated and partially saturated flow; free surface analysis; introduction to numerical techniques.

Au Qtr. 4 cl. Prereq: 406 and 554.

**751 Principles of Foundation Analysis and Design U G 4**

Subsurface exploration; shallow foundations; piles and caissons; and embankments and excavations.

Wi Qtr. 4 cl. Prereq: 651.

**753<sup>A\*</sup> Pavement Design and Materials U G 4**

Properties of paving mixtures, cementing binder and mixtures, and principles of pavement design and performance evaluation.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 552.

**754<sup>A</sup> Mechanical Properties of Engineering Materials U G 4**

Elasticity, plasticity, viscoelasticity, fatigue, and fracture phenomena for civil engineering materials.

Au Qtr. 4 cl. Prereq: 451.

**760 Civil and Environmental Engineering Planning U G 5**

Water resource planning process, benefit-cost analysis; environmental, economic, and social impacts of civil engineering projects; project selection; and case studies in water resources, transportation, and energy.

Sp Qtr. 5 cl. Prereq: 516 or Env Eng 516. Not open to students with credit for Env Eng 760. Odd years. Cross-listed in Environmental Engineering.

**762 Structural Composites U G 3**

An introduction to the analysis and design synthesis of beams, columns, rods, plates, and panels made of structural composites.

Wi Qtr. 3 cl. Prereq: 662 or Eng Mech 662 or Mech Eng 662 or permission of instructor. Not open to students with credit for Mech Eng 762 or Eng Mech 762. Cross-listed in Mechanical Engineering.

**768 Introduction to the Finite Element Method U G 4**

Basic concepts, formulation, and application of finite element techniques for numerical solution of problems in structural and continuum mechanics, geotechnical engineering, and water resources engineering.

Au, Wi Qtrs. 4 cl. Prereq: 406 or Math 568 or equiv, and En Graph 167 or equiv. Not open to students with credit for 763 or Eng Mech 763 or Mech Eng 768. Cross-listed in Mechanical Engineering.

**774<sup>A</sup> Design and Operation of Road Traffic Facilities U G 5**

Traffic laws and ordinances; operational design of streets, intersections, parking, and terminal facilities; design and operation of traffic control devices.

Sp Qtr. 4 cl, 1 3-hr lab. Prereq: 672.

**775 Urban Transportation Planning U G 4**

Discussion and examples of urban transportation planning processes, emphasizing quick-response models of locational and travel behavior, development and evaluation of alternatives, policies, and citizen reaction and participation.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: 576 and 670 or equivs with written permission of instructor or grad standing in c&r plan. Not open to students with credit for C&R Plan 751 or 775. Cross-listed in City and Regional Planning.

**776 Network Algorithms in Transportation Systems U G 5**

Optimization algorithms for transportation problems that can be formulated as networks. Special attention to computer implementation in C++.

Wi Qtr. 5 cl. Prereq: 405, 540, and En Graph 167 or Cptr/Inf 201 or Cptr/Inf 221 or equiv. Students should have familiarity with a programming language such as FORTRAN, BASIC, Pascal or C. The laboratory component of this course will use the C++ language.

**777 Infrastructure Systems Analysis U G 4**

A systems approach to infrastructure provision and management. Covers data collection, performance assessment and prediction, inspection and maintenance decision making, and provision standards setting.

Wi Qtr. 2-2-hr cl. Prereq: 540 and 576, or permission of instructor.

**H783 Honors Research U 1-5**

Supervised research and project work arranged individually for honors students.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Honors standing; permission of instructor. Repeatable to a maximum of 12 cr hrs. Limitations on number of credit hours applicable toward degree are governed by departmental rules. This course is graded S/U.

**795 Seminar in Civil Engineering U G 1**

Lectures and discussions of current topics related to civil engineering presented by faculty, students, and guest speakers; term paper required.

Au, Sp Qtrs. 1-2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

A-- Structural Engineering

B-- Geotechnical Engineering

C-- Environmental Engineering

D-- Highway and Transportation Engineering

E-- Remote Sensing and Environmental Surveys

F-- Construction

G-- Materials

I-- Hydraulics and Hydrology

**796 Interdepartmental Seminar Urban Transportation U G 1-5**

Lectures and discussions by faculty and guest speakers on topics related to urban transportation problems, issues, and new approaches to solutions; term paper required.

Au, Sp Qtrs. Prereq: Sr standing or permission of instructor. Repeatable to a maximum of 6 cr hrs. Given cooperatively by Civil Engineering and Industrial and System Engineering.

**797 Interdepartmental Seminars U G 1-5**

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Sp Qtr. Repeatable. Cross-listed in Environmental Engineering.

**804<sup>A</sup> Water Resources Engineering Applications of Remote Sensing G 5**

Principles and techniques of remote sensing for acquisition of data in water resources engineering projects and water quality investigations.

Sp Qtr. 3 cl, 2 3-hr labs. Prereq: 719 or 820.

**806\* Radiometric Measurements and Modeling G 5**

Theory and models used in remote sensor measurements of spectral radiation.

Wi Qtr. 5 cl. Prereq: 603 or Geod Sci 603, and 604 or Geod Sci 604.

**808\* Integrating Remote Sensing with Engineering Databases G 5**

Techniques and approaches for integrating digital data sources with engineering spatial databases.

Sp Qtr. 5 cl. Prereq: Civil En/Geod Sci 603 or 606 or written permission of instructor. Odd years.

**810 Physical Chemical Treatment Processes I G 4**

Principles and design of physical and chemical processes for water and wastewater treatment including mixing, disinfection, nutrient removal, and oxidation-reduction.

Au Qtr. 4 cl. Prereq or concur: 610.

**812<sup>A</sup> Physical Chemical Treatment Processes II G 4**

Principles of physical/chemical treatment processes for water and wastewater, including coagulation, softening, adsorption, filtration, and membrane processes.

Wi Qtr. 4 cl. Prereq: 610. Odd years.

**813 Hazardous Waste Site Remediation G 4**

Principles and design of hazardous waste site remediation technologies; removal and transformation processes; cost analysis.

Sp Qtr. Prereq: 610. Even years.

**814 Industrial Wastewater Treatment G 3**

Principles of industrial wastewater treatment including wastewater surveys; flow reduction, and segregation and equalization; batch and continuous treatment;

instrumentation; and treatment processes.

Au Qtr. 3 cl. Prereq: 711 and 812, prereq or concur: 810.

**815<sup>A</sup> Advanced Water Resource Systems: Water Quantity G 5**

Advanced topics in the design and management of surface and groundwater systems; use of mathematical programming, simulation, and economic theory; written and oral presentations.

Sp Qtr. 5 cl. Prereq: 715.

**816 Environmental Systems Analysis G 5**

Optimization models for water quality and air quality control, solid waste and hazardous waste management, and environmental and energy facility siting.

Sp Qtr. 5 cl. Prereq: 540 or Ind Eng 842 or equiv. Not open to students with credit for 720. Even years.

**817 Applied Mathematical Ecology G 5**

Application of the methods of mathematical ecology to problems of environmental engineering.

Wi Qtr. 5 cl. Prereq: Permission of instructor. Not open to students with credit for 885I. Repeatable to a maximum of 10 cr hrs. Cross-listed in Natural Resources.

**818 Application of Biotechnology to Environmental Engineering G 5**

Application of molecular and microbiological techniques for pathogens and monitoring of hazardous substances; manipulation of microorganisms for remediation of contaminated soil and water.

Wi Qtr. 4 cl, 1 3-hr lab. Prereq: 610 and Micrbiol 509; or permission of instructor.

**819\* Colloidal Processes in Aquatic Systems G 4**

Fundamental concepts of colloid science important for understanding the fate of pollutants in natural systems and water treatment processes.

Sp Qtr. 4 cl. Prereq: 610 or 723, or permission of instructor.

**820<sup>A</sup> Advanced Hydrology G 5**

Advanced analysis of classical concepts; study of new techniques and concepts developing in modern hydrology; written and oral presentations of critical reviews of current literature.

Wi Qtr. 5 cl. Prereq: 613 or equiv.

**821\* Sediment Transport and Engineering G 4**

Sediment properties, fall velocity; entrainment, resuspension, bed features, meanders, channel roughness, suspended, and bed load; measurement; siltation ponds, reservoirs, channel mechanics, bank protection, and stabilization.

Sp Qtr. 4 cl. Prereq: 723. Even years.

**822\* Adsorption of Pollutants in Environmental Systems G 4**

Content focuses on fundamental concepts necessary to understand adsorption/desorption of metal cations, ionic organic compounds, and nonionic organic compounds in natural and engineered systems.

Wi Qtr. 2-2-hr cl. Prereq: 610, Geol Sci 718 or Soil Sci 680 or equiv. Offered even years.

**823<sup>A</sup> Numerical Models in Water Resources Engineering G 5**

Lake, river, and coastal contaminant or heat numerical transport model formulation; averaging; finite difference, element methods; errors, stability; data requirements, verification procedures.

Wi Qtr. 5 cl. Prereq: 723 or permission of instructor. Odd years.

**824<sup>A</sup> Advanced Coastal Engineering G 4**

Coastal turbulent transport processes; fluctuation spectra; flood forecasting, storm surge models; harbor oscillations, resonance, and design; erosion processes and protection strategies; topical problems as required.

Wi Qtr. 4 cl. Prereq: 624 and 723. Even years.

**830\* Earthquake Engineering G 5**

Analysis and design of structures subject to seismic loading; design of structures to minimize earthquake damage; highrise buildings; seismic risk analysis; knowledge engineering in earthquake engineering.

Wi Qtr. 5 cl. Prereq: 734. Even years.

**831\* Advanced Reinforced Concrete G 5**

Concrete structural analysis and design; special structural systems and elements.

Sp Qtr. 5 cl. Prereq: 731 and 737. offered in Even years.

**832 Advanced Behavior and Design of Metal Structures G 5**

Design of steel structures; steel bridges; braced and unbraced frames; tall buildings; connections; load and resistance factor design; computer-aided design; stability of metal structures; torsion; and lateral-torsional buckling.

Sp Qtr. 5 cl. Prereq: 532 and 738. offered in odd years.

**833^ Concrete Shell Structures G 5**

Analysis and design of folded plate, cylindrical shell, axisymmetric and doubly curved shell structures including domes, hyperbolic and elliptical paraboloids.

Sp Qtr. 5 cl. Prereq: 735 and Math 512.

**836^^ Advanced Matrix Analysis of Structures G 5**

General force methods of analysis; formulation of non-linear behavior of trusses and frames; solution of non-linear structures; analysis of surface structure; application of finite element methods in structural analysis.

Sp Qtr. 5 cl. Prereq: 735.

**837^ Advanced Structural Dynamics G 5**

Stresses and deflections in structures under dynamic loads; response of large structural systems to earthquake, wind, moving loads; approximate and exact solution techniques.

Sp Qtr. 5 cl. Prereq: 734 or Eng Mech 731 or Mech Eng 731.

**838^^ Two-Dimensional Problems in Linear Solids G 4**

Solution of two-dimensional boundary value and initial boundary value problems for linear solids; geometric nonlinearities; refined theories; variational principles; approximate and exact solution techniques.

Wi Qtr. 4 cl. Prereq: 856 and Eng Mech 740 and 754 or Mech Eng 740 and 755.

**839^^ Finite Element Method in Engineering Science G 5**

Approximation of boundary value and initial value problems; variational methods, hybrid and mixed method; convergence and accuracy of finite element approximations; recent developments, advanced applications.

Sp Qtr. 5 cl. Prereq: 763 or 768 or Eng Mech 763 or Mech Eng 763 or 768 and Math 601 or equiv. Not open to students with credit for Eng Mech 839 or Mech Eng 839. Cross-listed in Mechanical Engineering.

**850 Advanced Seepage in Permeable Materials G 4**

Analysis of seepage and consolidation in soils by closed form and by numerical methods.

Au Qtr. 4 cl. Prereq: 750.

**851 Advanced Soil Properties G 4**

Detailed study and analysis of the mechanical properties of soils, with applications to foundation behavior.

Au Qtr. 4 cl. Prereq: 651.

**852^ Advanced Civil Engineering Materials G 4**

Analysis and design of materials for pavements and other civil engineering projects; properties considered include fracture, fatigue, and physical-chemical composition.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 753 and 754.

**853 Advanced Soil Mechanics G 4**

Stability of slopes and foundations; use of plasticity theory, numerical methods, and probability methods.

Wi Qtr. 4 cl. Prereq: 851.

**855^^ Soil-Structure Interaction G 4**

Interactions between soil and various structures, walls, bulkheads, foundations, and piles.

Au Qtr. 4 cl. Prereq: 851.

**856^^ Viscoelasticity G 4**

Viscoelastic materials and their characteristics, discrete element models, spectral representation, creep and relaxation functions, and dynamics of viscoelastic behavior.

Wi Qtr. 4 cl. Prereq: 754 and Math 512.

**858 Soil Dynamics G 4**

Stress waves in soils and vibrations in soil masses; liquefaction, determination of dynamic properties of soils; soil behavior under impact, machine, and seismic loads; seismic response of earth structures; design problems.

Sp Qtr. 4 cl. Prereq: 851 and Eng Mech 731, or permission of instructor.

**859 Advanced Soil Properties Laboratory G 2**

Experimental methods to evaluate the engineering properties of soils.

Wi Qtr. 1 cl, 1 3-hr lab. Prereq or concur: 851.

**872 Area Traffic Control G 5**

Design and performance criteria for area traffic control; design of traffic surveillance and monitoring systems; corridor and network control strategies; on-line computer control algorithms.

Wi Qtr. 4 cl, 1 3-hr lab. Prereq: 774 or equiv.

**873\* Urban Transportation Demand Forecasting G 5**

Travel surveys and data needs; applications of statistical methods to develop models of ownership, trip generation, vehicle occupancy and modal choice; disaggregate models.

Sp Qtr. 4 cl, 1 3-hr lab. Prereq: 775 and Stat 525 or equiv with written permission

of instructor. Odd years.

**874\* Urban Transportation Network Analysis G 5**

Network representation methods; minimum-path trees; traffic assignment algorithms and their performance; trip distribution models; new directions.

Sp Qtr. 4 cl, 1 2-hr lab. Prereq: 775 and Stat 525 or equiv with written permission of instructor. Not open to students with credit for Ind Eng 874. Cross-listed in Industrial and Systems Engineering. Even years.

**878 Transportation Management Systems G 5**

Key concepts in transportation management and the role of network performance and demand. Covers control and guidance systems design and evaluation. Emphasizes methodology and modeling.

Au Qtr. 2 2.5-hr cl. Prereq or concur: 776, or permission of instructor.

**881 Computer Aided Construction Automation and Simulation I G 5**

Computer modeling to automate and simulate construction operations.

Wi Qtr. 2 2-hr cl, 1 hr arr. Prereq: 682.

**882^ Probabilistic Construction Estimating and Pricing G 5**

New models and methods of estimating and pricing; the examination of data from contracting companies; the utility of percentile distributions, skewness and kurtosis demonstrations.

Sp Qtr. 3 cl, 6-hrs lab. Prereq: 685, Stat 525, and Bus Adm 801.05 or equivs.

**883^^ Design of Construction Operations G 5**

Computer assisted construction operations decisions; traditional approaches; linear optimization and simulation case studies.

Au Qtr. 3 cl, 6-hrs lab. Prereq: 882.

**884^ Construction Forensics G 5**

Construction engineers as expert witnesses and consultants on prevention and resolution of disputes; investigations, pre-trial examination; governmental and private sector case studies.

Au Qtr. 3 cl, 6-hrs lab. Prereq: 882 and 888.

**885 Advanced Civil Engineering G 3-5**

Opportunity for advanced students to pursue advanced study; work undertaken may be elected in the fields of civil engineering listed below.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept chairperson. Repeatable to a maximum of 20 cr hrs. No more than 10 credit hrs in any one of the fields listed below.

A-- Structural Engineering

B-- Geotechnical Engineering

C-- Environmental Engineering

D-- Highway and Transportation Engineering

E-- Remote Sensing and Environmental Surveys

F-- Construction

G-- Materials

J-- Hydraulics and Hydrology

**888 Event Tree, Fault Tree, and Fuzzy Systems in Construction G 5**

Event tree and fault tree analyses; fuzzy set/logic concepts; fuzzy expert systems; fuzzy fault tree expert systems in construction.

Sp Qtr. 4 cl, 1 3-hr lab (arr). Prereq: 781.

**894 Group Studies in Civil Engineering G 3-5**

Advanced topics in the various fields of civil engineering; the particular topics, the number of credit hours, and the instructor will be announced in the quarter previous to the one in which the course is offered.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. No more than 10 cr hrs in any one field of civil engineering.

**899 Interdepartmental Seminar G 1-5**

Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced.

**990 Civil Engineering Practicum G 1-5**

Supervised field experience in civil engineering; analysis and critique of field experience.

Su, Au, Wi, Sp Qtrs. Prior approval of civil en grad committee required.

**993 Advanced Problems in Civil Engineering G 3-5**

Provides the opportunity to pursue special problems in Civil Engineering not otherwise covered. Report required.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**999 Research in Civil Engineering G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Classics

414 University Hall, 230 North Oval Mall, 292-2744

### 101 Ancient Greek Literature in Translation U 5

Introductory survey of the Greek achievement in literature and its contribution to Western thought; selected readings in English translation in major authors from Homer through the Hellenistic age.

Au, Wi, Sp Qtrs. 5 cl. H101 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 220. GEC arts and hums lit course.

### 102 Roman Literature in Translation U 5

Introductory survey of Roman literature and its importance in the Western literary tradition; selected readings in English translation in major authors, such as Plautus, Vergil, and Ovid.

Au, Wi, Sp Qtrs. 5 cl. H102 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 221. GEC arts and hums lit course. E102 may be available for honors embedded experience at the regional campuses.

### 210 Classical Background of Scientific Terminology U 3

Study of technical and scientific terms from Greek and Latin sources; roots, word elements, word formation, analysis; helpful in medical, biological, and kindred studies.

Au, Wi, Sp Qtrs.

### 222 Classical Mythology U 5

Origins and attributes of the Greek and Roman gods and goddesses, their mythology and its influence on Western culture.

Au, Wi, Sp Qtrs. 5 cl. H222 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for H122. GEC arts and hums lit course.

### H223 Freshman/Sophomore Honors Seminar: Topics in Ancient Literature and Society U 5

A discussion-oriented exposure to some of the most renowned works of ancient literature and/or ancient cultural issues.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Admission to the honors program.

### 224 Classical Civilization: Greece U 5

A survey of ancient Greek civilization, concentrating upon important facets of literature, history, art, and archaeology.

Sp Qtr. 5 cl. Not open to students with credit for H124. GEC arts and hums cultures and ideas course.

### 225 Classical Civilization: Rome U 5

A survey of the civilization of ancient Rome, concentrating upon important facets of literature, history, art, and archaeology.

Au Qtr. 5 cl. Not open to students with credit for H125. GEC arts and hums cultures and ideas course.

### 226 Byzantine Civilization: Constantinople and the Empire of New Rome U 5

A survey of Byzantine civilization, focusing on life in the capital, literature, and the court, Orthodox Christianity, and the formation of Medieval Europe.

5 cl. Not open to students with credit for Medieval 226. Cross-listed in Medieval and Renaissance Studies. GEC arts and hums cultures and ideas course.

### 230 Medicine in the Ancient World U 5

An introduction to the theory and practice of medicine in ancient Greece and Rome.

GEC arts and hums cultures and ideas course.

### 240 Classical Archaeology U 5

Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites.

5 cl. Not open to students with credit for History 240 or 306, or Hist Art 240. Cross-listed in History as 306 and in History of Art as 240. GEC arts and hums cultures and ideas course.

### 250 Sports and Spectacles in the Ancient World U 5

The history and social role of gymnastic and athletic competition in Greece and Rome. The evolution of their modern revivals.

5 cl. GEC arts and hums cultures and ideas course.

### 294 Group Studies U 1-5

Topics in classical studies.

H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 301^ Greek and Roman Epic U 5

Study of Greek and Roman epic based on extensive readings in English translation of works by authors such as Homer, Apollonius, Vergil and Ovid.

Au Qtr. 5 cl. Not open to students with credit for 503.

### 302 Greek and Roman Drama U 5

Study of Greek and Roman drama based on extensive readings in English translation of the plays of such authors as Sophocles, Euripides, and Plautus.

Wi Qtr. 5 cl. Not open to students with credit for 501.

### 303 Comic Spirit in Antiquity U 5

Study of the comic literature of the Greco-Roman world based on extensive readings in English translation drawn from epic, drama, satire, and the novel.

5 cl. Not open to students with credit for 502.

### 310 Topics in Ancient Literature and Culture U 5

In depth analysis of selected topics in ancient literature and culture.

Varies. Repeatable to a maximum of 10 cr hrs.

### 322 The Hero in Classical Mythology U 5

The development and interpretation of the major cycles of classical saga based on extensive readings in Greek and Roman epic and drama.

5 cl.

### 323^ Religion in the Greco-Roman World U 5

Study of Greek and Roman religious movements including the beginnings of Christianity; readings in English translation of the major primary texts.

5 cl. Not open to students with credit for 504.

### 324 Magic in the Ancient World U 5

An introduction to the practice of magic in the ancient Mediterranean and how people viewed it.

### 325 Christians in the Greco-Roman World U 5

The origins and development of Christianity in its historical, social, and cultural context.

### 326 Christian Heroes: Byzantine Saints' Lives U 5

Study of popular Medieval narrative genre in its cultural context; development of the ideal of sanctity in the lives of martyrs, holy fools, and ascetics.

Wi Qtr.

### 505^ Political Thought and Institutions in the Greco-Roman World U G 5

Selected topics concerning the development of ancient political theory.

2 2-hr cl.

### 506^ Greek and Roman Science and Technology U G 5

The origins and achievements of Greek and Roman science and technology.

5 cl.

### 508 Gender and Sexuality in Antiquity U G 5

Constructions of gender and sexuality in Greece and Rome.

Sp Qtr. 5 cl.

### 597 Nationalism Revisited U 5

Aims at rethinking nationalism by questioning perceived notions of the nation, identity, ethnicity, culture, citizenship and globalization.

Au, Wi, Sp Qtrs. Prereq: Jr or sr standing. GEC contemporary world course.

### 607\* Roman Law through the Reign of Justinian U G 5

Studies in the origins and development of Roman Law based on original sources in translation.

5 cl. Not open to students with credit for Law L720. Cross-listed in Law as L720.

### 611^ Studies in Greek or Latin Epigraphy U G 5

2 2-hr cl. Prereq: Permission of instructor. Not open to students with credit for 811. Repeatable to a maximum of 10 cr hrs.

### 656^ Studies in Greek or Roman Topography U G 5

The topography and archaeology of ancient Athens, Rome, or other sites important to Greco-Roman literature and civilization.

2 2-hr cl. Not open to students with credit for 856.

### 692 Workshop U G 1-6

Su Qtr. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 694 Group Studies U G 1-5

Investigation of particular problems in various areas of classical studies.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 697 Study at a Foreign Institution U G 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.



**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

**698.02 Foreign U G 1-15**

**699 Senior Tutorial and Essay U 5**

Individual work leading to the writing of a final paper that will integrate the experience of earlier courses in classics.

Su, Au, Wi, Sp Qtrs. Open only to Srs majoring in classics.

**712 Studies in Greek or Latin Paleography and Textual Criticism G 5**

An introduction to the skills of paleography and textual criticism.

2 2-hr cl. Prereq: Latin 625 or Medieval 694 or permission of instructor. Not open to students with credit for 812.

**H783 Honors Research U 3-5**

A program of study arranged for each student, with individual conferences, reports, and an honors thesis.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a grade of A in at least half of the classics courses taken and with an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs. With permission of dept.

**800 Materials and Methods of Research G 3**

The materials, problems, and methods of classical research.

3 cl. Required of all grad students.

**810^ Linguistic Studies in Greek and Latin G 5**

Topics may include Greek dialects, Italic dialects, or comparative grammar of Greek and Latin.

2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**870 Studies in Greek and Roman Religion and Myth G 5**

Focuses on single issues within ancient religion and myth, as chosen by instructor.

Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Reading knowledge of Greek and/or Latin preferred; special arrangements can be made for exceptional students without reading knowledge. Repeatable to a maximum of 10 cr hrs.

**880 Topics in Classical Antiquity G 5**

In-depth examination of issues that are often difficult to address in courses that focus on a single ancient author.

Au, Wi, Sp Qtrs. 1 3-hr cl. Repeatable to a maximum of 15 cr hrs.

**890 Topics in Late Antiquity and Byzantium G 5**

Focuses on topics in post-classical Greek and Roman culture and literature.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl or 2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor(s). Repeatable to a maximum of 15 cr hrs. with permission of dept.

**Communication**

3016 Derby Hall, 154 North Oval Mall, 292-3400

**101 History of Human Communication U 5**

History of human communication from beginning of spoken and written communication to modern mediated and mass communication.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for J Com 101. GEC soc sci individuals and groups course.

**105 Communication of Ideas and Attitudes U 5**

Analysis, formulation, organization, development, and delivery of ideas and attitudes for speaking with an audience.

5 cl. Not open to students with credit for J Com 105. VPA Admis Cond course.

**200 Communication in Society U 5**

Role of communication in society; forms, strategies, theories and issues; interpersonal, group, organizations, public and mass communication.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for J Com 200. GEC soc sci individuals and groups course.

**221 Reporting and Editing for the News Media U 5**

Introduction to, and instruction and practice in news writing, reporting, and editing for the news media taught in a laboratory setting.

Su, Au, Wi, Sp Qtrs. 2 2-hr labs. Prereq: 101, 200 or J Com 101, 200, and major in journal, or comm (strat comm), or agr comm. Not open to students with credit for J Com 211.

**240 Introduction to Communication Technology U 5**

Processes of communication technology, critical consumption, ethical issues, current problems of the markets, technologies and policies of online communication, the world wide web, and media.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for J Com 240.

**310 News Design U 5**

Provides a basic overview of various forms of visual communication with an emphasis on print media. Explores design principles, perception, critical evaluation, ethics and creativity as they relate to visual media.

2 2-hr cl. Prereq: Journal or Comm major.

**311 Visual Communication Design U 5**

The examination of visual symbols, graphics, photographs, art, movies and video, and their impact on society.

2 cl, 2 2-hr labs. Prereq: 221 or 367 or J Com 221 or 367, and journal or comm major. Not open to students with credit for J Com 311.

**320 Introduction to Interpersonal Communication U 5**

Analysis of the role of interpersonal communication to begin relationships, achieve intimacy, sustain a certain relational status and terminate relationships.

Au, Wi, Sp Qtrs. 2 2-hr cl. Not open for students with credit for J Com 320.

**321 Principles of Effective Public Speaking U 5**

Introductory course in critical thinking and public speaking; how to analyze and organize information for oral presentations; basics of public speaking for majors and non-majors.

Su, Au, Wi, Sp Qtrs. 2 2-hr rec. Not open to students with credit for J Com 321.

**322 Strategic Communication Practices U 5**

Designed to aid students in communicating in a business environment.

2 2-hr cl. Prereq: Journal or Comm major.

**325 Introduction to Organizational Communication U 5**

Communication plays a vital role in the success and failure of organizations. Addresses prior and current approaches to the study of organizational communication.

2 2-hr cl.

**341 Policy Issues in Communication Technology U 5**

Theoretic bases for understanding telecommunication and electronic media, mechanisms for the formulation and implementation of policy; social impact of media systems.

2 2-hr cl. Prereq: Journal or comm major. Not open to students with credit for J Com 341.

**367 Persuasive Communication U 5**

Principles of persuasion as reasoned discourse.

2 2-hr cl. H367 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110, 110.01, 110.02, 110.03 or equiv, and soph standing or above. Not open to students with credit for J Com 367. GEC second writing course.

**368 Intercultural Communication in Organizational Contexts U 5**

An examination of the role of intercultural communication in organizational contexts and the attendant effects on the creation and transmission of cultural consciousness, knowledge, tradition, and practices.

2 2-hr cl. Not open to students with credit for J Com 368.

**420 Journalism Workshop**

Courses offered under Journalism Workshop focus on specialized, practical aspects of journalism.

Au, Wi, Sp Qtrs. 1 2-hr cl, 5 weeks. Open to all majors and class ranks; no prerequisites.

**420.01 Lantern Gateway Workshop U 1**

Introduction to the basic principles and skills involved in operating as part of a news-gathering team.

This course is graded S/U.

**420.02 Internet Journalism: A Survival Guide U 1**

Introduction to writing techniques used by online journalists.

This course is graded S/U.

**420.03 Previews and Reviews U 1**

Introduction to the two basic journalistic forms associated with writing about cultural and entertainment events.

This course is graded S/U.

**421 News Reporting U 5**

Designed to help students develop the fundamentals of news writing and reporting.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Journal or Comm or Ag Com major or permission of instructor. Not open to students with credit for 421.01 or J Com 421.01.

**422 News Editing U 5**

The goal of 422 is to help students become better writers, editors and visual communicators.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Journal or Comm major or permission of instructor.

**423 Lantern Practicum U 5**

Gives students an opportunity to learn journalism by practicing it as members of the staff of the Lantern student daily newspaper and Web news site.

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Journal or Comm major or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**424 Civic Journalism U 5**

Examines the role of traditional practices of journalism in contributing to citizen apathy and disengagement, as well as what can be done to enhance citizen understanding, learning and active participation in democratic society.

2 2-hr cl. Prereq: Journal or Comm major, grad standing or permission of instructor.

**425 Media Management U 5**

Introduction to media management and focuses on how issues of management apply across various media.

2 2-hr cl.

**431 Strategic Communication Principles U 5**

The role of strategic communications in business, including basic principles of integrated marketing, theory, and ethical standards.

Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for J Com 431. GEC soc sci individuals and groups course.

**449 Foundations of Survey Research U 5**

This course introduces students to the principles, techniques and problems involved in conducting survey research.

Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for Polit Sc 449. Cross-listed with Polit Sc 449.

**460 Communication Research Methods U 5**

Overview of major empirical methods in media research.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Journal or Comm or agr comm major, or permission of instructor. Not open to students with credit for 463 or 660.

**463 Communication Industry Research Methods U 5**

Overview of major empirical methods in communication industry research.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Comm or Journal major, or permission of instructor. Not open to students with credit for 460 or 663.

**494 Group Studies U 1-5**

Regular class meetings and group discussion of specified problems.

Su, Au, Wi, Sp Qtrs. Prereq: Soph standing or above. Repeatable to a maximum of 20 cr hrs.

**500 Quantitative Reasoning for Journalism and Communication U 5**

Development of skills for analyzing, evaluating, and reporting news stories with quantitative content.

2 2-hr cl. Prereq: Journal or Comm major, or permission of instructor. Not open to students with credit for J Com 500.

**501 Mass Communication and Youth U 5**

Introduction to theories and research on the uses and effects of media on children and adolescents, including discussion of interventions.

2 2-hr cl. Not open to students with credit for J Com 501

**502 Crime and the News Media U G 5**

Study of the nature of news coverage of crime and criminal justice system, and the implications for individuals, social groups, and society.

2 2-hr cl.

**512 Communication, Images, and Action U G 5**

The interplay between interpersonal communication systems and technologies from a current as well as an historical perspective.

2 2-hr cl. Not open to students with credit for J Com 512.

**531 Communication and Conflict Management U G 5**

An overview of the communication and conflict literature with emphasis on effective conflict management.

2 2-hr cl. H531 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 531.

**545 Strategic Media Planning U 5**

Introduction to media planning for students interested in careers in advertising, public relations and other forms of strategic communication.

2 2-hr cl. Prereq: 431 or J Com 431 and Journal or Comm major, or permission of instructor.

**597 Global Issues and Communication**

Focuses on the role of communication in global issues, trends, events and development.

GEC Issues of the Contemporary World course.

**597.01 Media and Terrorism U 5**

Focuses on the portrayal of terrorism in the media and on how terrorists use the media to influence public opinion.

Prereq: Jr, sr standing. GEC Issues of the Contemporary World course.

**602 Magazine Writing U G 5**

Non-fiction writing for magazines, commercial and industrial; emphasis on the non-technical full-length magazine article.

2 2-hr cl. Not open to students with credit for J Com 602.

**604 Media Ethics U G 5**

Study of ethical theories and models as they apply to media products and practices; case studies, discussion and lectures.

2 2-hr cl. Not open to students with credit for J Com 604.

**605 Explanatory Reporting U G 5**

Introduction to the basic concepts and methods of Explanatory Reporting.

2 2-hr cl. Prereq: Journal or Comm major, grad standing or permission of instructor.

**606 Development of the Mass Media in America U G 5**

Major currents and trends basic in the shaping of the mass media; famous personalities, foundations, and evolution of a free, responsible press.

2 2-hr cl. H606 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Comm 606.

**607 Mass Communication Law U G 5**

Study of theory, history, and case law related to freedom of expression.

2 2-hr cl. H607 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 607.

**611 Communication and Multimedia U G 5**

Students will learn the concepts and principles of user-centered design and apply these skills to multimedia design.

2 2-hr cl. Prereq: 311 and jr or sr standing, 311 waived for graduate students.

**613 Media Entertainment U G 5**

Explores speculation, theory, and research regarding effects and appeal of media entertainment, emphasizing emotional reactions.

2 2-hr cl. Prereq: Journal or Comm major.

**614 Issues and Images in Political Communication U G 5**

Analysis of the roles played by the mass media, public leaders, and accidental circumstances in the development of issues and images in contemporary American political communication.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 614.

**620 Public Opinion and Communication U G 5**

Investigation of public opinion from social, political, and psychological perspectives, and study of the role communication (including the media) plays in the process.

2 2-hr cl. H620 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 620 or Polit Sc 603.

**621 Topics in Public Affairs Journalism U G 5**

Instruction and practice in specified topics pertaining to public affairs, such as government, courts, politics, finance, urban affairs, science, and culture.

2 2-hr cl, arr off-campus field experiences. Prereq: Journal or agr communic major; or grad standing; or permission of instructor. Not open to students with credit for J Com 621. Repeatable to a maximum of 15 cr hrs.

**624 Communication in Personal Relationships U G 5**

Advanced level survey of theory and research concerning the role of communication in the development, maintenance, and decay of interpersonal relationships.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 624.

**628 Contemporary Persuasion Theory U G 5**

Persuasive campaigns in mass audience settings; persuasion in interpersonal contexts, including organizations, family and personal relationships.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 628.

**629 Language and Social Interaction U G 5**

Examination of perspectives on and ways to analyze language use in everyday contexts, discourse in society, implications for communication theory, practice, and competencies.

2 2-hr cl. Not open to students with credit for J Com 629. GEC third writing course.

**631 Communication in Decision Making U G 5**

Decision-making as a process; comparisons between interpersonal, bargaining-negotiation contexts, and groups and organizations; descriptive and prescriptive models of decision-making in small groups and organizations.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 631.

**632 Risk Communication U G 5**

Students will learn how to plan, implement and evaluate a risk communication effort. Message design is an integral part of this class.

2 2-hr cl. Prereq: Journal or Comm major

**634 Creative Message Design U G 5**

Message development for marketing communications - strategic communications writing.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 634.

**635 Topics in Small Group and Organizational Communication U G 5**

Examination of selected topics such as: communication in decision-making, conflict management, effective small group practice, current organizational communication concepts, research, use of communication technologies.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 631. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in J Comm 631.

**636 Health Communication**

Study of the relationship between health care and communication.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor.

**636.01 Health Communication in Interpersonal Contexts U G 5**

Study of communication relevant to health care in various face-to-face contexts.

Not open to students with credit for J Com 636.01.

**636.02 Health Communication in Mass Mediated Contexts U G 5**

Overview of theory and research related to the role of mass media as they affect the public's health behavior.

Not open to students with credit for J Com 636.02.

**637 Public Communication Campaigns U G 5**

Application of management techniques to public relations; public relations strategy; campaign development.

2 2-hr cl. Prereq: 431, Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 637.

**638 Communication and E-Health U G 5**

Focuses on the current and future uses of technology in health communication, with an emphasis on technology in both patient-provider relationships and health campaigns.

2 2-hr cl. Prereq: Journal or Comm major, grad standing or permission of instructor.

**640 Science Communication U G 5**

Explores the structure, meanings and implications of "science communication" with an emphasis on how values, attitudes, social structure and comm affect public perceptions of science and technology

H640 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Jr or sr standing. Honors version limited to undergraduate students with honors or scholars status.

**642 Mass Communication and Society U G 5**

Analysis of basic issues affecting media performance; especially social, cultural norms, organizational and occupational variables, and the assessment of the effects of the resulting performance.

2 2-hr cl. Not open to students with credit for J Com 642.

**643 International Communication and the World Press U G 5**

Examination of international news communication systems and selected media concepts and the role they play in political, economic, and cultural environments.

2 2-hr cl. Not open to students with credit for J Com 643.

**644 Advertising and Society U G 5**

Examination of positive and negative contributions of advertising in the American mass media system to society from political, sociological, and economic perspectives.

2 2-hr cl. Not open to students with credit for J Com 644.

**645 Strategic Media Planning U G 5**

Introduction to media planning for students interested in careers in advertising, public relations and other forms of strategic communication.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 431 or J Com 431 and Journal or Comm major, grad standing or permission of instructor.

**646 Media Economics U G 5**

Familiarizes the student with the basic concepts for understanding the economic operation of media organizations and industries.

2 2-hr cl. Prereq: Journal or comm major; or grad standing; or permission of instructor. Not open to students with credit for J Com 646.

**648 History of Cartooning in American Newspapers**

The history of newspaper cartooning in America; assessment of its role and impact.

Wi Qtr. 2 2-hr cl.

**648.01\* History of American Newspaper Comic Strips U G 5**

History of American newspaper comic strips; assessment of their role and impact.

Not open to students with credit for J Com 648.01.

**648.02\* History of American Newspaper Political Cartoons U G 5**

Examination of the history, purpose, form, and spirit of American newspaper political cartoons.

Not open to students with credit for J Com 648.02.

**650 Investigating Communication through Interactive Technologies U G 5**

Application of electronic research through the design, implementation, and reporting of an online data collection or technology-based project.

2 2-hr cl, 1 2-hr lab.

**653 Political Communication and e-Democracy U G 5**

Designed to explore political uses of the Web and their impacts on political communication processes.

2 2-hr cl. Prereq: Journal or Comm major, grad standing or permission of instructor.

**654 Social Implications of Communication Technology U G 5**

Advanced study of a current topic in telecommunication and electronic media industry structures.

2 2-hr cl. Not open to students with credit for J Com 654.

**655 Computer Interfaces and Human Identity U G 5**

Surveys anthropomorphic computer phenomena such as agents, avatars and social simulation games and examines their relation to human identities including humanness, race, and gender.

2 2-hr cl. Prereq: Journal or Comm major, grad standing or permission of instructor.

**656 Information Technology and Organizational Communication U G 5**

Focus on the role of various technologies within organizations and for work team members.

2 2-hr cl. Prereq: Journal or Comm major, grad standing or permission of instructor.

**657 Technology of Communication U G 5**

To obtain a basic understanding of the underlying technologies and operational principles of the information society.

2 2-hr cl. Prereq: Journal or Comm major, grad standing or permission of instructor.

**659 Communication Systems and Society U G 5**

Advanced study of a current topic in the relationship between telecommunication and electronic media systems and society.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 659.

**661 Statistical Applications in Communication U G 5**

Fundamental principles of statistics commonly used in communication research.

2 2-hr cl. Prereq: Grad standing. Not open to students with credit for J Com 661.

**662 Communication and Gender U G 5**

Examination of contemporary communication theory, method, and practice relevant to women's communication.

2 2-hr cl. Prereq: Not open to students with credit for J Com 662.

**665 Communication and Community U G 5**

A critical examination of communication linkages for building and maintaining communities.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 665.

**666 Communication and Popular Culture U G 5**

Communication causes and impacts of changing technological environment where traditional differences between cultural products folk, mass, popular, low, elite, high, knowledge, journalistic, informational are disappearing.

1 4-hr cl. Prereq: Not open to students with credit for J Com 666.

**668 Intercultural Communication in Organizational Contexts U G 5**

An examination on insights provided by recent communication theories about the challenges and difficulties in organizational communication resulting when people of different cultures interact.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 668.

**669 Communication, Power, and Knowledge U G 5**

An analysis of communication breakdowns within the public sphere, focusing on the concept of distorted communication as it constitutes power and knowledge.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 669.

**671 Qualitative Research in Communication Studies: Participant Observation U G 5**

Intensive focus on participant observation as it is practiced in communication studies with emphasis on methodological issues, design, and implementation.

1 4-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 660 or 671.

**672 Qualitative Interviewing as Communication Practice U G 5**

Theories and practices of mediated and face-to-face question-asking as communicative tool for understanding others' views of events, information, policies, systems, technologies.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 672.

**673 Qualitative Research in Communication Studies: Analyzing Texts and Documents U G 5**

Theory and practice of communicative analysis of social/cultural texts and documents and the records produced by systematic observing and interviewing procedures.

2 2-hr cl. Prereq: Journal or Comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 673.

**683 Internship in Journalism or Communication U G 1-5**

On-the-job internships in communication practice or research conducted under supervision of internship coordinator through the undergraduate advising office.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of undergrad advisor. Repeatable to a maximum of 15 cr hrs. No more than 5 cr hrs toward undergraduate major. This course is graded S/U.

**690 Communication Co-operative Education Experience U G 0-15**

This opportunity is designed to allow students to participate in a full immersion professional experience in a career-related position.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. This course is graded S/U.

**693 Individual Studies U G 1-5**

Students make extensive and significant studies in the field of journalism or communication.

Su, Au, Wi, Sp Qtrs. Prereq: Sr standing in journal or comm, or grad standing; and permission of instructor. No more than 5 cr hrs for undergrad and 6 cr hrs for grad students will count toward degree programs. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in 693 decimals. This course is graded S/U.

**694 Group Studies U G 1-15**

Regular class meetings and group discussions of specified problems.

Au, Wi, Sp Qtrs. Prereq: Journal or Comm major, grad standing, or permission of instructor. Repeatable to a maximum of 25 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Arr cl. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. including cr hrs earned in J Com 697. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Courses repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 6-15**

Repeatable to a maximum of 30 cr hrs.

**711 Advanced Design Applications in Human-Computer Interaction U G 5**

Designing sophisticated media environments that integrate multiple media formats; information architecture, user-centered design and usability testing.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Journal or comm major, grad standing, or permission of instructor. Not open to students with credit for J Com 711.

**713 Political Communication G 5**

A graduate-level examination of the role of communication in American politics, acquainting the student with the literature on political communication and stimulating ideas for original research in the field of political communication.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for J Com 713 or Polit Sc 713. Cross-listed in Political Science.

**760 Communication Research Methods G 5**

An overview of empirical research methods in communication.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for J Com 760.

**763 Qualitative Methodologies for Communication Research G 5**

Graduate introduction to qualitative methodologies for empirical study of communication phenomena, emphasizing ethnographic participant observation, in-depth interviewing, focus groups, life narratives, text and discourse analysis.

Sp Qtr. 1 4-hr cl. Prereq: Grad standing. Not open to students with credit for J Com 763 or 861.

**H783 Honors Research U 3-15**

A program of independent study for the student with special aptitudes; individual conferences and reports.

Au, Wi, Sp Qtrs. Prereq: Sr standing in journal or communicate with a grade of A in at least half of the Comm courses and an average of B in the remainder, and permission of instructor and the ASC Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**789 Survey Research Practicum G 5**

Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.

Sp Qtr. 1 3-hr cl. Prereq: Admission to grad interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 789 in J Com, AED Econ, Agr Educ, Bus-Mktg, Econ, Educ P&L, Geog, Polit Sc, Psych, Pub Hlth, PubPol&M, Sociol, or Stat. Cross-listed in AED Econ, Agr Educ, Bus-Mktg, Econ, Educ P&L, Geog, Polit Sc, Psych, Pub Hlth, PubPol&M, Sociol, and Stat.

**790^ Statistical Applications in Communication II G 5**

Survey of research methods and "hands on" experience in conducting a research project.

Prereq: Grad standing. Repeatable to a maximum of 25 cr hrs.

**794 Group Studies U G 1-5**

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**797 Interdepartmental Seminars U P G 3**

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**801 Advanced Research Methods in Communication G 5**

In-depth study of particular methods in the field of communication.

Au, Wi, Sp Qtrs. 1 3-hr seminar. Prereq: 606 or J Com 606. Not open to students with credit for J Com 801. Repeatable to a maximum of 15 cr hrs. Repeatable with different methods.

**802 Literature and Journalism G 5**

Integrated readings in literary journalism.

Au, Wi, Sp Qtrs. 1 3.5-hr cl. Not open to students with credit for J Com 802.

**805 Communication Law and Policy G 5**

An overview of law and policy related to communication.

Au, Wi Qtrs. 2 2-hr cl.

**806 Contemporary Communication Theory G 5**

Introduction to graduate study and research in communication and the teaching of communication; emphasis on both the resources available for research and the skills and problems in teaching communication.  
 Au Qtr. 2-2-hr cl. Prereq: Grad standing in communic and permission of instructor. Not open to students with credit for J Com 806.

**807 Foundations of Communication Theory G 5**

An historical overview of the major theories and research that led to the development of the field of communication.  
 Wi Qtr. 2 2-hr cl. Prereq: 806 or J Com 806 or permission of instructor. Not open to students with credit for J Com 807.

**813 Public Opinion and Communication G 5**

Discusses the central role of communication in the concept of public opinion. Reviews research on influence of communication on public opinion direction and quality.  
 Prereq: Grad standing or permission of instructor. Not open to students with credit for J Com 813.

**820 Foundations of Interpersonal Communication G 5**

Survey of historical and current trends in theory and research methodology; examination of various approaches to communication research.  
 Sp Qtr. 2 2-hr cl. Prereq: 806 or J Com 806. Not open to students with credit for J Com 820.

**830 Foundations of Organizational Communication G 5**

A survey course covering theory, methodological issues, environment, cultural issues and structures in organizational communication.  
 Au Qtr. 2 2-hr cl. Prereq: 820 or J Com 820 or permission of instructor. Not open to students with credit for J Com 830.

**840 Mass Communication and the Individual G 5**

Survey of theory and research in mass communication dealing with psychological aspects of mass communication.  
 Wi Qtr. 1 3-hr cl. Prereq: 806. Not open to students with credit for J Com 840.

**841 Mass Communication and the Social System G 5**

Survey of mass communication theory at the macro or sociological level. Seminar covers social theories shaping media content and theories of media influence or effects.  
 Wi Qtr. Prereq: Grad standing. Not open to students with credit for J Com 841.

**850 Advanced Study in Communication Technology G 5**

Wi Qtr. Prereq: 840 or J Com 840. Not open to students with credit for J Com 850.

**860 Seminar in Language and Social Interactions G 5**

Selected topics in language and social interaction.  
 Sp Qtr. 2 2-hr cl. Prereq: 806 or J Com 806. Not open to students with credit for J Com 860.

**870 Media, Campaigns, and Health G 5**

How mediated communication can influence human behavior and public policy in ways that can improve (or can negatively impact) human health and well-being.  
 2 2-hr cl. Prereq: 860 or J Com 860 or permission of instructor. Not open to students with credit for J Com 870.

**871 Health Communication in Interpersonal Settings G 5**

This course will introduce students to the research and theories comprising contemporary literature in health communication in interpersonal settings.  
 Au Qtr. 1 3-hr cl. Prereq: Grad standing.

**893 Individual Studies in Communication G 1-5**

Graduate students may register for individual study in areas not normally covered by courses, or to supplement credits in existing 800-level courses.  
 Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing in communic, permission of instructor, and completion of permission to enroll form. Repeatable to a maximum of 30 cr hrs. including cr hrs earned in J Comm 893. This course is graded S/U.

**894 Group Studies G 1-5**

Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**899^ Interdepartmental Seminar G 3**

Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced.

**900 Communication Colloquium G 1**

Weekly presentation and discussion of current research by faculty and students.  
 Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**927 Theory Construction in Communication G 5**

The formal principles of theory and model construction function as criteria for examining the strengths and weaknesses of communication research models.

**930 Seminar in Interpersonal Communication G 5**

Prereq: Appropriate 830 or J Com 830 course or permission of instructor.

**940 Seminar in Mass Communication G 5**

Advanced seminar in current research on mass communication.  
 Prereq: Grad standing or permission of instructor.

**950 Communication and Diversity G 5**

Prereq: Corresponding topic in 850 or J Com 850 or permission of instructor.

**970 Special Topics in Communication G 5**

Seminars in selected topics in communication.  
 Repeatable to a maximum of 40 cr hrs. including cr hrs earned in J Com 970.

**998 Thesis Research G 1-18**

Thesis research.  
 Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Communication: Dissertation G 1-18**

Research for dissertation purposes only.  
 Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Comparative Studies**

451 Hagerty Hall, 1775 College Rd, 292-2559  
 All Religious Studies courses now listed under Comparative Studies.

**100 Introduction to the Humanities: Cross-Cultural Perspectives U 5**

Explores the role of literature and the arts in constructing, maintaining, and questioning the values and beliefs of diverse cultures and historical periods; topics vary.  
 H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums lit course.

**201 Literature and Society U 5**

Study of relationships among politics, society, and literature; analysis of social and political elements of literature and film from diverse cultures and historical periods.  
 H201 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or equiv. GEC arts and hums lit course.

**202 Religious Studies**

Prereq: English 110 or equiv. GEC arts and hums lit courses.

**202.01 Literature and Religion U 5**

Study of relationships between religion and secular literature; analysis of religious and spiritual elements of literature and film of diverse cultures and historical periods.

H202.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor.

**202.02 Comparative Sacred Texts U 5**

Introduction to religious views of the universe, the supernatural, social organization, ethics, etc., through sacred texts (oral and written) of diverse cultures and historical periods.

**203 Literature and the Self U 5**

Study of relationships between psychology and literature; analysis of psychological concepts and processes as represented in literature and film of diverse cultures and historical periods.

H203 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or equiv. GEC arts and hums lit course.

**204 Literature, Science, and Technology U 5**

Study of relationships among literature, science, and technology; analysis of representations of science and technology in literature and film of diverse cultures and historical periods.

H204 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or equiv. GEC arts and hums lit course.

**205 Literature and Ethnicity U 5**

Study of relationships between literature and ethnicity; analysis of concepts of ethnicity as represented in literature and film of diverse cultures and historical periods.

Prereq: English 110 or equiv. GEC arts and hums lit, and social diversity course.

**214 Introduction to Sexuality Studies U 5**

This course will provide an introduction to sexuality studies through an interdisciplinary approach. To apply the knowledge learned, this course requires a fieldwork component.

2 2-hr cl. Prereq: English 110 or equiv. Not open to students with credit for Edu Paes 214. Cross-listed in Education: Physical Activity and Educational Services.

**234 American Icons U 5**

Interdisciplinary methods in American studies; emphasis on the plurality of identities in American culture.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas, and social diversity course.

**239 City and Country in America U 5**

Interdisciplinary perspectives on the development, accuracy, and influence of popular images and stereotypes of city and country.

Prereq: Soph standing and English 110 or equiv.

**H240 The Nature of Modernity: Key Ideas and Enduring Problems U 5**

Examination of some of the defining ideas of modern thought and how those ideas have problematically affected modern life in both developed and developing countries.

GEC arts and hums lit course.

**241 Introduction to Asian American Studies U 5**

Introduction to Asian American studies; history, experiences, and cultural production of Americans of Chinese, Japanese, Korean, South Asian, Filipino, and Southeast Asian ancestry.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas, and social diversity course.

**242 Introduction to Latino/a Studies U 5**

Introduction to Latino/a studies; history, politics, and cultural production of Latino/a communities in the U.S. and its borderlands.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas, and social diversity course.

**243 Interdisciplinary Approaches to Race and Ethnicity in the Americas U 5**

Introduction to race and ethnicity in the U.S.: how race and ethnicity have shaped American culture, social thought, social institutions and inter-group relations.

Prereq: English 110 or equiv. Not open to students with credit for AfAm&AST 243. Cross-listed in African-American and African Studies. GEC social diversity course.

**264 Reading Popular Culture U 5**

Introduction to the analysis of popular culture texts, with special emphasis on the relationship between popular culture studies and literary studies.

Prereq: English 110 or equiv. Not open to students with credit for English 264. Cross-listed in English. GEC arts and hums cultures and ideas course.

**270 Introduction to Comparative Religion U 5**

Introduction to the academic study of religion through comparison among major traditions (Judaism, Christianity, Islam, Hinduism, Buddhism, etc.) and smaller communities.

H270 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or equiv. Not open to students with credit for Rel Stds 270. GEC arts and hums cultures and ideas course.

**272 Science and Society U 5**

Critical analysis of the multiple relations of science to society, with emphasis on knowledge, power, authority, values, and ethics.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas course.

**273 Introduction to World Literature U 5**

Analysis of oral and written literatures of diverse cultures and historical periods.

Prereq: English 110 or equiv. GEC arts and hums lit course.

**274 Introduction to Comparative Cultural Studies U 5**

Introduction to interdisciplinary field of cultural studies; emphasis on relation of cultural production to power, knowledge, and authority, globally and locally.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas course.

**275 Introduction to Visual Representation U 5**

Analysis of the use of visual representation to generate and transmit ideas, information, and knowledge in contemporary culture.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas course.

**293 Individual Studies U 2-5**

Designed to give students an opportunity for personal study with a member of the faculty.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.

H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**298 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**298.01 Domestic U 1-15**

Repeatable.

**298.02 Foreign U 1-15**

Repeatable.

**301 Love in World Literature U 5**

Representations of love in world literature; emphasis on mythological, psychological, and ideological aspects of selected representations in different cultures and time periods.

H301 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 5 cr hrs in literature and English 110 or equiv. GEC arts and hums lit course.

**305 Medicine and the Humanities U 5**

Humanistic, scientific, and clinical perspectives on medical issues; literary uses of medical themes; medicine as art and science.

Prereq: Soph standing and English 110 or equiv. GEC arts and hums cultures and ideas course.

**306 The Quest in World Literature U 5**

Motif of the quest in world literature; physical and mental journeys as metaphors of personal transformation and salvation.

Prereq: English 110 or equiv. GEC arts and hums lit course.

**308 Representations of the Experience of War U 5**

Representations of war in works of literature, religious texts, and film from diverse cultures and time periods.

Prereq: English 110 or equiv. GEC arts and hums lit course.

**314 Women in East Asian and Asian-American Literature U 5**

Critical analysis of East Asian and Asian-American women's experience, examining gender and sexual differences in the distribution of political power and discourse.

H314 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or equiv. GEC arts and hums lit course.

**321 The Religions of India U 5**

History and structure of South Asian religions with attention to myth, ritual, art, philosophy, and social stratification.

Prereq: 270 or Rel Stds 270; or 202.01 or 202.02 recommended. Not open to students with credit for Rel Stds 321.

**322 Native American Religions U 5**

Comparative survey of indigenous religions of North, Central, and South America; and patterns and diversity in religious experience, cosmologies, myths, rituals, social organizations, and sacred roles.

Prereq: 270 or Rel Stds 270; Comp Std 202.01 or 202.02 recommended. Not open to students with credit for Rel Stds 322.

**323 The Buddhist Tradition U 5**

History and structure of Buddhism from founding to present in South, Southeast, and East Asia; emphasis on rituals, beliefs, and local and regional variations.

Prereq: 270 or Rel Stds 270; Comp Std 202.01 or 202.02 recommended. Not open to students with credit for Rel Stds or EALL 323. Cross-listed in East Asian Languages and Literatures.

**324 African Religions U 5**

Survey of African traditional religions and their interaction with Islam and Christianity in Africa and the diaspora; emphasis on cosmologies, myth, ritual, ethics, and witchcraft.

Prereq: 270 or Rel Stds 270; Comp Std 202.01 or 202.02 recommended. Not open to students with credit for Rel Stds 324.

**336 Cultural Studies of American Musics U 5**

Investigation of the social, political, and cultural contexts of the development of popular musics in the U.S.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas, and social diversity course.

**339 Transnationalism and Culture in the Americas U 5**

Transnationalism as a central feature of cultural and artistic production in the Americas, focusing on the politics of language, race, citizenship, migration, and national belonging.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas course.

**345 South Asian American Religion and Culture U 5**

Historical overview and critical discussion of South Asian American identity; focus on religious identity, ethnicity, nationalism, globalism, gender.  
2.2-hr cl. Prereq: English 110 or equiv. GEC arts and hums cultures and ideas course.

**358 Film and Literature as Narrative Art U 5**

Relationships between film and literature; emergence of cinematic art as a form of representation with emphasis on diverse cultural traditions.

H358 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 5 cr hrs in literature or comp std. GEC arts and hums VPA and western (non-US) course.

**367 Second Writing Course**

GEC second writing and social diversity courses.

**367.01 American Identity in the World U 5**

American culture viewed from inside and from the perspective of foreign cultures, as seen in literature, film, art, music, journalism, folklore, and popular culture.

H367.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or equiv, and soph standing.

**367.02 Science and Technology in American Culture U 5**

Role of science and technology in contemporary American society; their relationship to human values; sources of concern about their impact; evaluation of selected issues.

H367.02 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or equiv; Math Placement level R or above, or completion of or concur enrollment in GEC science sequence; and soph standing.

**367.03 Religious Diversity in America U 5**

Exploration of the concept of religious freedom and the position of minority religious groups in American society.

Prereq: English 110 or equiv, and soph standing.

**367.04 U.S. Latino/a Identity U 5**

Latino/a identity in the U.S.; emphasis on Latino/a cultural history and expression and on role of race, class, gender, and sexuality in identity construction.

Prereq: English 110 or equiv, and soph standing.

**373 Problems in Literary and Cultural Translation U 5**

Introduction to issues and problems inherent to translating literatures and cultures.

Prereq: English 110 or equiv; minimum two quarters foreign language.

**376 The Jewish Mystical Tradition U 5**

The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience.

H376 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or equiv. Not open to students with credit for Rel Stds or Hebrew 376. Cross-listed in Hebrew. GEC arts and hums cultures and ideas course.

**377 Contemporary Folklore in the Arab World U 5**

Study of contemporary folklore of the Arab world, including verbal art, material culture, visual self-presentation, and performance.

Prereq: English 110 or equiv. Not open to students with credit for Arabic 377. Cross-listed in Arabic. GEC arts and hums cultures and ideas course.

**398 Approaches to Comparative Studies U 5**

Introduces comparative studies majors to theoretical tools, methods of investigation, and key concepts in comparative studies research and scholarship.

Prereq: English 110 or equiv, and comp st major; or permission of dept. Required for comp st majors.

**470 Folklore of the Americas U 5**

Comparative study of folklore and folk groups of the Americas; topic varies: folk narratives, beliefs, customs, practices of Latino/a, Asian, African, Native, and Anglo cultures.

Prereq: English 110 or equiv. Repeatable to a maximum of 15 cr hrs.

**475 Studies in Ethnography U 5**

Explores the history, theory, and methods of ethnographic study in different contexts (e.g., religious, ethnic, occupational groups).

Prereq: English 110.01, 110.02, 110.03 or equiv. Repeatable to a maximum of 10 cr hrs.

**489 Research Internship in Comparative Studies U 1-5**

Intensive research experience in Comparative Studies; individualized research training; students collaborate closely with faculty member on research project; projects either student-initiated or faculty research.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**498 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**498.01 Domestic U 1-15**

Repeatable.

**498.02 Foreign U 1-15**

Repeatable.

**508 Utopia and Anti-Utopia U G 5**

Exploration and critique of utopian thinking in different historical and cultural contexts.

Prereq: English 110 or equiv, and one course in comp std. Not open to students with credit for 208.

**510 The 20th-Century Novel: Transnational Contexts U G 5**

Analysis of 20th-century fiction from western and nonwestern traditions: issues include colonialism, post-colonialism, nationalism, capitalism, revolution, migration.

**515 Gender, Sexuality, and Religion U G 5**

Explores intersections of gender, sexuality and religion in comparative and cross-cultural contexts.

**525 Contemporary Religious Movements in Global Context U G 5**

Examination of contemporary religious movements within the context of larger political, cultural, and economic processes, including post-colonialism, modernization, and globalization.

Prereq: One course in comp std or int stds or grad standing or permission of instructor. Not open to students with credit for Int Stds 525. Cross-listed in International Studies.

**526 New Age and New Religious Movements U G 5**

Study of new age and new religious movements in contemporary American culture.

Prereq: 5 cr hrs in comp std or rel std or grad standing.

**531 The City and Culture U G 5**

Introduction to the comparative and cross-cultural study of cities, urban culture, and urbanism.

Prereq: One course in comp std or int stds, or grad standing, or permission of instructor. Not open to students with credit for Int Stds 531. Cross-listed in International Studies.

**535 Gender, Sexuality, and Science U G 5**

Examination of relations between gender and science; topics include gendering of "science" and "nature," biological theories of sexual inequality, feminist critiques of science and technology.

Prereq: One course in comp std or wom stds. Not open to students with credit for Wom Stds 535. Cross-listed in Women's Studies.

**541 Myth and Ritual U G 5**

Ritual, myth, and literature: structural and thematic relationships.

Prereq: 10 cr hrs in literature or grad standing or permission of instructor.

**542 Native American Identity U G 5**

Historical and contemporary issues of American Indian identity, primarily in U.S.; focus on American Indian authors, artists, and scholars.

Not open to students with credit for this topic under 651 or 694.

**543 Studies in Asian American Literature and Culture U G 5**

Focused study of a topic in Asian American literary and cultural studies.

Repeatable to a maximum of 10 cr hrs. including cr hrs earned in English 587. Cross-listed with English 587.

**544 Studies in Latino/a Literature and Culture U G 5**

Focused study of a topic in Latino/a literary and cultural studies.

Repeatable to a maximum of 10 cr hrs. including cr hrs earned in English 588. Cross-listed with English 588.

**545 Intersections: Approaches to Race, Gender, Class, and Sexuality U G 5**

Examines intersections of race, gender, class, and sexuality in various sites within American culture (e.g., legal system, civil rights discourse, social justice movements).

Prereq: One course in afam&ast or comp std or wom stds or grad standing. Not open to students with credit for AfAm&ASt 545 or Wom Stds 545. Cross-listed in African-American and African Studies and Women's Studies.

**550 Wexner Center Seminar U G 1-5**

Seminar offered in conjunction with Wexner Center exhibitions, performance series, media series, or symposia; may be taught by visiting artists, performers, or critics.

Arr. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in Hist Art 500. Cross-listed in History of Art as 500.

**573 World Literature: Theory and Practice U G 5**

Discussion of world literatures in theoretical, historical, and cultural contexts, with particular attention to translation, language, nationalism, globalization, and internationalism.

Prereq: 273 or 373.

**585 Studies in Literacy**

This foundational course explores how our understanding of literacy and its relationships to ongoing societies, cultures, and social change has been challenged and revised.

Prereq: 10 credit hours of English or Comparative Studies courses at the 200 or 300-level or permission of instructor. History will be cross-listing the 585.02 version of the class only. They will offer it as 585. English will cross-list both versions (585.01 and 585.02) of the class.

**585.01 Topics in Literacy Studies U 5**

Reconsiders the "great debates" about literacy--oral v. written, etc.--through the critical study of literacy's acquisition, practice or use, and consequences/concomitants.

Prereq: 10 credit hours of English or Comparative Studies courses at the 200 or 300-level or permission of instructor. Not open to students with credit for English 585.01. Repeatable to a maximum of 10 cr hrs. Cross-listed with English 585.01.

**585.02 History of Literacy U 5**

This course seeks to understand the history of literacy by examining literacy's contributions to making the modern world, and social changes' impacts on literacy.

Prereq: 10 credit hours of English or Comparative Studies courses at the 200 or 300-level or permission of instructor. Not open to students with credit for History 585 or English 585.02. Cross-listed with History 585 and English 585.02.

**597 Issues of the Contemporary World**

Prereq: Jr or sr standing. GEC contemporary world courses.

**597.01 Global Studies of Science and Technology U 5**

Explores relations among culture, science, and technology in changing global contexts.

Prereq: Completion of GEC second writing course, quantitative and logical skills requirement, and natural science sequence; or permission of instructor; 367.02 recommended. Not open to students with credit for 597.

**597.02 Global Culture U 5**

Examines contemporary global cultural flows, the concepts useful in analyzing them, and the questions they raise about power and cultural change.

**598 Senior Seminar in Comparative Studies U 5**

Writing seminar based on students' independent research.

Prereq: 398 and sr standing. GEC third writing course.

**620 Approaches to the Study of Religion U G 5**

Survey and comparison of concepts, categories, theories, and methods used by various disciplines in the study of religion.

Prereq: 270 or Rel Stds 270 or English 280 or Hebrew 273 or Philos 270 or grad standing or permission of instructor; 270 recommended. Not open to students with credit for Rel Stds 620.

**641 The Japanese Religious Tradition U G 5**

A survey of the Japanese tradition, including Shinto, Buddhism, Taoism, New-Confucianism, and folk religion from the 6th century B.C.E. to the present.

Prereq: Permission of instructor. Not open to students with credit for Rel Stds 641 or Japanese 641. Cross-listed in Japanese.

**645 Studies in Korean-American Literature U G 5**

Critical study of Korean-American literature and literary genres of the twentieth century, with particular attention to historical, social and cultural contexts.

Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in English 681.01 or Korean 645. Cross-listed with English 681.01 and with Korean 645.

**648 Studies in Orality and Literacy U G 5**

Examination of major theories of writing and of oral composition and transmission, in juxtaposition to case material deriving from a variety of Middle Eastern cultures.

Prereq: Permission of instructor. Not open to students with credit for NELC 648. Cross-listed in Near Eastern Languages and Cultures.

**651 Topics in Comparative Studies U G 5**

Critical study of selected themes and topics in a comparative and cross-cultural perspective; emphasis on issues of method, critical theory, representation, power, knowledge, and authority.

Prereq: One course in comp std or rel stds; or grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**660 Modernity: Key Issues and Concepts U G 5**

Introduces key issues and concepts defining modernity, focusing on how modernity has shaped recent and contemporary politics and culture, as well as discussions of globalization.

Prereq: Jr standing or permission of instructor.

**665 Studies in Japanese-American Literature U G 5**

Critical study of modern Japanese-American literature in historical and cultural context; topics vary: literature of the internment, gender and identity politics, genre studies, women's writing.

Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in English 681.02 or Japanese 665. Cross-listed with English 681.02 and with Japanese 665.

**672 Poetry and Politics in the 20th-Century Mediterranean U G 5**

Exploration of several poets and poetic traditions around the Mediterranean in relation to modern political struggles: resistance to facism; dilemmas of imperialism and underdevelopment.

Prereq: 5 cr hrs in Comp Std or grad standing or permission of instructor. Not open to students with credit for NELC 672. Cross-listed in Near Eastern Languages and Cultures.

**677 Studies in World Folklore**

Prereq: English 270 or grad standing.

**677.01 Genres of Folk Literature U G 5**

Historical and cross-cultural study of genre theory; comparative study of specific genres of folk literature, e.g., fairy tales, folk tales, legends, epics, and jokes.

Repeatable to a maximum of 10 cr hrs.

**677.02 Themes in World Folklore U G 5**

Cross-cultural, cross-genre study of folklore themes; e.g., folklore of sex, folklore of religion; multidisciplinary perspective employs anthropological, psychological, and literary theory.

Repeatable to a maximum of 10 cr hrs.

**677.03 Folk Custom, Art, and Material Culture U G 5**

Study of folk customs, arts, and material culture; theoretical emphasis on structural affinities of these with other folk forms, including verbal art, ritual, festival, folk religion.

Repeatable to a maximum of 10 cr hrs.

**677.04 Comparative Folk Groups U G 5**

Comparative study of ethnic, regional, religious, kin, occupational, age or sex groups; emphasis on range of historical and contemporary theoretical perspectives used to understand groups.

Repeatable to a maximum of 10 cr hrs.

**678 Studies in Chinese-American Literature U G 5**

Critical study of modern Chinese-American literature in historical and cultural context; topics vary: gender issues, genre studies, women's writing.

Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Chinese 678 or English 681.03. Cross-listed with Chinese 678 and with English 681.03.

**693 Individual Studies U G 1-10**

Designed to give able students an opportunity to pursue special studies not otherwise offered.

Prereq: Jr standing and permission of chairperson. Not open to freshmen or sophomores. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 3-5**

Special topics.

Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Research in Comparative Studies U 1-15**

Undergraduate research in variable topics.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**706 Complex Ethnography U G 5**

Critical analysis of relationships among the researcher, object of research, framing knowledge, and political context of ethnographic work.

2.2-hr cl. Prereq: Grad standing or permission of instructor.



**710 Approaches to Comparative Cultural Studies I G 5**

Historical perspectives on modernity and difference; introduction to issues and methods involved in situating and comparing authoritative discourses (literary, religious, scientific) and other cultural processes.

Au Qtr. Prereq: Grad standing or permission of instructor.

**711 Approaches to Comparative Cultural Studies II G 5**

Contemporary practices of contextualization and comparison; exploration of issues and methods involved in situating and comparing authoritative discourses (literary, religious, scientific) and other cultural processes.

Wi Qtr. Prereq: Grad standing or permission of instructor.

**715 Theorizing America G 5**

Interdisciplinary study of culture, identity, and representation in the U.S.

Prereq: Grad standing or permission of instructor.

**716 Theorizing Culture U G 5**

The concept of culture as it has developed over time; emphasis on tension between descriptive and normative approaches.

Prereq: Grad standing or permission of instructor.

**725 Theorizing Religion U G 5**

Relationships between religion and other domains in a cross-cultural, comparative framework with attention to theoretical models and particular texts and traditions.

Prereq: Grad standing or permission of instructor.

**730 Theorizing Science and Technology U G 5**

Introduction to comparative and cultural studies of science and technology.

Prereq: Grad standing or permission of instructor.

**739 Comparative Constitutional Politics G 5**

Compares constitutions and constitutionalism across cultures and through different disciplines with special attention to how people make claims to secure their rights and interests.

Prereq: Grad standing or permission of instructor. Not open to students with credit for History 739. Cross-listed in History.

**741 Theorizing Genre U G 5**

Comparative studies of genre theory and specific genres (e.g., epic, novel, autobiography, film genres) in cultural context.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**752 Race and Citizenship: Formations in Critical Race Theory U G 5**

Critical analysis of concepts of law, e.g., a value-free legal code, universality of legal concepts, equitable enforcement; emphasis on U.S.

Prereq: Grad standing or permission of instructor.

**760 Theorizing Performance U G 5**

Advanced introduction to field of performance studies; theory and practice of expressive social behaviors, including theatre, dance, ritual, sports, and embodied practices of everyday life.

Prereq: Grad standing or permission of instructor.

**770 Introduction to Graduate Study in Folklore**

A two-course sequence in current scholarship and methods necessary for advanced study in folklore.

Cross-listed in English.

**770.01 Folklore Genres and Interpretive Methods G 5**

Introduction to the canonical folklore genres and practice and methods in the interpretation of folklore in context.

Prereq: Grad standing or permission of instructor. Advanced undergrads may be admitted with permission of instructor. Not open to students with credit for English 770.01.

**770.02 Field Research G 5**

Introduction to ethnographic research design, participant observation and interview methods, ethics in human subject research, archiving of research materials, and ethnographic writing.

Prereq: Grad standing or permission of instructor. 770.01 or English 770.01 recommended. Not open to students with credit for English 770.02.

**770.03 The Ethnography of Communication G 5**

Ethnographic approaches to social interaction and performance; the speech community; the communicative economy.

Prereq: Grad standing.

**781 Studies in Women's History U G 5**

An intensive reading course designed to prepare graduate students in women's history in a comparative framework.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs. including cr hrs earned in History 781. Cross-listed in History.

**H783 Honors Research U 5-10**

Senior honors course leading to graduation with distinction; independent study for the student with special aptitude.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a grade of A in at least half of the comp std courses taken and an average of B in the remainder; permission of the instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 10 cr hrs. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**790 Foundations of Contemporary Critical Theory U G 5**

Interdisciplinary survey of the theoretical bases of major contemporary approaches to the study of literature; readings in Marx, Freud, Derrida, Cixous, and others.

Prereq: Jr or sr or grad standing. Cross-listed in English, French, German, Italian, and Spanish.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Arr. Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs.

**798 Thesis Seminar G 3**

Writing seminar for second-year students in the comparative studies graduate program.

Wi Qtr. 1 2-hr cl. Prereq: Grad standing in comp std.

**820 Comparative Sacred Architecture G 5**

Explores the diversity of natural and built environments designed for various religious purposes in different cultural and historical contexts.

**825 Sacred Biography and the Cult of the Saints G 5**

Issues and problems in the study of sacred biography and the cult of the saints in both Christian and cross-cultural contexts.

**826 Religion and Sexuality G 5**

Relationships between religion and sexuality in a cross-cultural, comparative framework with attention to theoretical models as well as particular texts and traditions.

**827 Religion and Politics G 5**

Explores relationships across political and religious institutions and practices; topics vary.

Repeatable to a maximum of 15 cr hrs.

**830 Science and Difference G 5**

Explores scientific constructions of difference (racial, gender, sexual, cultural) and the consequences of difference for the making of science.

**841 Women's Autobiographical Writing G 5**

Maps diverse modes and practices of women's life writing by considering both theoretical works and autobiographical writing.

**845 Literature in Global Contexts G 5**

Discussion of literary texts, cultural-political documents, and theoretical discourses in global contexts.

Repeatable to a maximum of 15 cr hrs.

**850 Wexner Center Seminar G 1-5**

Graduate seminar offered in conjunction with Wexner Center exhibitions, performance series, media series, or symposia; may be taught by visiting artists, performers, or critics.

Arr. Repeatable to a maximum of 15 cr hrs. Including cr hrs earned in Hist Art 800. Cross-listed in History of Art as 800.

**862 Performance and Politics G 5**

Analyzes role of performance in relation to political processes and cultural production.

Repeatable to a maximum of 15 cr hrs.

**880 Culture and Capital G 5**

Exploration of the theoretical approaches to relations between cultural and economic production; examines major materialist theories, materialist feminism, and other forms of materialist critique.

Repeatable to a maximum of 15 cr hrs.

**890 Interdepartmental Studies in Critical Theory G 5**

Interdisciplinary study of a movement (phenomenology, deconstruction, etc.) or problem (intentionality, evaluation, etc.) in literary theory.

Repeatable to a maximum of 10 cr hrs. Background in critical theory recommended. Cross-listed in English, French, German, Spanish, and Women's Studies.

**996 Research in Comparative Studies: Candidacy Examination G 1-18**

Research in preparation for Ph.D. exams.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of graduate studies chair. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**998 Research in Comparative Studies: Thesis G 1-18**

Research for master's thesis.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Comparative Studies: Dissertation G 1-18**

Research for dissertation.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable. This course is graded S/U.

**Computer Science and Engineering**

395 Dreese Lab, 2015 Neil Ave, 292-5813

**100 Introduction to Computing Technology U 3**

A course of general interest giving experience with personal computer software, e.g., word processors and spreadsheets; provides fundamental computer literacy; neither teaches nor requires computer programming.

Su, Au, Wi, Sp Qtrs. 3 1-hr lec. Not open to students with credit for 101 or 200.

**101 Computer-Assisted Problem Solving U 4**

Problem solving techniques using productivity software; spreadsheets, formulas, conditional logic; relational databases, relational algebra; word processing; data presentation; graphics.

Su, Au, Wi, Sp Qtrs. 3 1-hr lec, 1 2-hr lab. Prereq: Mathematics placement level R or higher; or Math 075 or higher. Not open to students with credit for 200. GEC course.

**102 Introduction to the Internet and the World-Wide Web U 3**

Course of general interest giving experience with accessing and providing information on the World-Wide Web; neither teaches nor requires computer programming.

Su Qtr. 3 cl. Prereq: 100 or 101 or 200 or equiv. Not open to students majoring in CS&E. Uses Netscape and teaches HTML.

**105 Computer-Assisted Problem Solving for Construction Management U 4**

Using productivity software, especially spreadsheets and databases, to solve problems for construction management; relative/absolute cell referencing, logic, functions, relational databases, querying, project integration.

Wi, Sp Qtrs. 2 1.5-hr lec, 1 2-hr lab. Prereq: Math 148. Not open to students with credit for 101 or 200.

**200 Computer Assisted Problem Solving for Business U 5**

Problem solving emphasizing spreadsheets and conditional logic; using productivity software; relational databases, word processing, data presentation, object linking and embedding, and communication systems.

Su, Au, Wi, Sp Qtrs. 4 1-hr lec, 1 2-hr lab. Prereq: Math 116, 130, or 148. Not open to students with credit for 101.

**201 Elementary Computer Programming U 4**

Introduction to computer programming and to problem solving techniques using computer programs; programming lab experience.

Su, Au, Wi, Sp Qtrs. 3 1-hr lec, 1 1-hr lab. Java is taught.

**202 Introduction to Programming and Algorithms for Engineers and Scientists U 4**

Introduction to computer programming and to problem solving techniques using computer programs with applications in engineering and the physical sciences; algorithm development; programming lab experience.

Su, Au, Wi, Sp Qtrs. 3 1-hr lec, 1 1-hr lab. Prereq: Math 151. C++ is taught.

**203 Computational Thinking in Context: Interactive Animations and Games U 4**

Introduction to computational thinking, focusing on problem solving and programming concepts and skills needed to create interactive graphics, animations, and games; creativity and imagination encouraged.

Au, Wi, Sp Qtrs. 1 1-hr lec, 3 1-hr lab. Recommended for students with little or no programming experience or who are not confident in their programming background.

**204 Computational Thinking in Context: Digital Images and Sound U 4**

Introduction to computational thinking, focusing on problem solving and programming concepts and skills needed to manipulate digital images and sound; creativity and imagination encouraged.

Au, Wi, Sp Qtrs. 2 1-hr lec, 2 1-hr lab. Recommended for students with little or no programming experience or who are not confident in their programming background.

**214 Data Structures for Information Systems U 4**

Subroutines and modular programming; searching; basic data structures; recursion; introduction to sequential files.

Su, Au, Wi, Sp Qtrs. 3 cl, 1-3 hrs lab. Prereq: 201. Java is used.

**215^ Introduction to Object-Oriented Programming U 4**

Introduction to object-oriented programming; encapsulation using classes,

inheritance, etc.; basic data structures.

Su, Au, Wi, Sp Qtrs. 3 1-hr lec, 1 2-hr lab. Prereq: 202 or equiv. Not open to Cptr/Inf majors. C++ is taught.

**221 Software Development Using Components U 4**

Component-based software from client programmer's perspective; intellectual foundations of software engineering; mathematical modeling; specification of object-oriented components; layering; testing and debugging layered operations.

Su, Au, Wi, Sp Qtrs. 3 cl, 1 1-hr lab. Prereq: Math 151 or 161/H161 or H190; 201 or 202 or 203 or 204 or En Graph 167 or Engineer H192 or CS&E Placement Level A. RESOLVE/C++ is taught.

**222 Development of Software Components U 4**

Templates for generalization and decoupling; container components; component-based software from implementer's perspective; data representation using layering and using pointers.

Su, Au, Wi, Sp Qtrs. 3 1-hr lec, 1 1-hr lab. (H222: Sp Qtr.) H222 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 221. RESOLVE/C++ is used.

**230 Introduction to C++ Programming U 4**

Introduction to programming in C++ and object-oriented programming; encapsulation using classes, inheritance, etc.

Su, Au, Wi, Sp Qtrs. 3 cl, 1 3-hr lab. Prereq: 201, 202, or En Graph 167 or equiv. Not open to Cptr/Inf majors.

**294 Group Studies U 1-5**

This course is designed to give the student an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs.

**314 Business Programming with File Processing U 4**

Business data processing principles and programming; sequential file processing algorithms, sorting, data validation. COBOL is taught.

Au, Wi Qtrs. 3 cl. Prereq: 214.

**321 Case Studies in Component-Based Software U 4**

Case studies using: tree and binary tree components and binary search trees; context-free grammars; tokenizing, parsing, and code generating components; sorting components and sorting algorithms.

Su, Au, Wi, Sp Qtrs. 3 1-hr lec, 1 1-hr lab. Prereq: 222/H222. Prereq or concur: Math 366. RESOLVE/C++ is used.

**360 Introduction to Computer Systems U 4**

Introduction to computer architecture at the machine language and assembler language level; assembler language programming and lab.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 214 or 222/H222.

**459 Programming Languages for Programmers**

Elementary language constructs of various programming languages for students who are well versed in programming.

This course is intended for experienced programmers who wish to learn an additional language. All are 1-hr lectures.

**459.11 The UNIX Programming Environment U 1**

Introduction to the UNIX programming environment including: shell programming (csh); regular expressions; makefiles; grep, sed, and awk programming languages.

Wi Qtr. 1 cl. Prereq: 321. This course is graded S/U.

**459.21 Programming in C U 1**

Au, Wi, Sp Qtrs. Prereq: 314 or 321. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

**459.22 Programming in C++ U 1**

Elementary language constructs of C++ for students well versed in programming.

Su, Au, Wi, Sp Qtrs. Prereq: 321. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

**459.23 Programming in JAVA U 1**

Elementary language constructs of JAVA for students who are well versed in programming.

Su, Au, Wi, Sp Qtrs. 1 cl. Prereq: 321. This course is graded S/U.

**459.31 Programming in LISP U 1**

Sp Qtr. Prereq: 314 or 321. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

**459.41^ Programming in COBOL U 1**

Au Qtr. Prereq: 321. Not open to students with credit for 314. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

**459.51 Programming in Perl U 1**

Basic syntax of the Perl programming language; several common applications including text and file processing.

Sp Qtr. 1 cl. Prereq: 321. This course is graded S/U.

**489 Professional Practice in Industry U 2**

Preparation and submission of a comprehensive report based on actual employment experience in a co-op job in industry.

Su, Au, Wi, Sp Qtrs. Prereq: Admission to co-op program in CS&E. Repeatable to a maximum of 8 cr hrs. Cr hrs to be used as free electives only. This course is graded S/U.

**493 Individual Studies U 1-5**

Planning, conducting, and reporting a special study appropriate to the needs of the student.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**494 Group Studies U 1-5**

Designed to give the student an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**502 Object-Oriented Programming for Engineers and Scientists U G 3**

Introduction to object-oriented programming for experienced procedural programmers, with applications from engineering and science; interfaces, classes, packages; implements and extends relationships; design patterns.

Au Qtr. 3 cl. Prereq: Math 152 or equiv; En Graph 167 or 202 or equiv; additional programming experience. Not open to students with credit for 321 or 694J. Java is taught. May not be used as a technical elective by CS&E majors.

**516<sup>^</sup> Information Systems Analysis and Design U G 4**

Introduction to information systems development; tools of structured analysis; data flow diagrams, data dictionary, process descriptions; students develop user specifications in a term project.

Au, Sp Qtrs. 3 cl, 1 3-hr lab. Prereq: 314 and Math 366.

**541 Elementary Numerical Methods U G 3**

Survey of basic numerical methods; number systems and errors of finite representation, solution of a single non-linear equation, interpolation, numerical integration, and solution of linear systems.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 221/H221 or 230 or 502; Math 153.

**551 Introduction to Information Security U 3**

Introduction to security of digital information including: threats, regulations, risk management, attack detection and response, cryptography, forensics, and technical training and certification.

Wi, Sp Qtrs. 3 cl. Prereq: 314 or 321 or 502 or Acct&MIS 531 or equiv, and second writing course; or permission of instructor.

**560 Systems Software Design, Development, and Documentation U G 5**

Software engineering as applied to various classical computer systems programs; assemblers, macroprocessors, loaders; major group project involving the design and implementation of systems software; communication skills emphasized.

Su, Au, Wi, Sp Qtrs. 4 cl. Prereq: 314 or 321 and 360 or ECE 265, and a second writing course.

**570<sup>^</sup> File Design and Analysis U G 3**

Random file processing; file organization and access methods; time and space considerations. Introduction to relational database systems.

Au, Wi Qtrs. 3 cl. Prereq: 314 or 321, and Math 366.

**581 Interactive Computer Graphics U G 4**

Introduction to interactive graphics programming, Graphics APIs, display hardware, graphics processing pipeline (geometry processing, rasterization, texture mapping, etc.), geometric modeling, image formats, color theories.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 222 or 230 or 502.

**601 Social and Ethical Issues in Computing U G 1**

Social, ethical, and legal issues facing computing professionals; ethical principles; discussion of case studies.

Wi, Sp Qtrs. 1 1.5-hr cl. Prereq: 560.

**612<sup>^</sup> Introduction to Cognitive Science U G 3**

Cognitive science is an interdisciplinary study of the nature of human thought psychological, philosophical, linguistic, and artificial intelligence approaches to knowledge representation.

Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: Permission of instructor and a total of 12 cr hrs from at least two of the following areas: computer science, linguistics, philosophy, and psychology. Not open to students with credit for Linguist 612, Philos 612 or Psych 612. Cross-listed in Linguistics, Philosophy, and Psychology.

**616 Object-Oriented Systems Analysis U G 4**

Information systems analysis; object-oriented analysis models and tools; use cases, system modeling using UML; requirements specification development; term project.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 670 and Math 366; or grad standing in CS&E. Not open to students with credit for 516 or 694E.

**621 Introduction to High-Performance Computing U G 3**

High-performance computer architecture, scientific/engineering computation, development of parallel programs, parallelization overheads; performance evaluation.

Au Qtr. 3 cl. Prereq: 541; Math 568 or Math 571 or Math 601. Course is well suited to grad students from science/engineering in addition to CS&E students.

**625 Introduction to Automata and Formal Languages U G 3**

Machine based and formal grammar based models of computation: finite automata; regular languages, context free languages, pushdown automata, and Turing machines; Church-Turing thesis; introduction to the halting problem.

Au, Wi, Sp Qtrs. 3 cl. H625 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 321 and Math 366. Honors section offered Wi Qtr.

**630 Survey of Artificial Intelligence I: Basic Techniques U G 3**

A survey of the basic concepts and techniques, problem solving, and knowledge representation, including an introduction to expert systems.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 222/H222 or 230 or 502; Math 366.

**634 Computer Vision for Human-Computer Interaction U G 3**

Computer vision algorithms for use in human-computer interactive systems. Topics include image formation, image features, segmentation, shape analysis, object tracking, motion calculation, and applications.

Au Qtr. 3 cl. Prereq: 630 or ECE 352; Math 568 or 571; or permission of instructor.

**640<sup>^</sup> Numerical Analysis U G 3**

Analysis of numerical methods for ordinary differential equations, boundary value, and characteristic value problems, splines, non-linear equations, approximation of functions; standard mathematical software libraries.

Wi Qtr. 3 cl. Prereq: 221 or equiv; Math 255 or 415; and 541 or grad standing.

**642<sup>^</sup> Numerical Linear Algebra U G 3**

Iterative methods for the solution of linear systems, computation of eigenvalues and eigenvectors, linear programming-simplex method, use of standard mathematical software libraries.

Au Qtr. 3 cl. Prereq: 541; Math 568 or 571.

**651 Network Security U G 3**

An introduction to network security; security threats, services, protocols, verification and design, architectures, technologies, testing advances; elements of cryptography; securing network systems and applications.

Sp Qtr. 3 cl. Prereq: 677.

**655 Introduction to the Principles of Programming Languages U G 4**

Programming language concepts such as grammars and parse trees; interpretation versus compilation, binding, and scope rules; and language constructs for control and data abstraction.

Su, Au, Wi, Sp Qtrs. 3 cl, 1 3-hr lab. Prereq: 560 and 625.

**660 Introduction to Operating Systems U G 3**

Operating system concepts: memory management, process management, and file management; sample operating systems.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 560; 675 or ECE 662; Stat 427.

**662 Operating Systems Laboratory U G 3**

Construction of operating system components: scheduling, context switching, progress management, message passing, memory management, interrupt processing.

Wi Qtr. 2 cl, 2 1.5-hr lab. Prereq: 459.21 and 660. Lab assignments are programmed in C.

**668 Applied Component-Based Programming for Engineers and Scientists U G 3**

Application of component-based software engineering technology to design and implementation of software systems in engineering and science.

Wi Qtr. 3 cl. Prereq: 502 or 560. Not open to students with credit for 768 or ECE 768. Cross-listed in Electrical Engineering.

**670 Introduction to Database Systems I U G 3**

Database systems use; query languages-SQL and relational algebra; logical database design; entity-relationship model, database normalization; introduction to transaction processing; database design project.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 314 or 222 or 230 or 502; Math 366.

**671 Introduction to Database Systems II U G 3**

Object-oriented and extended relational database systems; data warehousing; active databases; GUI interface to a relational database system; introduction to data and file storage.

Au, Wi Qtrs. 3 cl. Prereq: 670.

**673<sup>A</sup> Database and Information Management for Manufacturing U G 3**

File and data management, information flow in manufacturing, handling of geometric data for CAD/CAM/CAE, and communication between different computer systems.

Sp Qtr. Prereq: 221 or permission of instructor. Not open to CS&E majors. Open to students in Manufacturing Systems and Engineering Program.

**674 Introduction to Data Mining U G 3**

Introduction to the knowledge discovery process, key data mining techniques, efficient high performance mining algorithms, and exposure to applications of data mining.

Sp Qtr. 3 cl. Prereq: 670; 680; or permission of instructor.

**675 Introduction to Computer Architecture**

Computer system components, instruction set design, hardwired control units, arithmetic algorithms/circuits, floating-point operations, introduction to memory and I/O interfaces.

**675.01 Introduction to Computer Architecture U G 3**

Au, Wi, Sp Qtrs. 3 cl. Prereq: 360 or ECE 265; Math 366; ECE 261. Not open to students with credit for 675 or 675.02. Intended for students with previous knowledge of Digital Logic Design.

**675.02 Introduction to Computer Architecture U G 4**

Su, Au, Sp Qtrs. 4 cl. Prereq: 360 or ECE 265; Math 366. Not open to students with credit for 675 or 675.01. Intended for students without previous knowledge of Digital Logic Design.

**676 Microcomputer Systems U G 3**

Bus structure; memory, interrupt, and I/O design; case studies on microprocessors and systems with emphasis on selection, evaluation, and applications based on their architectural features.

Sp Qtr. 3 cl. Prereq: 675 or ECE 662.

**677 Introduction to Computer Networking U G 3**

Data communications, network architectures, communication protocols, data link control, medium access control; introduction to local area networks, metropolitan area networks, and wide area networks; introduction to Internet and TCP/IP.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Physics 112 or 132; 360 or ECE 265; 459.21. Lab assignments are programmed in C.

**678 Internetworking U G 3**

High-speed local area networks, metropolitan area networks, bridges, routers, gateways, TCP/IP, application services, network management.

Wi Qtr. 3 cl. Prereq: 660 and 677.

**679 Introduction to Multimedia Networking U G 3**

Introduction to multimedia data types, multimedia compression technologies World-Wide-Web architectures, proxies, streaming video technologies, and network adaptation to multimedia.

Au Qtr. 3 cl. Prereq: 677.

**680 Introduction to Analysis of Algorithms and Data Structures U G 3**

Performance analysis considerations in design of algorithms and data structures; asymptotic analysis, recurrence relations, probabilistic analysis, divide and conquer; searching, sorting, and graph processing algorithms.

Su, Au, Wi, Sp Qtrs. 3 cl. H680 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 560 or 668 or ECE 668; Stat 427; Math 566.

**681 Introduction to Computer Graphics U G 4**

Introduction to display hardware and applications, interactive techniques, 2D scan conversion, 2D and 3D transformations, clipping, 3D viewing, introduction to visible surface algorithms and illumination models.

Au, Wi Qtrs. 3 cl. Prereq: 560; 581; or grad standing.

**682 Computer Animation U G 4**

Survey of computer animation algorithms and techniques; interpolation, path following, quaternions, object deformations, forward/inverse kinematics, rigid body dynamics, particle systems flocking, autonomous behavior, L-systems.

Wi Qtr. 2 2-hr cl. Prereq: 541; 560; 581 or 681; 601. Not open to students with credit for 694F.

**693 Individual Studies U G 1-5**

Designed to give the student an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Designed to give the student an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs.

**699 Undergraduate Research in Computer Science and Engineering U 1-5**

Opportunity for undergraduate student to conduct research in Computer

Science and Engineering.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**721 Introduction to Parallel Computing U G 4**

Principles and practice of parallel computing; design, implementation, and evaluation of parallel programs for shared-memory architectures, local-memory architectures, and vector processors.

Wi Qtr. 3 cl, 1-3 hr lab. Prereq: 621. Lab assignments given.

**725 Computability and Unsolvability U G 3**

Time and space measures; Turing machine variants and RAM's; universal Turing machines; undecidable language problems; development of efficient algorithms.

Wi, Sp Qtrs. 3 cl. Prereq: 625.

**727<sup>A</sup>\* Computational Complexity U G 3**

Time and space complexity classes and hierarchies; deterministic and nondeterministic log space; polynomial time; polynomial space; complete and provably hard problems; random polynomial time.

Au Qtr. 3 cl. Prereq: 725 and 780.

**730 Survey of Artificial Intelligence II: Advanced Topics U G 3**

A survey of advanced concepts, techniques, and applications of artificial intelligence, including knowledge-based systems, learning, natural language understanding, and vision.

Au Qtr. 3 cl. Prereq: 630.

**731 Knowledge-Based Systems U G 4**

Theory and practice of expert systems and knowledge-based systems; use of current knowledge-based systems software tools.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 560; 601; 630 or grad standing.

**732\* Computational Linguistics U G 4**

Computational techniques for understanding and producing natural language, investigating the structure and meaning of sentences and connected discourse. Symbolic and probabilistic techniques are discussed.

Sp Qtr. 3 cl. Prereq: 630, 625 or Linguist 684.01, Linguist 201, or permission of instructor. This course includes programming assignments. Students are expected to be proficient in at least one programming language in order to succeed in the course. Offered even numbered years.

**733 Foundations of Spoken Language Processing U G 3**

Fundamentals of automatic speech recognition and speech synthesis; lab projects concentrating on building systems to process speech.

Sp Qtr. 2 1.5-hr cl. Prereq: 625 or Linguist 484.01; 630; 730 or Stat 428. Offered in even-numbered years.

**737<sup>A</sup> Proseminar in Cognitive Science U G 2**

An in-depth examination of the interdisciplinary field of Cognitive Science; emphasizes fundamental issues of each discipline, provides illustrations of representative research being conducted at OSU.

Sp Qtr. 1 2-hr cl. Prereq: 612, Linguist 612, Psych 612, or Philos 612, or permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in Industrial Systems Engineering, Linguistics, Philosophy, Psychology, and Speech and Hearing Science.

**739<sup>A</sup> Knowledge-Based Systems in Engineering U G 3**

Application of knowledge-based system principles to engineering problems, including practical knowledge engineering, techniques for problem assessment, and implementation.

Sp Qtr. 2 1.5-hr cl. Prereq: 630 or permission of instructor. Cross-listed in Chemical, Civil Engineering and Nuclear Engineering.

**741 Comparative Operating Systems U G 3**

A careful examination of a number of representative computer operating systems.

Su Qtr. 3 cl. Prereq: 660 or equiv.

**755 Programming Languages U G 3**

Procedural abstraction, data abstraction, control abstraction (nondeterminism, concurrency, etc.), operational semantics, denotational semantics, specification, and verification of programs.

Wi, Sp Qtrs. 3 cl. Prereq: 655 and Math 366.

**756 Compiler Design and Implementation U G 4**

Syntactic and semantic analysis using formal models, automatic programming, generation of optimal code, synthesis of messages, design of incremental programming environments; students write a simple translator.

Sp Qtr. 3 cl. Prereq: 459.21, 625, 655, and 680. Lab assignments are programmed in C.

**757 Software Engineering U G 3**

Principles of design, implementation, validation, and management of computer software; emphasis on reading and discussing papers from relevant journals and proceedings; term project required.

Su, Au, Wi Qtrs. 3 cl. Prereq: 560 or equiv and sr or grad standing or permission of instructor.

**758 Software Engineering Project U G 4**

Principles and applications of programming team organization, cost estimation, scheduling, requirements analysis, design, documentation, programming-in-the-large, group reviews, testing, and debugging.

Au, Sp Qtrs. 3 cl, 3-hr lab. Prereq: 757; 601.

**760 Operating Systems U G 3**

Advanced operating system concepts: process synchronization, process deadlock, security and access control, distributed operating system principles and prototypes.

Au, Wi Qtrs. 3 cl. Prereq: 660 or equiv.

**762 Web-Services-Based Distributed Systems Project U G 4**

Construction of a significant distributed software system using web services; team-based implementation of non-trivial algorithm(s) and realistic user interface.

Sp Qtr. 3 cl. Prereq: 601; 660; 662 or 677 or 760. Lab assignments are programmed in C.

**763 Introduction to Distributed Computing U G 3**

Concepts and mechanisms in design of distributed systems; process synchronization, global state: reliability; distributed resource management; deadlock, performance evaluation; representative distributed operating systems.

Sp Qtr. 3 cl. Prereq: 760.

**765<sup>A</sup> Management Information Systems U G 3**

Theory and practice of management information systems from the viewpoint of computer and information science; systems approach to management and organization; significance of information.

Wi Qtr. 3 cl. Prereq: Grad standing in CS&E or permission of instructor.

**767\* Applied Use-Case-Driven Object-Oriented Analysis and Design for Engineers and Scientists U G 3**

Case study using incremental and iterative use-case-driven process of building object-oriented scientific and engineering software systems; analysis, design, UML modeling, design patterns.

Sp Qtr. 3 cl. Prereq: 668 or ECE 668. Not open to students with credit for ECE 767. Cross-listed in Electrical and Computer Engineering. Odd years.

**769 Applied Enterprise Distributed Computing for Engineers and Scientists U G 3**

Industry-standard technologies for enterprise distributed computing, especially in engineering and scientific contexts; Java-based technologies, XML, Web Services.

Sp Qtr. 2 1.5-hr cl. Prereq: 660; 668 or ECE 668. Not open to students with credit for Cptr/Inf/Elec Eng 894X, CS&E 794R or ECE 694R or ECE 769. Cross-listed in Electrical and Computer Engineering.

**770 Database System Implementation U G 3**

Fundamental design considerations, system principles and machine organizations of database systems; performance analysis of design alternatives, system configurations and hardware organizations; query and transaction processing.

Wi Qtr. 3 cl. Prereq: 660, 670; 671 or grad standing in CS&E.

**772 Information System Project U G 4**

Information system design and development principles: requirement analysis, database design methods and tools, process design, application development tools, testing, evaluation and documentation. Group term project.

Wi Qtr. 3 cl. Prereq: 560; 616 or 757; 601; 670.

**775 Computer Architecture U G 3**

Microprogramming, bit-slice logic, reduced instruction set computer architecture, advanced memory organizations, introduction to parallel computer architectures, and performance models/evaluation.

Au, Sp Qtrs. 3 cl. Prereq: 660; 675 or ECE 662.

**776<sup>A</sup> Hardware/Software Interface Design Project U G 4**

Principles and application of hardware and software design: design, programming, testing, and evaluation of an autonomous mobile robot system.

Sp Qtr. 3 cl. Prereq: 459.21; 601; 660; ECE 567 or 329; or permission of instructor.

**777 Telecommunication Networks U G 3**

Broadband integrated services digital networks, asynchronous transfer mode, gigabit networks, wireless networks, multimedia networks, all-optical networks, synchronous optical network.

Sp Qtr. 3 cl. Prereq: 677.

**778 Computer-Aided Design and Analysis of VLSI Circuits U G 4**

VLSI design methodology; specification of VLSI circuits at various levels of abstraction; design, layout, and computer simulation of circuits; high-level synthesis; design projects.

Au Qtr. 3 cl. Prereq: 560; ECE 561; 601; 675 or ECE 662.

**779 Introduction to Neural Networks U G 3**

Survey of fundamental methods and techniques of artificial neural networks: single and multi-layer networks; associative memory and statistical networks; supervised and unsupervised learning.

Wi Qtr. 3 cl. Prereq: 630 or ECE 600 or 662 or permission of instructor. Not open to students with credit for ECE 779. Cross-listed in Electrical and Computer Engineering.

**780 Analysis of Algorithms U G 3**

Algorithm design paradigms; mathematical analysis of algorithms; NP-completeness.

Au, Wi Qtrs. 3 cl. Prereq: 680 or grad standing and equiv of 680.

**781 Introduction to 3D Image Generation U G 4**

3D viewing algorithms, advanced illumination models, smooth shading, shadows, transparency, ray tracing, and color models.

Wi Qtr. 3 cl. Prereq: 581 or 681; 560 or grad standing. Lab assignments are programmed in C.

**782 Advanced 3D Image Generation U G 3**

Advanced topics in rendering 3D realistic imagery including texture mapping, sampling theory, advanced ray tracing, radiosity, 3D rendering hardware, introduction to surfaces, animation, and volume graphics.

Au Qtr. 3 cl. Prereq: 681. Lab assignments are programmed in C.

**H783 Honors Research U 1-5**

Supervised research and project work arranged individually for honors students.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Honors standing; permission of instructor. Limitations on number of credit hours applicable toward degree are governed by departmental rules. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**784 Geometric Modeling U G 3**

Common mathematical techniques for modeling geometric objects in computer graphics and CAD applications. Sample based modeling and hierarchical representations.

Sp Qtr. 3 cl. Prereq: 681 or permission of instructor. Lab assignments are programmed in C, C++.

**788 Intermediate Studies in Computer and Information Science**

Intermediate work in one of the specialized areas of computer and information science is offered.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor.

**788.01 Computational Complexity U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.02 Information Systems and Database Systems U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.03 Symbolic Computation U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.04 Artificial Intelligence U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.06 Operating Systems and Systems Programming U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.07 Programming Languages U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.08 Computer Organization U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.09 Numerical Analysis U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.10 Human-Computer Interaction U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.11 Parallel and Distributed Computing U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.12 Software Engineering U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**788.14 Computer Graphics U G 1-5**

Repeatable to a maximum of 30 cr hrs.

**793 Individual Studies U G 1-5**

Designed to give the individual student an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 24 cr hrs. Repeatable to a maximum of 12 cr hrs for undergraduate and 24 cr hrs for grad students. This course is graded S/U.

**794 Group Studies U G 1-5**

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**797^ Interdepartmental Seminar U G 1-5**

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Repeatable by permission.

**875 Advanced Computer Architecture G 3**

Advanced pipelining techniques, vector supercomputers, shared-memory and distributed-memory multiprocessors, massively parallel systems, multithreaded machines.

Sp Qtr. 3 cl. Prereq: 721.

**885 Seminar on Research Topics in Computer and Information Science G 1**

Lectures on current research by faculty members in the department.

Au Qtr. 2 cl. Prereq: 1st yr grad student in CS&E. This course is graded S/U.

**888 Advanced Studies in Computer and Information Science**

Advanced work in one of the specialized areas of computer and information science.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor.

**888.01 Computational Complexity G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.02 Information Systems and Database Systems G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.03 Symbolic Computation G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.04 Artificial Intelligence G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.06 Operating Systems and Systems Programming G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.07 Programming Languages G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.08 Computer Organization G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.09 Numerical Analysis G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.10 Human-Computer Interaction G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.11 Parallel and Distributed Computing G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.12 Software Engineering G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.13 Biomedical Information Sys G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888.14 Computer Graphics G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**889 Advanced Seminar in Computer and Information Science G 2**

Selected topics of particular current interest in both the research and applications of computer science, engineering and information science are considered.

Wi, Sp Qtrs. 1 2-hr cl. Prereq: 2nd qtr grad standing in CS&E or permission of instructor. This course is graded S/U.

**891 Interdisciplinary Seminar**

Graduate seminars for graduate interdisciplinary studies.

Cross-listed in Biomedical Engineering, Biomedical Informatics, Biophysics, Electrical and Computer Engineering, Integrated Biomedical Science, Pathology, Radiology, Statistics, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminars for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**894 Group Studies G 1-5**

Designed to give graduate students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

200 Agricultural Engineering Building, 590 Woody Hayes Drive, 292-6131

**205 Introduction to Construction Management U 4**

Overview of residential, commercial, industrial, institutional, and transportation sectors of the construction industry and the role of the construction manager. Quantitative aspects are emphasized.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 3-hr lab. Prereq: Math 148.

**240 Basic Metal Fabrication for the Construction Industry U 4**

A study of the principles and practices in basic metal fabrication using current metallurgical and welding processes required in the construction industry.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl, 2 2-hr labs. Not open to students with credit for AgSysMgt 240.

**241 Construction Methods and Materials U 4**

Material selection and construction methods for residential and commercial construction.

Su, Au, Wi, Sp Qtrs. 2 cl, 2 2-hr labs. Not open to students with credit for AgSysMgt 241.

**293 Individual Studies U 1-5**

Work on problems not in regular courses; practice in development, organization, solution and reporting on such problems.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.50 cumulative pt-hr ratio, written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Basic group studies in Construction Systems Management.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**305 Professional Development I U 4**

Business communications and professional development in construction systems management including informative and persuasive writing, academic planning, project management, research techniques, teaming, report writing and presentations.

Su, Au, Wi, Sp Qtrs. 4 cl. Prereq: English 110. Not open to students with credit for AgSysMgt 305.

**310 Electrical and Lighting Systems for Buildings U 4**

Concepts of electricity and illumination applied to the design and installation of electrical and lighting systems in buildings including safety, code requirements and installation methods.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab. Prereq: Physics 111. Not open to students with credit for AgSysMgt 310.

**345 Mechanical Systems for Buildings U 4**

Fundamentals of HVAC, plumbing, lighting, fire protection and noise and vibration control and their impact on building design and construction.

Au, Wi, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq: Physics 111 or 131.

**440 Construction Surveying and Site Development U 5**

Principles of hydrology, soil mechanics, and surveying as applied to site development for residential and commercial construction.

Su, Au, Sp Qtrs. 2 2-hr cl, 1 3-hr lab. Prereq: 305, Physics 111 or 131, CS&E 101 or 105 or 200 or Engineer 182 or 183, En Graph 121 or 166 or Engineer 181.

**441 Construction Drawings and Estimating U 5**

Reading and interpretation of construction drawings and specifications for buildings. Estimating the material requirements of building construction projects using commercially available estimating aids.

Au, Wi, Sp Qtrs. 3 cl, 2 2-hr labs. Prereq: 240, 241, 310, 345, and 440. Not open to students with credit for Ag&ConSM 341.

**489 Internship in Construction Systems Management U 3**

A pre-approved internship of planned and supervised work experiences which provide professional and technical growth in the construction industry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: ConSysMt major, permission of internship coordinator, 15 cr hrs in ConSysMt. Not open to students with 5 or more hours of credit in AgSysMgt 489. Repeatable to a maximum of 6 cr hrs. Quarter of enrollment will be assigned by internship coordinator in consultation with the student.

**540 Estimating and Scheduling U G 4**

Principles of estimating and scheduling applied to standard commercial/residential construction including material, equipment and labor.

Au, Wi, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq: 441.

**545 Structures for Construction Managers I U G 4**

Principles of statics, material properties, structural analysis and design useful in understanding the design and managing the construction of steel and wood structures.

Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Prereq: 240, 241, Physics 111 or 131.

**Construction Systems Management**

**546 Structures for Construction Managers II U G 4**

Continuation of 545 to include concrete and masonry structures and foundations.

Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Prereq: 545.

**593 Individual Studies U G 1-5**

Individual study of problems and topics not included in regular courses.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.50 cumulative pt-hr ratio, Consysmt major, jr standing, written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**594 Group Studies U G 1-5**

Selected topics in Construction Systems Management.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**600 Construction Safety and Health U G 3**

Construction safety and health practices, strategies and methods for the development and management of safety and health programs in the construction industry.

Au, Wi, Sp Qtrs. 2 cl, 1 2-hr lab. Prereq: Second writing course, Agr Comm 390 or Comm 321 or Jcom 321. Not open to students with credit for AgSysMgt 600. ConSysMt 600 and 605 together fulfill GEC third writing course requirement.

**605 Professional Development II U 2**

Developing and pursuing career plans; strategies and programs for employment in the construction industry, professional development, personal growth and relationships.

Au, Wi, Sp Qtrs. 2-hr cl, 1 hr rec. Prereq: 305, second writing course, Agr Comm 390 or Comm 321 or Jcom 321, sr standing. Not open to students with credit for AgSysMgt 605. GEC third writing course. ConSysMt 600 and 605 together fulfill requirement.

**641 Construction Project Management U G 3**

The management of standard commercial/residential construction, including planning, material management (logistics), resource procurement, codes and standards, construction funding, personnel management and labor unions.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 540.

**642 Construction Control - Contracts and Documents U G 3**

Documents used in the construction industry will be discussed and applied; including types of contracts, bidding and negotiating, administration and quality control of construction contracts.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 540

**643 Construction Management Capstone U G 4**

Skills in estimating, scheduling, blueprint reading, teamwork, oral/written communication, management principles, and contracts/documents used to develop solutions to industry provided construction related problems.

Wi, Sp Qtrs. Prereq: 540, 541, 641, 642.

**660 Heavy Construction Management U G 4**

Methods, materials, equipment, and planning of heavy construction projects. Economics of equipment acquisition and operation. Equipment selection, performance characteristics, and production rates.

Wi Qtr. 2-2-hr cl. Prereq: 541.

**H683 Undergraduate Honors Program Research U 1-10**

Individually supervised research and project work for Honors program students. Student presentations and thesis writing included.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: FAES 590.01, enrollment in honors program and permission of honors project supervisor. Repeatable as H683 in combination with 293, 593 or 693. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**693 Individual Studies U G 1-5**

Advanced individual study of problems and topics not included in regular courses.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.50 cumulative pt-hr ratio, 15 cr hrs of 300 level or higher ConSysMt courses and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Advanced group studies of selected topics in Construction Systems Management.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**Consumer Sciences**

262 Campbell Hall, 1787 Neil Avenue, 292-4389

**289 Introductory Field Experience U 3,5**

Ten-weeks practical experience or equivalent in approved retail establishment or other enterprise related to student's major interest.

Su, Au, Wi, Sp Qtrs. Prereq: 2.00 CPHR, 270, 275, and 375 or 351.02 or Fm

Res M 351 or Txl&Clo 351.01 or Txl&Clo 351.02 and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Studies U 2-5**

Selected topics in family resource management.

Prereq: Open to students who meet dept's stated prereqs. Repeatable to a maximum of 10 cr hrs.

**300 The Consumer Perspective U 2**

The impact of three markets - financial services, textiles and apparel, and hospitality/tourism industries - on individual/family well-being. Contrast between the consumer decision-maker and the business decision-maker.

Au, Wi, Sp Qtrs. 1 1.5-hr cl. Not open to students with credit for Fm Res M 300, Hosp Mgt 300 or Txl&Clo 300.

**310 Consumer Service and Satisfaction U 3**

The product/service mix consumers experience when purchasing financial, hospitality, and textile/apparel services/products. The relationship between service quality and consumer satisfaction.

Au, Wi, Sp Qtrs. 3 1-hr cl. Not open to students with credit for Fm Res M 310, Hosp Mgt 310 or Txl&Clo 310.

**340 The Multicultural Consumer U 5**

Examination of multicultural diversity in the US with a focus on how demographic trends and cultural forces impact the economy, the workplace, consumption patterns and retailer/marketplace responses.

Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: Stat 133 or 135 or 145; or Ag Econ 205; or permission of instructor. Not open to students with credit for Fm Res M 340. BER/GEC/LAR course.

**543 Consumer Decision Making U 5**

The process of decision making by consumers is analyzed and implications for consumers, sellers, and policy makers are derived.

Au, Wi, Sp Qtrs. 5 1-hr cl. Not open to students with credit for Fm Res M 543. Required for Consumer Affairs option.

**589 Field Work**

Observation and application of concepts and principles learned in family resource management course work to a professional setting.

1 cl. arr. Department application must be filed two quarters in advance.

**589.02 Field Experience-Financial Management U 3-5**

Prereq: 110 earned cr hrs, 2.00 CPHR, 560, Acct&MIS 211, 212 and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**590 Practicum in Textiles and Clothing Research U 1-5**

Provides students with the opportunity to work individually with a faculty member on a research project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**593 Individual Studies U 1-5**

Problems in various phases of family resource management.

Su, Au, Wi, Sp Qtrs. H593 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs. Repeatable to a maximum of 10 cr hrs. 1 or more conf. H593 (honors) may be available to students enrolled in college honors program or eligible for enrollment. This course is graded S/U.

**595 Professional Development U 2**

The professional: performance, role in society, position securement, involvement in organizations, and continuing development.

Su, Au, Wi, Sp Qtrs. 1 1.5-hr cl. Prereq: 260 or 243 and 340, and 3rd yr standing. Not open to students with credit for Fm Res M 595 or Txl&Clo 595. This course is graded S/U.

**694 Group Studies U G 1-5**

Selected topics in Consumer Sciences.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable. This course is graded S/U.

**698.02 Foreign U G 1-15**

Repeatable. This course is graded S/U.

**700 Introduction to Research in Consumer Sciences U G 3**

Introduction to the research literature in consumer sciences; development of the principles of scholarly inquiry.

Au Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for Fm Res M 738 or Txtl&Clo 777.01.

**701 Individual and Family Behavior in the Market Place G 4**

Students study consumer behavior in purchase of goods and services, with emphasis on applications to effective marketing management decisions from the consumer perspective.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**702 Theories and Models in Consumer Sciences Research G 4**

Survey of theories and models as the foundation for research in Consumer Sciences.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**703 The Global Consumer G 4**

Differences between consumers from different cultures/countries examined. The effect of such differences on consumers' behavior is considered.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**800 Seminar G 1**

Scholarly presentations of current research by students, faculty, and invited speakers to stimulate critical thinking and discussion of implications for consumers.

Au, Wi, Sp Qtrs. Biweekly 1 hour. Prereq: Grad standing or written permission of instructor. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

**894 Group Studies G 1-5**

Selected topics in Consumer Sciences.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 12 cr hrs.

## Consumer Sciences: Family Resource Management

262 Campbell Hall, 1787 Neil Avenue, 292-4389

**243 Consumer Problems U 5**

Common imperfections in the consumer-market interface which manifest themselves in ripoffs, misrepresentations and deceptions; remedies for problems.

Au, Wi, Sp Qtrs. 5 1-hr cl. Not open to students with credit for Fm Res M 243. Required for Consumer Affairs option. GEC social science organizations and politics course.

**260 Family Financial Management I U 5**

The management of family financial resources; topics include financial planning and budgeting, insurance, credit, and savings and investments.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. A grade of 2.7 in 260 is prereq to 359. Not open to students with credit for Fm Res M 260. SS Admis Cond course. This course is available for EM credit.

**359 Family Financial Management Theory and Practice U 5**

Introduction to the practice and profession of family financial planning process, emphasizing the data collection, communication, and technical skills required of the financial planner.

Au, Sp Qtrs. 2 2.5-hr cl. Prereq: B- or better in 260. Open only to family resource management majors. Not open to students with credit for Fm Res M 359.

**360 Family Financial Management II U 5**

Introduction to family financial management applications through a case study approach.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 359 or fm res m 359. Open only to Family Resource Management majors and Consumer Affairs minors. Not open to students with credit for Fm Res M 360. Required for Family Financial Management Option.

**443 Solutions to Consumer Problems U 5**

Regulatory and non-regulatory solutions to imperfections in the consumer-seller interface are considered.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 243 or Fm Res M 243. Not open to students with credit for Fm Res M 443. Required for Consumer Affairs option.

**560 Family Financial Management III U 5**

Analyze and evaluate financial decisions by families at various points in family life cycle and apply economic principles to development of aids used by families facing financial decisions.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 359 or Fm Res M 359. Open only to family resource management majors. Not open to students with credit for Fm Res M 560.

**561 Retirement Planning and Employee Benefits U 3**

Evaluation of retirement plans and employee benefits with the consideration

of the interwoven factors of Social Security, pension, private savings, and health insurance.

Au, Sp Qtrs. 3-hr cl. Prereq: 359 or Fm Res M 359. Not open to students with credit for Fm Res M 561.

**567 Families in Business U 3**

Explore family business topics, including family dynamics, conflicts and relationships relative to business formation and growth, strategic management, professionalization, and succession.

Au, Sp Qtrs. 3 1-hr cl. Not open to students with credit for Fm Res M 567.

**568 Intergenerational Resource Management U 3**

Key topics in planning for transfer of family estate, focusing on strategies that conserve family wealth while being consistent with family financial goals.

Wi Qtr. 1 3-hr cl. Prereq: 359 or Fm Res M 359. Not open to students with credit for Fm Res M 568.

**611 Consumer Housing Problems U G 5**

Production and allocation of housing and current housing problems. Includes service-learning experience related to data collection and analysis and neighborhood development.

Sp Qtr. 2 2-hr cl. Prereq: 340 or Fm Res M 340 and Econ 200. Not open to students with credit for Fm Res M 611.

**636 Group Leadership Practicum for Family Financial Management U 5**

Financial advising practicum. Students are group leaders for 360, conduct group sessions, assign tentative grades and write comments for presentations and reports.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 260 or Fm Res M 260; 340 or Con Sci 340; minimum of B+ in 360 or Fm Res M 360; permission of instructor. Not open to students with credit for Fm Res M 636.

**644 Quantitative Methods in Consumer Affairs U 5**

Application of research methods and analysis of data to facilitate decision-making with respect to consumer affairs.

Au, Wi, Sp Qtrs. 5 1-hr cl. Prereq: 340, 443 or Fm Res M 443, 543, Agr Econ 205 or Stat 135 or 133 or 145, CS&E 101 or 200 or 211, and a second writing course. Not open to students with credit for Fm Res M 644. Required for Consumer Affairs option.

**660 Family Financial Management Application U G 5**

Family financial management concepts are applied to evaluate financial goals and prepare a comprehensive financial plan for a family.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 359 or Fm Res M 359, 360 or Fm Res M 360 and 560 or Fm Res M 560; Bus-Fin 420 or 620. Open only to Family Resource Management majors. Not open to students with credit for Fm Res M 660.

**739 Household Economic Status: Measurement and Analysis G 4**

Measurement and analysis of household economic status including key concepts, determinants, policy implications, and implications for research.

Au Qtr. 2 2-hr cl. Prereq: Grad standing. Not open to students with credit for Fm Res M 739.

**740 Theories and Models of Family Resource Management G 4**

Aspects of family life are analyzed from the perspective of family resource management theories; emphasis is placed on empirical implications of the theories.

Wi Qtr. 2 1.5-hr cl. Prereq: 739 or Fm Res M 740, and Econ 501 or 705 or equiv.

**741 Managerial Concepts and Their Measurement G 4**

Tools and techniques which are applicable to resource allocation decisions in a specific household.

Sp Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 739 or Fm Res M 739 and 740 or Fm Res M 740. Not open to students with credit for Fm Res M 741.

**791 Research Practicum in Family Resource Management G 2-5**

Supervised participation in research; involvement may include data collection and analysis or manuscript preparation; credit will be determined by involvement and level of responsibility.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing, a statistics course, and permission of instructor. Not open to students with credit for Fm Res M 791. Repeatable to a maximum of 20 cr hrs. Supplements individual studies (FM RES M 793) and facilitates students' ability to participate in research.

**792 Teaching Practicum in Family Resource Management G 2-5**

Supervised participation in college teaching; nature and degree of involvement are based on student's preparation; credit will be determined by involvement and level of responsibility.

Su, Au, Wi, Sp Qtrs. Prereq: 782, Grad standing, and permission of instructor. Repeatable to a maximum of 20 cr hrs. Supplements individual studies (FM RES M 793) to facilitate students' ability to document their teaching experience.



**793 Individual Studies U G 1-5**

Problems in various phases of family resource management chosen for individual study.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**797 Interdepartmental Seminar U P G 2-4**

Repeatable.

**862 Household Economic Status: Theory and Research G 3**

Interpretation of theory and research related to household economic status.

Au Qtr. 3-1.5-hr cl. Prereq: 739 or Fm Res M 739, Econ 705 and 706 or equiv, and Stat 529 or equiv. Not open to students with credit for Fm Res M 862.

**872\* The Consumer in American Society G 3**

Analysis of the elements involved in the consumer interest, interrelationships of the elements, cost effectiveness of these methods, and distributional impacts of the alternatives.

Wi Qtr. 2 1.5-hr cl. Prereq: Econ 705 and 706 or equivalents; and 3 cr hrs of stat.

**881\*\* Quantitative Methods in Family Resource Management G 5**

Multivariate statistical methods are applied to research questions in family resource management. The emphasis is on advanced topics relevant to analysis of cross-sectional data.

Au Qtr. 2 2.5-hr cl. Prereq: Basic course in statistics and permission of instructor.

**895 Seminar in Family Resource Management**

3 cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs including cr hrs in 822.

**895.01 Consumer Economics G 3-5**

Repeatable to a maximum of 15 cr hrs.

**895.02 Family Finance G 3-5**

Repeatable to a maximum of 15 cr hrs.

**993 Individual Studies G 1-5**

Problems in various phases of family resource management chosen for individual study.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**998 Research: Thesis G 1-18**

Research for master's thesis.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research: Dissertation G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Consumer Sciences: Hospitality Management

262 Campbell Hall, 1787 Neil Avenue, 292-4389

**230 Introduction to Hospitality Management U 2**

Overview of the hospitality-tourism industry. Introduction to and career exploration of various segments of the hospitality-tourism field.

Au, Wi, Sp Qtrs. 2 hr cl. Not open to students with credit for Hosp Mgt 230.

**350 Principles of Food Management**

Principles of food production management are presented. Scientific management principles involved in food management are discussed. Importance of food safety and changing food habits are presented.

**350.01 Hospitality Management U 5**

Principles of food management supported by real life commercial food service labs.

2 1.5-hr cl, 2 3-hr labs. Not open to students with credit for 350 or 350.02 or Hosp Mgt 350.01.

**350.02 Dietetics and Family and Consumer Sciences Education U 4**

Principles of food management supported by real life commercial food service labs.

2 1.5-hr cl, 1 3-hr lab. Not open to students with credit for 350 or 350.01 or Hosp Mgt 350.02.

**370 Cost Management in Food Service U 5**

A study of the impact of the menu, standardized recipe, forecast, and food purchasing on cost control and food quality. An overview of records related to cost control.

Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: 350.01 or Humn Ntr 350, hosp mgt or dietetics or fcs ed food service pre-major, 2.0 CPHR. Not open to students with credit for Humn Ntr 370 or Hosp Mgt 370.

**400 Beverage Management U 3**

Discussion of the varieties, merchandising, and management control of alcoholic and non-alcoholic beverages served in the hospitality industry.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: 230 or Hosp mgt 230. Not open to students with credit for Humn Ntr 400 or Hosp Mgt 400.

**551 Introductory Internship: Food Service/Restaurants U 3**

Planned experience under supervision in food service/restaurants.

Au, Wi, Sp Qtrs. 9 hrs/wk. Prereq: 230 or Hosp Mgt 230, 350 or Hosp Mgt 350, 370 or Hosp Mgt 370, permission of instructor. Open only to majors in hospitality management. Not open to students with credit for Hosp Mgt 551. Required in major. Supervised experiential learning in a functioning work environment.

**552 Introductory Internship: Lodging/Hotels U 3**

Planned experience under supervision in lodging/hotel operations.

Su, Au, Wi, Sp Qtrs. 9 hrs/wk. Prereq: 230 or Hosp Mgt 230, 350 or Hosp Mgt 350, 370 or Hosp Mgt 370, permission of instructor. Open only to majors in hospitality management. Not open to students with credit for Hosp Mgt 552. Required in major. Supervised experiential learning in a functioning work environment.

**560 Hotel Systems I: Hotel Operations U 4**

Introduction to the lodging industry and the hotel as a functioning system.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 230 or Hosp Mgt 230. Not open to students with credit for Humn Ntr 560 or Hosp Mgt 560.

**561 Hotel Systems II: Hospitality Managerial Accounting U 4**

An examination of the accounting and financial activities of a lodging establishment.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 560 or Hosp Mgt 560, Acct&MIS 310. Not open to students with credit for Humn Ntr 561 or Hosp Mgt 561. The second in a two-course sequence, containing material formerly included in Humn Ntr 560 (now split between Hosp Mgt 560 and 561).

**570 Hospitality Management: Advanced Internship U 12**

Planned experience in and entry-level supervisory role within the hospitality industry.

Su, Au, Wi, Sp Qtrs. Prereq: 551 or Hosp Mgt 551 and 552 or Hosp Mgt 552; permission of dept or instructor, 4th yr standing and 2.00 CPHR. Not open to students with credit for Humn Ntr 570 or Hosp Mgt 570. Internship application must be filed in dept 2 qtrs in advance.

**660 Personnel and Organization U G 4**

Integration of principles of management and learning in the management of hospitality operations; emphasis on management of human resources.

Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: 350 or Humn Ntr 350 or Hosp Mgt 350, Bus-MHR 400 or 701. Not open to students with credit for Humn Ntr 460 or Hosp Mgt 660.

**661 Special Events Planning and Management U G 4**

Students will be expected to develop a restaurant concept, market it, and execute their plans in a given lab setting. They will be required to conduct pre and post-analysis for performance variance.

Au, Wi, Sp Qtrs. 1 1-hr cl and 6 hr lab arr. Prereq: 230 or Hosp Mgt 230, 551 or Hosp Mgt 551, 660 or Hosp Mgt 660. Open only to hospitality management majors. Not open to students with credit for Humn Ntr 661 or Hosp Mgt 661. Students will be required to participate in selected minor and major special events. They are expected to work with limited supervision in completing the proposed projects. Final grade will depend on success of the special event as evaluated by the class instructor, guests (consumers) feedback and financial statements.

**680 Cases in Hospitality Marketing U G 4**

Application of the principles of marketing to the hospitality industries.

Wi Qtr. 4 cl. Prereq: Bus-Mktg 450 or 650. Not open to students with credit for Humn Ntr 480 or 680 or Hospmgt 680.

**700 Strategies and Issues in Hospitality Management U G 3**

To identify, discuss and develop responses to the major issues in the hospitality industry.

Sp Qtr. 2.5-hr cl. Prereq: Sr standing and permission of instructor. Not open to students with credit for Hosp Mgt 700.

**713\*\* Advanced Food Theory and Application U G 3**

Food theories applied to individual investigations in food preparation, preservation, and storage in the home and volume food service.

Wi Qtr. 1 2-hr cl, 1 3-hr lab. Prereq: Humn Ntr 615 or equiv. Not open to students with credit for Humn Ntr 713 or Hosp Mgt 713.

**730 Advanced Food Service Systems Management: Operational Integration U G 3**

Current practices and research in management of food service systems.

Sp Qtr. 1 2-hr cl. Prereq: 660 or Hosp Mgt 660 or Humn Ntr 460. Not open to students with credit for Humn Ntr 730 or Hosp Mgt 730.

**793 Individual Studies U G 2-3,5**

Problems in various phases of hospitality management chosen for individual study.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. 1 or more conf. This course is graded S/U.

**802 Seminar in Hospitality Management**

3 cl. Prereq: Advanced course work in seminar topic.

**802.02\* Advanced Topics in Hospitality Management G 3**

Wi Qtr. Not open to students with credit for Humn Ntr 802.02 or Hosp Mgt 802.02. Repeatable to a maximum of 15 cr hrs.

**802.03\* Food G 3**

Wi, Sp Qtrs. Not open to students with credit for Humn Ntr 802.03 or Hosp Mgt 802.03. Repeatable to a maximum of 15 cr hrs.

**816 Recent Developments in Food G 3**

Analysis of selected topics in food with application to current issues.

Wi Qtr. 1 2-hr cl. Prereq: 615 or equiv. Not open to students with credit for Humn Ntr 816 or Hosp Mgt 816.

**832\*\* Recent Developments in Food Service Systems Management G 3,5**

Analysis of selected topics in food service systems management with application to current issues.

Sp Qtr. 1 2-hr cl. Prereq: 660 or Hosp Mgt 660 or Humn Ntr 460 and experience in food service management. Not open to students with credit for Humn Ntr 832 or Hosp Mgt 832. Repeatable to a maximum of 15 cr hrs.

**894 Group Studies G 2-3,5**

Selected topics in hospitality management.

Prereq: Open to students who meet dept's stated prereq. Repeatable to a maximum of 10 cr hrs.

**895 Seminar G 1**

Presentations by students, faculty, visiting scientists with critical discussion of issues in hospitality management.

Au, Wi Qtrs. Arr. Repeatable to a maximum of 10 cr hrs.

**993 Individual Studies G 2-3,5**

Problems in various phases of hospitality management chosen for individual study.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. 1 or more conf. This course is graded S/U.

**998 Research: Thesis G 1-18**

Research for masters thesis.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research: Dissertation G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Consumer Sciences: Textiles and Clothing**

262 Campbell Hall, 1787 Neil Avenue, 292-4389

**200 Fashion, the Body, and Popular Culture U 3**

Fashion as it interfaces with the body and is manifested in popular culture, including television, film, advertising, magazines, literature, sports, dance, music, and comic art.

Au, Wi, Sp Qtrs. 3 1-hr cl. Not open to students with credit for Txtl&Clo 200.

**270 Aesthetics of Appearance U 3**

The perception and presentation of the self through appearances. Considerations include aesthetic norms, color psychology, body concerns, personality expression, and context.

Au, Sp Qtrs. 3 cl and arr labs. Not open to students with credit for Txtl&Clo 270. This course is available for EM credit. VPA Admis Cond course.

**275 The Business of Fashion: Apparel, Textiles, and Home Furnishings U 3**

Survey of supply, manufacture, distribution, and auxiliary industries impacting production, distribution, and sale of textiles, apparel and products for the home; fashion terminology, creators, careers.

Au, Wi Qtrs. 3 1-hr cl. Not open to students with credit for Txtl&Clo 275.

**351 Interiors Product Development: Home Interiors U 5**

Evaluation, plan for use, and analysis of merchandising of interiors products for consumer use in home interiors.

Au Qtr. 3 cl, 2 2-hr labs. Prereq: 270 or Txtl&Clo 270. Not open to students with credit for Txtl&Clo 351.01 and 351.02 or 351.

**370 Fashion Design and Illustration U 5**

Creative approach to the study of apparel design through fashion illustration using a variety of media, product development, and production specifications: students develop portfolio.

Wi, Sp Qtrs. 1 2-hr cl, 2 2-hr labs, 2 hrs arr. Prereq: 270 or Txtl&Clo 270, 375 or Txtl&Clo 375. Not open to students with credit for Txtl&Clo 370.

**371 Textiles U 5**

Fiber properties, yarn and fabric construction, color, and finishes as they relate to performance, care, and consumer satisfaction.

Au, Wi, Sp Qtrs. 3 1.5 hr cl. Prereq: 2nd yr standing. Not open to students with credit for Txtl&Clo 371.

**372 Appearance, Dress, and Cultural Diversity U 5**

A cross cultural study of the diversity and meaning of appearance and dress as manifestations of individual and group behavior, social organization, and cultural norms.

Wi, Sp Qtrs. 5 cl. Prereq: Sociol 101 or Rurl Soc 105. Not open to students with credit for Txtl&Clo 372. GEC social science course. SS Admis Cond course.

**374 Fashion Forecasting U 3**

An examination of fashion theories and the evolution of fashion in the 20th century applied to the merchandising of fashion.

Wi, Sp Qtrs. 2 1.5 hr cl. Prereq: 275 or Txtl&Clo 275. Not open to students with credit for Txtl&Clo 374 or 675.

**375 Ready-to-Wear Analysis U 3**

Examination and evaluation of ready-to-wear apparel and its details for construction, style, quality, and fit.

Au, Wi Qtrs. 3 cl. Prereq: 270 or Txtl&Clo 270 and 371 or Txtl&Clo 371. Not open to students with credit for Txtl&Clo 375.

**425 Interiors Product Development: Housing**

Evaluation and analysis of merchandising and products and design of residential house structures.

**425.01 Interiors Product Development: Housing Environmental Issues U 3**

Evaluation, plan for use and analysis of merchandising of products and designs of residential house structures.

Sp Qtr. 2 1.5-hr cl. Not open to students with credit for Fm Res M 425.01 or Txtl&Clo 425.01.

**425.02 Interiors Product Development: Housing Application U 2**

Application of evaluation and plan for use of products and designs used in residences. Students produce kitchen and bath designs.

2 2-hr labs. Prereq: Txtl&Clo 425.01 or Concur: 425.01. Not open to students with credit for Fm Res M 425.02 or Txtl&Clo 425.02.

**525 Retail Environments U 5**

Analysis of the influence of store environment characteristics on consumer behavior in various retail formats (i.e., in-store, internet, television, catalog).

Wi, Sp Qtrs. 2 1.5-hr cl, 1 1-hr rec, 2 hrs arr. Prereq: 270 or Txtl&Clo 270. Not open to students with credit for Txtl&Clo 451 or 525.

**571 Textile Analysis and Evaluation U 5**

Study of quality assurance in the textile industries: standards and specifications; sourcing for fibers, yarns, fabrics; textile testing; analysis and interpretation of test data.

Sp Qtr. 2 2-hr cl. Prereq: C- or better in 371 or Txtl&Clo 371; Chem 102, Stat 133, 135, or 145; permission of instructor. Not open to students with credit for Txtl&Clo 571 or 571.01 or 571.02.

**576 Global Patterns and Issues in Textiles and Apparel Trade U 3**

International factors affecting the textiles and apparel industries and their impact on the economy and consumers.

Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 275 or Txtl&Clo 275, 371 or Txtl&Clo 371, or permission of instructor. Not open to students with credit for Txtl&Clo 576.

**589 Internship U 15**

One quarter supervised experience at a department approved intern site related to the student's selected option. Investigation and analysis of assigned problems.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 2.5 cum pt-hr ratio, 4th yr standing, 595D, 16 hrs in major, 7 hrs in supporting area. Open to txtl&clo majors only. No other courses may be taken nor any other jobs held during the quarter of internship. This course is graded S/U.

**651\*\* Residential Interiors: History of Design and Decoration U G 4**

Analysis of furniture styles from antiquity through the present with emphasis on aesthetic, economic, and social implications as well as influencing philosophies.

Wi Qtr. 3 1.5-hr cl. Not open to students with credit for Fm Res M 651 or Txtl&Clo 651.

**670 Computer-Aided Design in Apparel Product Development U 5**

Exploration of textile and apparel product development capabilities of computer-aided design and product specification systems used in industry; development of an apparel line.

Au Qtr. 3 2-hr cl, 4 hr arr. Prereq: 270 or Txtl&Clo 270, 370 or Txtl&Clo 370, 375 or Txtl&Clo 375; Art Ed 252, and permission of instructor. Open to students in Product Dev & Eval option only. Not open to students with credit for Txtl&Clo 670.

**673 Product Data Management in Apparel Product Development U 5**

Exploration of software that facilitates apparel design from idea to manufacture through specifications, forms, and databases dealing with materials sourcing, grading, costing, construction, and labor.

Sp Qtr. 3 2-hr labs, 4 hrs arr. Prereq: 270 or Txtl&Clo 270, 370 or Txtl&Clo 370, 371 or Txtl&Clo 371, 375 or Txtl&Clo 375, 670 or Txtl&Clo 670, or permission of instructor. Open only to students in Product Development option. Not open to student with credit for Txtl&Clo 673.

**674 Twentieth Century Fashion U G 5**

Chronological study of the rise of twentieth century fashion. Considers cultural and global forces related to development and changes in fashion and the fashion industry.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 371 or Txtl&Clo 371 and 3rd yr standing. Not open to students with credit for Txtl&Clo 672 or 674.

**683 International Retailing U 5**

Study of retailers in several regions of world using expansion outside domestic market as strategy; social, legal and economic factors influencing internationalization.

Au, Wi Qtrs. 2 2-hr cl. Not open to students with credit for Txtl&Clo 683.

**685 Merchandise Buying and Management****685.01 Merchandise Buying and Management U 5**

Retail buyer's role in merchandise management: decision-making, planning, control process, negotiating, buying and pricing. Analysis and synthesis of merchandising management practices and problems.

Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: 275 or Txtl&Clo 275; Acct&MIS 310 or 211, CS&E 101 or 200. Not open to students with credit for Txtl&Clo 685.01.

**685.02 Merchandise Buying and Management Technology U 1**

Use of industry technology/software for decision making, planning, and control of merchandise.

Wi, Sp Qtrs. 1 cl. Prereq: 275 or Txtl&Clo 275; Acct&MIS 310 or 211; and CS&E 101 or 200. Must be taken concurrently with 685.01. Not open to students with credit for Txtl&Clo 685.02.

**690 Workshop**

Intensive study of a topic of common concern to the participants for 1 to 3 weeks. May be an off-campus or an on-campus full-time group meeting.

Prereq: Written permission of instructor. Travel and subsistence costs for off-campus workshops will be borne by the student.

**690.02 Clothing U G 1-4**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**690.03 Merchandising U G 1-4**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable. This course is graded S/U.

**698.02 Foreign U G 1-15**

Repeatable. This course is graded S/U.

**698.03 New York U 2**

Concentrated on-site study of the fashion industry and apparel market with tours of laboratories, designer's workrooms, buying offices, and other related apparel/textile organizations.

Sp Qtr. Prereq: 19 cr hrs of txtl&clo courses. Open only to txtl&clo majors. Repeatable to a maximum of 12 cr hrs. The workshop will occur during the week preceding the qtr the course is offered. Students are required to attend preparation meetings the qtr prior to the tour. Application deadline is first week of Wi Qtr. This course is graded S/U.

**720 Aging and Design U G 3**

Analysis and development of designs for products and environment related to residential spaces for older adults based on environmental adjustment theories.

Au Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for Frm Res M 720 or Alli Med 720 or Txtl&Clo 720. Cross-listed in Allied Medicine.

**772\*\* Costume and Culture U G 3**

National and regional dress in relation to culture, available resources, and technology.

Au Qtr. 3-hr cl. Prereq: 10 hrs at the 600 level and above, or written permission of instructor. Not open to students with credit for Txtl&Clo 772.

**777.02 Methods U G 3**

Introduction to methods currently in use in textiles, apparel, and merchandising research, with emphasis on the research process and proposal writing.

Wi Qtr. Prereq: 777.01, or equiv with written permission of instructor. Not open to students with credit for Txtl&Clo 777.02.

**792 Teaching Practicum in Textiles and Clothing G 2-5**

Supervised participation in college teaching. The nature and degree of involvement are based on the student's preparation. Credit determined by involvement and level of responsibility.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing and permission of instructor. Repeatable to a maximum of 20 cr hrs.

**793 Individual Studies U G 1-5**

Problems in various phases of textiles and clothing related to individual's program.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**797 Interdepartmental seminar U P G 2-4**

Repeatable to a maximum of 6 cr hrs.

**870\* Theories of Fashion G 3**

Theories underlying fashion change, and an analysis of fashion as a social and economic force.

Sp Qtr. 2 1.5-hr cl or 1 2.5-hr cl. Prereq: Research methods or written permission of instructor; 12 cr hrs at the 600 level and above. Not open to students with credit for Txtl&Clo 870.

**872 History of American Dress: Critical Issues and Methods G 3**

An exploration of research in the history of American dress from the perspective of critical issues and methods.

Sp Qtr. 1 3-hr cl. Prereq: permission of instructor. Not open to students with credit for Txtl&Clo 872.

**874^ Aesthetics: Appearance Management and Self Presentation G 3**

The aesthetics of dress as a medium of visual communication with analysis of appearance management strategies employed in the social presentation of self.

Au Qtr. 2 1.5-hr cl. Prereq: 1 course in social psychology and 1 course in art; 777.02 or Txtl&Clo 777.02. Not open to students with credit for Txtl&Clo 874.

**875\* Social Psychological Aspects of Clothing G 3**

A study of dress and adornment as they relate to human behavior.

Au Qtr. 2 1.5-hr cl or 1 2.5-hr cl. Prereq: 12 cr hrs at the 600 level and above, 777.02 or Txtl&Clo 777.02 or written permission of instructor. Not open to students with credit for Txtl&Clo 875.

**876\*\* Textiles and Clothing Industries: Economic Appraisal G 3**

Impact of the textiles and clothing industries on the consumer and the economy.

Wi Qtr. 1 2.5-hr cl. Prereq: 576 or Txtl&Clo 576; Econ 201, or written permission of instructor. Not open to students with credit for Txtl&Clo 876.

**878\*\* History of Textiles G 3**

The development of textiles in prehistoric, ancient, medieval, and modern history, with special emphasis on Western European textiles.

Au, Sp Qtrs. 1 2-hr cl, hrs arr. Prereq: Txtl&Clo 672 or written permission of instructor. Not open to students with credit for Txtl&Clo 878.

**879 Current Topics in Textiles and Clothing**

Analysis of current developments, issues, and trends in textiles, clothing, and merchandising; topics to be announced.

Prereq: 12 cr hrs at the 600 level and above, including research methods; or written permission of instructor.

**879.02 Clothing G 1-3**

Repeatable to a maximum of 9 cr hrs.

**879.03 Merchandising G 1-3**

Repeatable to a maximum of 9 cr hrs.

**889 Practicum in Research in Textiles and Clothing G 1-5**

Participation in the research process under the supervision of a faculty member.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing, a research methods course, e.g. 772.02 or Txtl&Clo 777.02 or equiv, and permission of instructor. Repeatable to a maximum of 15 cr hrs. A maximum of 5 cr hrs may be included in student's Program of Study. This course is graded S/U.

**894 Group Studies G 2-3,5**

Selected topics in textiles and clothing.

Prereq: Open to students who meet dept's stated prereqs. Repeatable to a maximum of 10 cr hrs.

**993 Individual Studies G 1-5**

Problems in various phases of textiles and clothing related to individual's program.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**998 Research: Thesis G 1-18**

Research for master's thesis.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Czech**

400 Hagerty Hall, 1775 College Road, 292-6733

See also Slavic Languages and Literatures.

**101 Elementary Czech I**

Development of oral and written language skills.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

Au Qtr.

**101.51 Individualized Track U 1-5**

Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**102 Elementary Czech II**

Development of oral and written language skills.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

Wi Qtr. Prereq: 101 or 101.01 or 5 cr hrs of 101.51 or permission of instructor.

**102.51 Individualized Track U 1-5**

Prereq: Grade of B- or above in 101 or 101.01, or 5 cr hrs of 101.51, or permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Repeatable to a maximum of 5 cr hrs. Students who complete 5 cr hrs before the end of the qtr may proceed to 103.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 101.51 and 102.51 concurrently with permission of instructor.

**103 Intermediate Czech I****103.51 Individualized Track U 1-5**

Prereq: Grade of B- or above in 102 or 102.01, or 5 cr hrs of 102.51, or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 102.51 and 103.51 concurrently with permission of instructor. GEC for lang course.

**104 Intermediate Czech II****104.51 Individualized Track U 1-5**

Continuation of 103; development of the four skills.

Prereq: 5 cr hrs of 103.51 or permission of instructor. Not open to students with credit for 111 or to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1-5 cr hrs during the qtr. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement. Students may register for 103.51 and 104.51 concurrently with permission of instructor. GEC for lang course.

**111 Intensive Intermediate Czech U 10**

Readings, oral and written practice, grammar review.

Sp Qtr. Prereq: 102.01 or 5 cr hrs of 102.51 or equiv. Equiv to the 3rd and 4th courses of the foreign language sequence. GEC for lang course.

**405 Advanced Czech I****405.51 Individualized Track U 1-5**

Continuation of 104.51; development of the four skills.

Prereq: 5 cr hrs of 104.51 or 111 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 104.51

and 405.51 concurrently with permission of instructor.

**407 Advanced Czech II****407.51 Individualized Track U 1-5**

Prereq: 5 cr hrs of 405.51 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 405.51 and 407.51 concurrently with permission of instructor.

**Dance**

022 Sullivant Hall, 1813 North High Street, 292-7977

**100 Dance Survey U 1**

Orientation to The Ohio State University, College of the Arts, and the Department of Dance.

Au Qtr. 1 1-hr cl. Prereq: Admission to dance major program.

**161 Dance and Theatre, 1945 to the Present U 5**

Survey of contemporary practices in western dance and theatre from 1945 to the present, with emphasis on major stylistic trends, multicultural influences, and principal artists and their works.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl, 1 1-hr rec cl. Not open to students with credit for Arts Col 161 or Theatre 161. Cross-listed in Theatre. GEC arts and hums VPA course. VPA Admis Cond course.

**200 Swan Lake to Hip Hop: Concert Dance History U 5**

Includes European origins of classical ballet, Africanist contributions, postmodern impulses; looks at aesthetic, cultural, and political themes in the history of concert dance in America.

Wi, Sp Qtrs. 3 1.5-hr cl. GEC arts and hums VPA course. VPA Admis Cond course.

**201 Introduction to Dance I**

An introductory course in dance.

Su, Au, Wi, Sp Qtrs. Arr. VPA Admis Cond course.

**201.01 Modern Technique U 1-5**

Repeatable to a maximum of 12 cr hrs.

**201.02 Ballet Technique U 1-5**

Repeatable to a maximum of 12 cr hrs.

**201.03 Jazz U 1-5**

Repeatable to a maximum of 12 cr hrs.

**201.05 Tap Technique U 1-5**

Repeatable to a maximum of 12 cr hrs.

**201.06 Hip hop Dance U 1-5**

Introductory course in Hip hop dance.

2 1.5-hr cl or 3 1.0-hr cl. Repeatable to a maximum of 12 cr hrs.

**202 Introduction to Dance II**

Continuation of 201.

Au, Wi, Sp Qtrs.

**202.01 Modern Technique U 1-5**

Prereq: 201.01 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**202.02 Ballet Technique U 1-5**

Prereq: 201.02 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**202.03 Jazz U 1-5**

Prereq: 201.03 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**203 Introduction to Dance III**

Continuation of 201 and 202.

Au, Wi, Sp Qtrs.

**203.02 Ballet Technique U 1-5**

Prereq: 202.02 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**211 Materials of Dance****211.03 Introduction to Dance Composition U 1-6**

Sp Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 6 cr hrs. Including cr hrs earned in 111.03.

**260 Introduction to Dance and Technology U 3**

Provides first year dance majors with foundation in technical skills of digital media that are directly applicable to the field of dance.

Wi Qtr. 2 1.5-hr cl. Prereq: Admission to dance major or minor program.

**289 Field Experience in Dance**

Foundations in dance education.

Prereq: Qualifying audition or permission of instructor.

**289.01 Introduction to Dance Education U 1-5**

Survey of dance in public education: theoretical foundations and field-based experiences.

Sp Qtr. Arr.

**289.02 Dance Education in Diverse Settings U 1-5**

Survey of dance in diverse community settings: theoretical foundations and field-based experiences.

Wi Qtr. Arr.

**289.03 Other: Field Experience in Dance U 1-5**

Directed field experience emphasizing appropriate teaching strategies for different educational and community settings.

Su, Au, Wi, Sp Qtrs. Arr. for each cr/hr 2 hrs/week in field placement. Repeatable to a maximum of 10 cr hrs.

**290 Ethnic Dance Forms**

Folk forms as practiced by ethnic groups in selected cultures.

Au Qtr. Prereq: Qualifying audition or permission of instructor.

**290.01 Dance Forms of the African Diaspora U 1-5**

Repeatable to a maximum of 6 cr hrs. Including cr hrs earned in 190.01.

**293 Individual Studies U 1-5**

Individual studies of specified problems in the field of dance.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**294 Group Studies U 0-5**

Prereq: Permission of chairperson. Repeatable to a maximum of 15 cr hrs.

**298 Dance Production U 1-5**

Production activities.

Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs. Including cr hrs earned in 198.

**299 Dance Performance**

Su, Au, Wi, Sp Qtrs. 2 or more hrs rehearsal wkly. Open only to dance majors; others by special permission.

**299.04 Student Choreographic Projects U 1-5**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**299.06 Workshops U 1-5**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**311 Dance Technique I**

Technique: modern dance and ballet level I.

Open only to dance majors.

**311.04 Modern Dance Technique Part 1 U 1-6**

Au Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 111.04.

**311.05 Ballet Technique Part 1 U 1-6**

Au Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 111.05.

**311.06 Modern Dance Technique Part 2 U 1-6**

Wi Qtr. Arr. Prereq: 311.04 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 111.06.

**311.07 Ballet Technique Part 2 U 1-6**

Wi Qtr. Arr. Prereq: 311.05 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 111.07.

**311.08 Modern Dance Technique Part 3 U 1-6**

Sp Qtr. Arr. Prereq: 311.06 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 111.08.

**311.09 Ballet Technique Part 3 U 1-6**

Sp Qtr. Arr. Prereq: 311.07 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 111.09.

**357 Dance in Popular Culture: Embodying American Identities, Ideas and Cultures U 5**

Popular dance in the United States, with an emphasis on how movement constructs identity and community.

Requires online component; GEC social diversity and cultures and ideas course.

**367 Second Writing Course****H367.01 Writing about Dance U 5**

Provides a rigorous opportunity to view, discuss, read, think and write about contemporary dance and its history through the study and practice of criticism.

Wi Qtr. 2 2-hr cl. Prereq: Honors or Scholars standing or permission of instructor; English 110 or 111 or equiv. H367.01 may be available to students enrolled in Honors or Scholars program or by permission of department or instructor. GEC second writing course.

**411 Dance Technique II**

Technique: modern dance and ballet level II.

Open only to dance majors.

**411.04 Modern Dance Technique Part 1 U 1-6**

Au Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 214.04.

**411.05 Ballet Technique Part 1 U 1-6**

Au Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 214.05.

**411.06 Modern Dance Technique Part 2 U 1-6**

Wi Qtr. Arr. Prereq: 411.04 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 214.06.

**411.07 Ballet Technique Part 2 U 1-6**

Wi Qtr. Arr. Prereq: 411.05 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 214.07.

**411.08 Modern Dance Technique Part 3 U 1-6**

Sp Qtr. Arr. Prereq: 411.06 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 214.08.

**411.09 Ballet Technique Part 3 U 1-6**

Sp Qtr. Arr. Prereq: 411.07 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 214.09.

**489 Internship in Dance U 1-5**

A cooperative education or internship assignment conducted under the supervision of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**511 Dance Technique III**

Technique: modern dance and ballet level III.

Open only to dance majors.

**511.04 Modern Dance Technique Part 1 U G 1-6**

Au Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 534.04.

**511.05 Ballet Technique Part 1 U G 1-6**

Au Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 534.05.

**511.06 Modern Dance Technique Part 2 U G 1-6**

Wi Qtr. Arr. Prereq: 511.04 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 534.06.

**511.07 Ballet Technique Part 2 U G 1-6**

Wi Qtr. Arr. Prereq: 511.05 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 534.07.

**511.08 Modern Dance Technique Part 3 U G 1-6**

Sp Qtr. Arr. Prereq: 511.06 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 534.08.

**511.09 Ballet Technique Part 3 U G 1-6**

Sp Qtr. Arr. Prereq: 511.07 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 534.09.

**601 Supplemental Studies in Dance**

Foundations in dance.

Su, Au, Wi, Sp Qtrs. 2 or more lab hrs. Prereq: Permission of instructor.

**601.01 Modern Technique U G 1-5**

Repeatable to a maximum of 12 cr hrs.

**601.02 Ballet Technique U G 1-5**

Repeatable to a maximum of 12 cr hrs.

**601.04 Tap Dance U G 1-5**

Repeatable to a maximum of 12 cr hrs.

**601.05 Historical Dance U G 1-5**

Repeatable to a maximum of 12 cr hrs.

**601.06 Jazz Dance U G 1-5**

Repeatable to a maximum of 12 cr hrs.

**601.08 Other U G 1-5**

Repeatable to a maximum of 12 cr hrs.

**605 Dance Dynamics U G 3**

Study of the dancer's dynamic energy.

Wi Qtr. 2 1.5-hr cl. Prereq: 645 or jr standing, or 845 and grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**606^ Space Design U G 3**

The study of spatial forms in dance.

Sp Qtr. 2 1.5-hr cl. Prereq: 620 and jr standing, or 820 and grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**610 Issues in Videodance U G 3**

An introduction to studies in dance on camera, exploring aspects of history, composition and technology as a foundation for videotape production.

Sp Qtr. 2 2-hr cl. Prereq: Dance major with jr standing or higher; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**611 Dance Technique IV**

Technique: modern dance and ballet level IV.

Open only to dance majors.

**611.04 Modern Dance Technique Part 1 U G 1-6**

Au Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 637.04.

**611.05 Ballet Technique Part 1 U G 1-6**

Au Qtr. Arr. Prereq: Qualifying audition or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 637.05.

**611.06 Modern Dance Technique Part 2 U G 1-6**

Wi Qtr. Arr. Prereq: 611.04 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 637.06.

**611.07 Ballet Technique Part 2 U G 1-6**

Wi Qtr. Arr. Prereq: 611.05 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 637.07.

**611.08 Modern Dance Technique Part 3 U G 1-6**

Sp Qtr. Arr. Prereq: 611.06 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 637.08.

**611.09 Ballet Technique Part 3 U G 1-6**

Sp Qtr. Arr. Prereq: 611.07 or permission of instructor. Repeatable to a maximum of 9 cr hrs. Including cr hrs earned in 637.09.

**615^ Music Resources for Dance U G 2**

Investigation of music skills and their application to teaching and choreography.

Sp Qtr. Arr. 1 2-hr cl. Prereq: 111.10 or 311.08, grad standing, or permission of instructor. Repeatable to a maximum of 4 cr hrs.

**620 Dance Notation I U G 3**

Basic principles of Labanotation; work in theory, readings, and writing using motif descriptions.

Sp Qtr. Arr. Prereq: 1 yr as dance major or permission of instructor.

**621 Dance Notation II U G 3**

Continuation of 620; emphasis on Labanotation.

Au Qtr. Arr. Prereq: 620 or permission of instructor.

**622 Dance Notation III U G 3**

Continuation of 621; emphasis on reading dance.

Wi Qtr. Arr. Prereq: 621 or permission of instructor. E622 may be available for honors embedded experience.

**623 Advanced Notation U G 3**

Advanced Labanotation.

Au, Wi Qtrs. Arr. Prereq: 622 or equiv with written permission of instructor. Repeatable to a maximum of 9 cr hrs.

**624 Directing from Score U 4**

Methods of teaching and coaching a dance learned from a Labanotated score.

Sp Qtr. 3 1.5-hr cl. Prereq: 623. Repeatable to a maximum of 16 cr hrs.

**633 Lighting for Dance U G 1-5**

A study of stage lighting for dance; lectures, readings, and discussions.

Au, Wi, Sp Qtrs. Arr. Prereq: 198 or equiv. Repeatable to a maximum of 15 cr hrs.

**645 Foundations in Dance Composition I U G 1-5**

Au Qtr. Arr. Prereq: 111.03 or 311.03 or equiv. Open only to dance majors or by permission of instructor. Repeatable to a maximum of 12 cr hrs.

**646 Foundations in Dance Composition II U G 1-5**

Wi Qtr. Arr. Prereq: 645. Open only to dance majors. Repeatable to a maximum of 12 cr hrs.

**648 Music and Choreography U G 5**

Study of music suitable for choreographic purposes and the various approaches to the use of music in dance composition.

Sp Qtr. Arr. Prereq: 646 and Music 140 or 141 or 250 or 251.

**651 Repertory**

Experience in learning a dance.

Arr. Prereq: Qualifying audition or permission of instructor. Open only to dance majors.

**651.01 Existing Work U G 1-5**

Sp Qtr. Repeatable to a maximum of 12 cr hrs.

**651.02 New Work U G 1-5**

Au Qtr. Repeatable to a maximum of 12 cr hrs.

**658 Early Ballet History U G 3**

Survey of the history of ballet from the Renaissance to the later part of the 18th century.

Au, Sp Qtrs. Arr.

**659 Ballet and Modern Dance History of the 19th and 20th Centuries U G 3**

Survey of dance from the late 18th century to the 1970's.

Wi Qtr. 4 cl.

**660 Dance and Technology****660.11 Digital Video Editing U G 3**

Addressing practical skills in desktop non-linear digital video editing with particular attention to motion and action editing in dance.

Sp Qtr. 2 2-hr cl. Prereq: 260 or grad standing or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**660.12 Advanced Digital Video Editing U G 3**

Addressing in-depth skills in desktop non-linear digital video editing with particular attention to dance.

Au Qtr. 2 2-hr cl. Prereq: 660.11 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**660.21 Media in Performance U G 3**

Exploring the unique characteristics of performance that integrates movement and digital media through hands-on creative and technological projects.

Au Qtr. 2 2-hr cl. Prereq: Jr standing and 646.

**661 Video Documentation of Dance U G 3**

Introduction to the practice of videotaping live dance in rehearsal and performance situations.

Sp Qtr. 2 2-hr cl, additional hrs of fieldwork. Prereq: Dance major or minor with jr standing or above, or permission of instructor.

**671 Somatic Practices**

Somatic practices present means to increase core strength, flexibility, and efficient movement.

Su, Au, Wi, Sp Qtrs.

**671.10 Kinesiology for Dance U G 3**

Exploration of the skeleton and muscles for mechanical efficiency in movement, including principles of stability and motion as they relate to dance.

Sp Qtr. 2 1.5-hr cl, 1 lab. Prereq: Soph standing and EEOB 235 recommended. Not open to students with credit for 671.

**671.20 Pilates Matwork U G 2**

An integrated system of movement, breath, and experiential anatomical awareness that increases core strength, flexibility, and efficiency of movement.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Repeatable to a maximum of 6 cr hrs.

**671.21 Pilates Reformer U G 2**

Improve neuro-skeletal performance, strength, flexibility; focusing on core; use of apparatus extends range from basic matwork.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 671.20 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**671.22 Pilates Intermediate Reformer U G 2**

Continuation of Pilates Reformer Dance 671.21, with more advanced sequences.

Su, Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: 671.21 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**671.30 Floor Work U G 2**

Develop basic technical skills for dance and movement arts by isolating actions while lying on the floor; includes anatomical study.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Repeatable to a maximum of 6 cr hrs.

**671.31 Yoga U G 2**

The practice of the course is designed to improve movement possibilities for dancers and movement practitioners by concentrating on physical postures, breathing, and meditation.

Su, Au, Wi, Sp Qtrs. 3 1.5-hr cl. Repeatable to a maximum of 12 cr hrs.

**671.32 Bartenieff Fundamentals U G 2**

Focuses on the process of extending the quality and range of the dancer's movement options based on the work of Irmgard Bartenieff.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Repeatable to a maximum of 6 cr hrs.

**687 Dance for Children**

Foundation for teaching dance to children.

**687.01 Fundamentals of Children's Dance U G 5**

Wi Qtr. 3 1.5-hr cl. Prereq: 289.01 and 289.02, or permission of instructor.

**687.02 Children's Dance in Educational Settings U G 3**

Sp Qtr. 3 1.5-hr cl. Prereq: 214.08 and 687.01, or permission of dance ed coordinator.

**688 Methods and Materials of Teaching Modern Dance U G 3-5**

Foundations for teaching; laboratory problems, lectures, readings, and discussions.

Au Qtr. Arr. Prereq: 214.08 or permission of instructor.

**689 Directed Teaching Experience in Dance U G 1-5**

Designed to aid prospective teachers of dance in their development of essential teaching skills in a variety of settings.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**690 Dance Performance**

Su, Au, Wi, Sp Qtrs. 2 or more hrs of rehearsal wkly. Prereq: Permission of chairperson. Open only to dance majors; others by permission of chairperson.

**690.04 Student Choreographic Projects U G 1-5**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**690.06 Workshops U G 1-5**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**691 Dance Practicum I U G 1-5**

Special applied projects for upper level dance majors.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of chairperson. Repeatable to a maximum of 30 cr hrs.

**692^ Workshop in Dance U G 1-15**

Concentrated study of dance and related areas; nature of workshop depends upon selected emphasis.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of workshop director. Repeatable to a maximum of 15 cr hrs.

**693 Individual Studies in Dance**

Investigation of selected professional problems.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs in any combination of decimal subdivisions for undergrad cr and to a maximum of 30 cr hrs in any combination of decimal subdivisions for grad cr.

**693.01 Choreography U G 1-5**

Prereq: 648. Open only to dance majors with written permission of adviser or chairperson. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.02 Laban Studies U G 1-5**

Prereq: Written permission of dance adviser or chairperson. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.03 Research U G 1-5**

Prereq: Written permission of dance adviser or chairperson. Open only to dance majors. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.04 Production U G 1-5**

Prereq: Written permission of dance adviser or chairperson. Open only to dance majors. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.05 Other U G 1-5**

Prereq: Permission of chairperson. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Prereq: Permission of chairperson. Repeatable to a maximum of 25 cr hrs.

**699 Undergraduate Scholarship: Research and Creative Activity U 0-15**

This course is for undergraduate dance major students who are interested in pursuing a scholarly activity under the guidance of an advisor.

Su, Au, Wi, Sp Qtrs. H699 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. H699 is letter graded. This course is graded S/U.

**707 Laban Movement Analysis U G 3**

An examination of body articulation, spatial design, and qualities of movement in dance through Laban-based theories.

Sp Qtr. 2 1.5-hr cl. Prereq: Dance major or permission of instructor.

**711 Dance Technique V**

Technique: modern dance and ballet level V.

Open only to dance majors.

**711.04 Modern Dance Technique Part 1 U G 2**

Au Qtr. Prereq: 611.08 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**711.05 Ballet Technique Part 1 U G 2**

Au Qtr. Prereq: 611.09 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**711.06 Modern Dance Technique Part 2 U G 2**

Wi Qtr. Prereq: 711.04 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**711.07 Ballet Technique Part 2 U G 2**

Wi Qtr. Prereq: 711.05 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**711.08 Modern Dance Technique Part 3 U G 2**

Sp Qtr. Prereq: 711.06 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**711.09 Ballet Technique Part 3 U G 2**

Sp Qtr. Prereq: 711.07 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**748 Dance Theater Choreography and Performance G 3**

Study of contemporary and historical dance theater choreography and performance practices as a focus for student creative process.

Au Qtr. 2 1.5-hr cl. Prereq: Grad standing or permission of instructor.

**749 Group Forms U G 3**

Composing group dances and exploring compositional devices and craft unique to group choreography.

Sp Qtr. 3 1.5-hr cl. Prereq: 847 for grad students and 648 for undergraduate students; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**750 Choreography Workshop U G 1-5**

Choreographing and producing a dance in a performance setting.

Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 13 cr hrs.

**753 Dance Criticism and Aesthetics U G 3**

Critical and aesthetic analysis of dance through the practices of discussion, viewing, reading and writing.

Au Qtr. 3 1.5-hr cl. Prereq: Jr standing or above.

**757 Dance in a Time of Turbulence: Ballet and Modern Dance 18th-20th Century U G 5**

Developments in western theatrical dance from the late eighteenth century until the end of World War I.

Au Qtr. Prereq: Jr dance major or minor with permission of instructor; or grad standing.

**759 Postmodernism in Dance U G 3,5**

An inquiry into aesthetic points of view, beliefs, and assumptions inherent in dance practices and dance criticism from the 1960's to the present.

Sp Qtr. 2 1.5-hr cl. Prereq: 161, 200, 257, or 659; or Arts Col 161; or Theatre 161; or permission of instructor.

**760 New Ground****760.01 New Ground I G 5**

Introduction to creative concepts in interactive performance; drawing from theories and practices in dance, theatre, architecture, art, computer science, research artistic practices in body/technology continuum.

Wi Qtr. 2 2-hr labs plus 8-15 hrs outside rehearsal. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**760.02 New Ground II G 5**

Application of foundation work from New Ground I in a creative laboratory; exploration of collaborative design for performance production in non-traditional environments.

Sp Qtr. 2 2-hr labs plus 8-15 hrs outside rehearsal. Prereq: 760.01 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**760.03 New Ground III G 5**

The study of interactive installations and performance in the creation of technologically mediated environments.

Au Qtr. 2 2-hr labs plus 8-15 hrs outside rehearsal. Prereq: 760.02 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**H783 Honors Research U 3-5**

A program of research and/or dance investigation for each student with individual conferences resulting in an honors thesis or honors project.

Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a pt-hr ratio of 3.50 in dance, permission of the instructor under whose supervision the work is to be completed, and the Honors Committee of either the College of the Arts or the College of Education. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**786 Student Teaching in Dance in Elementary Education U G 3-15**

Observation, participation, and teaching in a public school; seminars and individual conferences.

Au, Wi, Sp Qtrs. Arr. Prereq: 689 and permission of dance educ coordinator. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**787 Student Teaching in Dance in Secondary Education U G 3-15**

Observation, participation, and teaching in a public school; seminars and individual conferences.

Au, Wi, Sp Qtrs. Arr. Prereq: 689 and permission of dance ed coordinator. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**788 Student Teaching Seminar U G 1**

Forum for discussing pedagogical issues and concerns encountered during the student teaching residency.

Au, Wi, Sp Qtrs. 1 1.5-hr cl. Prereq: 289.01, 289.02, 687.01, 687.02, 688, and 689. Repeatable to a maximum of 2 cr hrs.

**801 Seminar**

Not open to students with 15 cr hrs in 801.

**801.22 Seminar in Body-Mind Approaches G 3**

Introduction to body-mind practices as applied to dance; emphasis on Laban Movement Analysis.

Wi Qtr. 3 1.5-hr cl. Repeatable to a maximum of 8 cr hrs. Including cr hrs earned in 803 and 804.

**801.30 Seminar in Dance History: The Black Continuum in American Dance G 3**

Examination of dance genres, performance venues, and cultural workers that have shaped the Black continuum in American dance from the antebellum era to the present day.

Wi Qtr. 2 1.5-hr cl. Prereq: Grad standing or permission of instructor.

**801.31 Current Issues in Dance and Performance Art G 2**

Discussion of current trends in dance and performance art in the context of contemporary issues in society and the arts.

Au Qtr. 2 1-hr cl. Prereq: 651.01, 659, 699.04 or 699.06, 759, 845, 846, and 847; or equivs. Repeatable to a maximum of 4 cr hrs.

**801.51 Resources Seminar G 2**

Designed to meet the needs of graduate students entering the MA and MFA degree programs in dance.

Au Qtr. 1 cl. Repeatable to a maximum of 4 cr hrs.

**801.61 Teaching Associate Seminar G 1**

Seminar designed specifically to meet the needs of students in the MA and MFA.

Su, Au, Wi, Sp Qtrs. 1 1.5-hr cl. Prereq: Grad standing in dance or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**801.71 Performance Technique G 2**

An interdisciplinary seminar exploring the creative and practical aspects of performance through exercises, readings, and discussion.

Wi Qtr. 2 1.5-hr cl. Prereq: Grad standing in dance, theatre, or vocal performance; or permission of instructor. Repeatable to a maximum of 4 cr hrs.

**801.81 Grant Writing Seminar G 2**

Creation of grant applications for the arts.

Wi Qtr. 1 2-hr cl. Prereq: Grad standing or permission of instructor.

**801.91 Applied Technologies for Dance G 3**

Technology literacy for dancers introducing practical and creative applications of multimedia tools and fundamental computing skills.

Au Qtr. 2 2-hr cl. Prereq: Grad standing. Open only to grad students in the department of dance.

**802 Choreographic Projects G 1-5**

Advanced choreographic projects.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 25 cr hrs.

**820 Labanotation I G 4**

Five-week study of motif writing/description and five-week elementary course in Labanotation.

Au Qtr. 3 1.5-hr cl.

**821 Labanotation II G 4**

Continuation of 820.

Wi Qtr. 3 1.5-hr cl. Prereq: 820 or permission of instructor.

**822 Labanotation III G 4**

Continuation of 821.

Sp Qtr. 3 1.5-hr cl. Prereq: 821 or permission of instructor.

**823 Labanotation IV G 3-5**

Reading, analysis, and writing of complex movement ideas.

Au, Wi Qtrs. 3 1.5-hr cl. Prereq: 822 or equiv. Repeatable to a maximum of 20 cr hrs.

**824 Directing from Score G 1-5**

Teaching and coaching a dance learned from a Labanotated score.

Sp Qtr. Arr. Prereq: One qtr of 823. Repeatable to a maximum of 15 cr hrs.

**845 Issues of Choreography I G 3**

Investigation of the choreographic process; emphasis on the dynamics of movement.

Wi Qtr. 2 1.5-hr cl. Prereq: Admission to grad program in dance or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**846 Issues of Choreography II G 4**

Continued investigation of the choreographic process; emphasis on structure.

Au Qtr. 3 1.5-hr cl. Prereq: 845 or permission of instructor. Repeatable to a maximum of 8 cr hrs.

**847 Issues of Choreography III G 3**

Continued investigation of the choreographic process; emphasis on choreographic invention, structure, and context.

Au Qtr. 2 1.5-hr cl. Prereq: 846 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**851 Graduate Performance Seminar G 1-6**

Rehearsal and performance of repertory designed for graduate students pursuing an MFA in Performance.

Au, Wi, Sp Qtrs. 3 1.5-hr cl and 2 1.5-hr cl. Prereq: Admission to grad program

in dance or permission of instructor. Repeatable to a maximum of 18 cr hrs.

**860 Theories of Performance****860.01 Theories of Performance: The Body G 5**

Cross-disciplinary seminar in critical theory considering the body as flesh and bone and as a discursive entity.

Sp Qtr. 1 3-hr cl.

**880 Research Methods in Dance G 5**

Introduction to a variety of methods appropriate to research in dance.

Sp Qtr. Prereq: Grad standing or permission of instructor. Required for all MA candidates in dance; MFA candidates who write a thesis.

**893 Individual Studies in Dance**

Investigation of selected professional problems.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs in any combination of decimal subdivisions.

**893.01 Choreography G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.02 Laban Studies G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.03 Research G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.04 Production G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.05 Other G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**894 Group Studies G 1-5**

Advanced problems in dance; individual or group participation.

Repeatable to a maximum of 30 cr hrs.

**970 Master's Project**

Research and practical investigation of selected topics for purposes of the Plan B master's project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Evidence of substantial work in proposed area and grad standing in dance.

**970.01 Choreography and/or Performance G 1-25**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**970.02 Directing and Reconstruction G 1-25**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**970.03 Documentation and Analysis of Field Research G 1-25**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**970.04 Production G 1-25**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**970.05 Other G 1-25**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**999 Research in Dance G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Dental Hygiene**

3082 Postle Hall, 305 West 12th Avenue, 292-2228

**100 Dental Hygiene Survey U 1**

Introduction to the University and the Dental Hygiene Program. University policies, procedures and resources; student rights and responsibilities; academic requirements; career and professional issues.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in DHY or permission of instructor. Not open to students with credit for other University survey courses numbered 100.

**201 Oral Anatomy and Tooth Morphology U 4**

Morphology and physiology of human teeth and surrounding structures.

Au Qtr. 2 cl. 1 recitation, 3 lab hrs. Prereq: Dent hyg soph standing.

**210 Human Nutrition and Oral Health U 5**

Introduction to the science of nutrition and dietetics as it pertains to general and oral health; emphasis on dental/nutritional assessment and nutritional education techniques.

Prereq: Chem 101 or 121; 102 or 122; Biology 101 or 113; admission to Dental Hygiene major.

**223 Dental Hygiene Therapy I**

Wi Qtr. Prereq: 201, 295.

**223.01 Introduction to Periodontology U 3**

Understanding of the periodontium in relation to the etiology of periodontal disease, the formation of deposits on teeth and the recognition, classification, and prevention of periodontal disease.

3 cl.



**223.02 Pre-Clinic Laboratory U 4**

Introduces the dental hygiene student to procedures and techniques necessary to function as a co-therapist in providing initial dental hygiene therapy.  
4 3-hr labs.

**224 Dental Hygiene Therapy II**

Sp Qtr. Prereq: Psych 100.

**224.01 Topics in Preventive Care for Dental Hygienists U 2**

Introduction and development of knowledge in appropriate use of preventive materials and techniques to arrest and control oral disease.  
2 cl. Prereq: C- or higher in 223.01.

**224.02 Transition to Clinical Care U 4**

Clinical application of the principles and technical procedures of client/patient management in the practice of dental hygiene.

1 cl, 4 3-hr lab or clinic. Prereq: 263, 264, C- or higher in 223.01 and 223.02; Anatomy. Prereq or concur: Physiology.

**225 Dental Hygiene Elective Clinic I U 1**

An elective extension of initial clinical experience in patient care. Emphasizing and reinforcing patient assessment and instrumentation.

Su Qtr. 10 3-hr clinics. Prereq: 224.02. This course is graded S/U.

**233 Oral Histology and Embryology U 2**

A study of the microscopic anatomy of the teeth and surrounding structures; the development of the teeth, oral cavity, and face.

Wi Qtr. 2 cl. Prereq: Dent hyg 1st yr standing, biology, anatomy.

**240 Introduction to General Pathology U 2**

An introduction to the basic principles of pathology and mechanisms of disease; the pathophysiology of common problems involving the various organ systems with emphasis on clinical manifestations.

Sp Qtr. 2 1-hr cl. Prereq: 233 and prereq or concur: EEOB 232.

**263 Oral Radiography U 2**

The theory and technical procedures of oral radiography.

Wi Qtr. 2 cl. Prereq: DH 201 and soph standing.

**264 Oral Radiography Laboratory U 1**

Oral radiography for dental hygienists.

Wi Qtr. 3-hr lab. Prereq: DH 201 and soph standing

**273 Dental Materials Laboratory U 2**

A study of the composition, chemical and physical properties, manipulation, and uses of various materials employed in the practice of dentistry.

Sp Qtr. 2 3-hr labs. Prereq: Dent hyg 1st yr standing and Chem 102 or Chem 122. Not open to students with credit for 372.

**295 Introduction to Dental Hygiene U 1**

Introduction to the historical, professional, legal, and ethical aspects of dental hygiene.

Au Qtr. 1 cl. Prereq: Dent hyg soph standing.

**301 Pain and Anxiety Control U 2**

Survey of commonly used dental office techniques for managing patient anxiety and pain. Topics include nitrous oxide/oxygen inhalation anesthesia, local anesthesia, and behavioral management of patients.

Wi Qtr. 1 2-hr cl. Prereq: 201, 321.01.

**321 Dental Hygiene Therapy III**

Au Qtr. Prereq: 224.01, 224.02, 240, 250, and 273.

**321.01 Intermediate Clinical Dental Hygiene Therapies U 3**

Dental hygiene seminar and application of periodontal therapies and adjunctive procedures for clinical dental hygiene treatment, including ethics, medical emergencies, OSHA, Dental Implants, Root Planing/Curettage.

3 cl.

**321.02 Clinic U 3**

Ongoing clinical experience with emphasis on development of fundamental clinical skills.

1 cl, 9 hrs clinic.

**322 Dental Hygiene Therapy IV**

Wi Qtr. Prereq: 321.01, 321.02, 321.03, 330, 338, 341, 380.

**322.01 Supportive Periodontal Therapy U 1**

Prepares the student to provide long term monitoring and supportive therapy for periodontally compromised patients in dental practice settings.

1 cl.

**322.02 Clinic U 3**

Continuation of clinical development in total patient care. Additional patient treatment modalities are included.

1 cl, 9 hrs clinic.

**323 Dental Hygiene Therapy V**

Sp Qtr. Prereq: 301, 322.01, 322.02.

**323.01 Outcomes of Patient Care U 1**

Case presentation and literature review are used to develop analytical skills to examine outcomes of patient care. Students prepare case analysis for peer and faculty evaluation.

1 cl. Prereq: 383.

**323.02 Clinic U 3**

Ongoing clinical experience with emphasis on application of clinical techniques on a variety of patients.

1 cl, 9 hrs clinic.

**325 Dental Hygiene Elective Clinic II U 1**

An elective extension of the clinical experience in patient care. Emphasizing refining skills taught in previous clinical courses.

Su Qtr. 10 3-hr clinics. Prereq: 323.02. This course is graded S/U.

**330 Care for Patients with Special Needs U 2**

Development of background to facilitate recognition of the special-needs patient and techniques in dental hygiene care for this population.

Sp Qtr. 1 2-hr cl. Prereq: Dent hyg jr standing or permission of instructor.

**331 Pharmacology U 3**

A study of pharmacology including the biochemical basis of drugs used in dentistry which have implications for dental patients and the application of pharmacological agents for specific usage.

Wi Qtr. 3 cl. Prereq: 223.01, 240, and EEOB 232.

**333 Introduction to Teaching Dental Hygiene U 1**

Introduction to the fundamentals of teaching and learning in a dental hygiene curriculum.

Sp Qtr. 1 cl. Prereq: 224.01, 224.02.

**334 Didactic Teaching within the Dental Hygiene Profession U 4**

Didactic teaching roles and strategies utilized by dental hygiene professionals in academic setting; underlying theory of learning and teaching.

Sp Qtr. Prereq: Enrollment in DHY major.

**335 Clinical Teaching Methodology U 4**

Preparation for teaching dental hygiene in the laboratory, pre-clinic and clinic settings.

Au Qtr. Prereq: Enrollment in DHY major.

**336 Dental Health Education Within Dental Hygiene Practice U 4**

Provides the dental hygienist with advanced skills to help patients achieve good oral health. Lecture and discussion with emphasis on clinical application and evaluation.

Wi Qtr. Prereq: Jr or sr standing in Dental Hygiene. Distance Learning Course (Web taught).

**338 Pediatric Dentistry U 2**

Lectures, laboratory, and clinical exercises to prepare students to provide for the pediatric patient.

Au Qtr. 1 cl, 2 lab hrs. Prereq: Jr standing.

**341 Introduction to Oral Diagnosis U 2**

Introduction to the diagnostic process; pathogenesis, and symptomatology and treatment of oral disease.

Au Qtr. 2 cl. Prereq: 240.

**351 Restorative Dentistry II U 5**

Theory and technical procedures in restoration with compound cavity preparations (amalgam alloy/filled resins) and procedures utilized by advanced qualified personnel in basic and advanced restorative dentistry.

Su Qtr. 3 cl, 6 lab hrs. Prereq: Successful completion of 250.

**352 Expanded Functions Clinic I U 2**

Clinical application of expanded function duties permitted by law.

Su Qtr. 6 clinic hrs. Prereq or concur: 351.

**362 Assessment and Management of the Geriatric Patient U 1**

Fosters an understanding of the special considerations needed to provide dental care to geriatric patients; requires extensive knowledge of the total patient situation.

Sp Qtr. 1 cl. Prereq: Dent hyg jr standing.

**373 Dental Materials for Dental Hygienists U 2**

A study of the composition, chemical and physical properties, manipulation, and various materials employed in the practice of dentistry.

Sp Qtr. 1 2-hr cl. Prereq: 273.

**380 Community Dental Health U 2**

Development of the knowledge, attitudes, skills and behaviors necessary to promote dental health and prevent dental disease through organized community efforts.

Au Qtr. 2 cl. Prereq: 295.

**383 Introduction to Research and Statistical Methods U 5**

Methods utilized in community health research, including study design, sampling, data collection, and the use of statistical tools in the interpretation of quantitative data.

Sp Qtr. 4 1-hr cl, 1 2-hr recitation, or microcomputer lab. Prereq: Dent hyg jr standing. GEC course.

**384 Dental Hygiene Care for the Mentally Retarded and Developmentally Disabled U 1-5**

Various handicapping conditions and any oral manifestations; management techniques and practice in a clinical setting; comprehensive on-going follow-up in the group home setting.

Au, Wi, Sp Qtrs. 1 cl and arr. Prereq: 223, dent hyg 2nd yr standing, and permission of instructor.

**401 Leadership, Management, and Business Concepts in Dental Hygiene Care Delivery U 2**

Economic, management and employment issues dental practices. Development of skills needed to integrate and manage standards of dental hygiene care within dental practices.

Wi Qtr. 2-hr cl. Prereq: Dent hyg sr standing.

**405 Dental Hygiene Career Management U 3**

Economic, management and employment issues; development of skills to integrate and manage current standards of dental hygiene care within existing practices and alternative career settings.

Prereq: Admission to Dental Hygiene Baccalaureate Degree Completion Program. Not open to students with credit for 401.

**411 Dental Hygiene Therapy VI**

Au Qtr. Prereq: 323.01, 323.02, 362, 373.

**411.01 Advanced Topics in Periodontology U 2**

A continuation of 321.03; includes the most recent advances in periodontal therapy, case studies and a review of the literature.

2 cl. Prereq: 321.03.

**411.02 Clinic U 3**

Continuation of clinical patient care with emphasis on time management. Patient care parameters are expanded.

1 cl, 9 hrs clinic.

**412 Dental Hygiene Therapy VII****412.01 Analysis and Interpretation of Research in Oral Health Care U 2**

Analysis of current oral health research with emphasis on interpretation of research findings and strength of evidence.

Au Qtr. 1 2-hr cl. Prereq: 383.

**412.02 Clinic U 3**

A final clinical experience incorporating all previously acquired knowledge, techniques, and procedures.

Wi Qtr. 1 cl, 9 hrs clinic. Prereq: 411.02.

**413 Dental Hygiene Therapy VIII U 1**

Clinical application and evaluation of results of dental hygiene therapy. A continuation of previous clinic courses.

Sp Qtr. 1 cl or 1 3-hr clinic. Prereq: 412.01, 412.02.

**420 Oral Radiography and Interpretation U 1**

Interpretation of radiographic normal anatomic structures and pathologic entities; radiation hygiene.

Wi Qtr. 1 cl. Prereq: 263 or Dent 545 and dent hyg 264, dent hyg sr standing. Not open to students with credit for 320.

**450 Expanded Functions Clinic II U 2**

A continuation of 352.

Au Qtr. 6 clinic hrs. Prereq: 352.

**451 Expanded Functions Clinic III U 2**

A continuation of 450.

Wi Qtr. 6 clinic hrs. Prereq: 450.

**452 Expanded Functions Seminar U 2**

Seminar on current expanded functions practice management techniques and current law in Ohio including practical experiences in preparation for Ohio Expanded Functions Qualifying Examination.

Sp Qtr. 1 cl, 1 2-hr lab. Prereq: 451.

**485 Current Concepts in the Practice of Dental Hygiene U 2**

Seminar designed to assist students with legal, ethical, and philosophical concerns of the dental hygienist as a contemporary health care professional.

Sp Qtr. 2 hrs lecture. Prereq: 3rd yr standing in BSDH program. GEC course.

**486 Practicum in Dental Hygiene U 1-6**

Supervised practice outside the traditional clinic in a setting similar to the one in which the dental hygiene student may practice, teach, or conduct research upon graduation.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Sr standing in dent hyg. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**488 Integrated Clinical Dental Hygiene Science Review I U 1**

Integration and review of all areas of dental hygiene related to dental hygiene practice. Application of analytical skills to case analysis.

Au Qtr. 1 cl. Prereq: 383, 323.01, 323.02.

**489 Integrated Clinical Dental Hygiene Science Review II U 1**

Continuation of 488.

Wi Qtr. 1 cl. Prereq: 488, 411.02, 412.01.

**521 Current Periodontal Treatment Issues U 3**

Current concepts in etiology, risk factors, assessment, treatment planning, implementation and evaluation of contemporary periodontal treatment modalities and maintenance therapy; investigation of periodontal literature.

Au Qtr. 1 3-hr cl. Prereq: Enrollment in Dental Hygiene Baccalaureate Degree Completion Program.

**693 Individual Studies in Dental Hygiene U G 1-5**

Advanced studies in any relevant area of dental hygiene.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies in Dental Hygiene U G 1-5**

Group studies in special dental hygiene areas.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission. Repeatable to a maximum of 15 cr hrs.

**Dentistry**

1159 Postle Hall, 305 West 12th Avenue, 292-2401

The P mark is used in a designated series or sequence of clinical courses where the mark A, B, C, D, or E is not recorded until the final course of the series or sequence is completed. The P mark indicates that the total sequence has not been completed and authorizes the student to progress into the next consecutive course of that particular series or sequence. This mark of itself indicates neither satisfactory performance or unsatisfactory performance. When a final mark is submitted by the instructor, all previous P marks shall assume and be recorded with the value of the final mark. Until such time as a final mark is recorded, the mark of P shall be given and the credit shall be counted as hours only, and shall not be considered in determining a student's point-hour ratio.

**413 Integrated Basic Science Review P 2**

Review and apply basic science concepts in context of clinical experiences.

Sp Qtr. Prereq: Dent 2nd yr standing. This course is graded S/U.

**415 Introduction to Clinical Dentistry****415.01 Lecture P 3**

Didactic introduction to aspects of patient care that will allow students to effectively observe and assist with treatment.

Au Qtr.

**415.02 Laboratory P 1**

Laboratory and clinical introduction to essential aspects of patient care.

Au Qtr. This course is graded S/U.

**416 Introduction to Clinical Dentistry P 2**

The second in a series of courses which focus on acquisition of knowledge and skills that are basic to providing clinical dentistry treatment.

Wi Qtr. 1 cl, 2 clinic. This course is graded S/U.

**417 Oral Anatomy P 3**

Anatomy of the oral region, dental morphology with laboratory experience.

Au Qtr. 2 cl, 3 lab hrs. Prereq: Dent 1st yr standing.

**423 Clinical Evaluative Sciences I P 2**

Introduction to clinical evaluative sciences. Use of evidence in decision making and applying critical thinking based on objective criteria to the evaluation of clinical practice.

Wi Qtr. 2 cl. Prereq: Dent 1st yr standing.

**424 Clinical Evaluative Sciences II P 2**

Methodological and diagnostic tools applicable to evaluation of oral health care for populations and individual patients. Use of systematic measures for quantifying care quality.

Sp Qtr. 2 cl. Prereq: Dent 1st yr standing.

**425 Introduction to Practice Management P 1**

Introduction to basic concepts of finance and business management as related to dental practice management.

Au Qtr. 1 cl.

**427 Introduction to Clinical Dentistry P 2**

The continuation of a series of courses which focus on acquisition of knowledge and skills that are basic to providing clinical treatment.  
Sp Qtr. 1 cl, 2 clinic. This course is graded S/U.

**430 Restorative Dentistry P 3**

Overview of disease processes and procedures performed by general dentists and factors that determine appropriate treatment.  
Au Qtr. 2 cl, 3 lab hrs. Prereq: Dent 1st yr standing.

**432 Restorative Dentistry P 3**

Principles and techniques for inlay, MOD onlay, and complete veneer crown preparation.  
Wi Qtr. 1 cl, 6 lab hrs. Prereq: Dent 1st yr standing.

**433 Restorative Dentistry P 2**

Introduction to occlusion, emphasizing form and function; the occlusal role of posterior teeth in mandibular movement is stressed; includes waxing exercises.  
Wi Qtr. 1 cl, 3 lab hrs. Prereq: Dent 1st yr standing.

**434 Restorative Dentistry P 3**

Continuation of 432.  
Sp Qtr. 1 cl, 6 lab hrs. Prereq: Dent 1st yr standing.

**482 Removable Complete Prosthodontics**

Fabrication of complete dentures: impression making, cast mounting, arranging artificial teeth, processing acrylic resin and finishing, polishing, and completing dentures.

Prereq: Dent 2nd yr standing.

**482.01 Lecture P 1**

Au Qtr.

**482.02 Laboratory P 1**

Laboratory for 482.01.

Au Qtr. 4 lab hrs.

**489 Removable Partial Prosthodontics**

Prereq: Dent 2nd yr standing.

**489.01 Lecture P 1**

An introduction to the principles of design and construction of removable partial dentures.

Wi Qtr. 1 cl.

**489.02 Laboratory P 1**

Wi Qtr. 4 lab hrs.

**500 Community Based Dental Education P 2**

Clinical experience at external clinic sites.  
Su Qtr. 6 clinic hrs. Prereq: Dent 4th yr standing. Community based.

**501 Community Based Dental Education P 2**

Clinical experience at external clinical sites.  
Au Qtr. 6 clinic hrs. Prereq: Dent 4th yr standing. Community based.

**502 Community Based Dental Education P 2**

Clinical experience at external sites.  
Wi Qtr. 6 clinic hrs. Prereq: Dent 4th yr standing. Community based.

**503 Community Based Dental Education P 2**

Clinical experience at external clinical sites.  
Sp Qtr. 6 clinic hrs. Prereq: Dent 4th yr standing. Community based.

**505 Fundamental Principles of Oral Surgery P 2**

Basic principles of oral surgery; patient evaluation and management, surgical instrumentation theory and technique for infection control, teeth extraction, and restorative preparation.

Sp Qtr. 1 cl. Prereq: Dent 2nd yr standing.

**507 Cultural Competency P 1**

Information important in caring for patients with diverse ethnic, racial and cultural backgrounds.  
Sp Qtr. 1 cl.

**510 Oral Biology P 4**

Integrated craniofacial biology: cell and molecular biology, developmental biology and human genetics.  
Wi Qtr. 4 cl. Prereq: Dent 1st yr standing.

**514 Oral Biology P G 4**

Integrated craniofacial biology: oral structure and function and wound healing.  
Sp Qtr. 4 cl. Prereq: Dent 1st yr standing.

**516 Oral Microbiology P 2**

Microbiology of the oral cavity and its relationship to caries, pulpal and periapical

infections and periodontal disease.

Sp Qtr. 2 cl. Prereq: Dent 2nd yr standing.

**522 Clinical Geriatric Dentistry P 1**

Delivery of clinical dental care to elderly populations at nursing homes and geriatric clinics.  
Su, Au, Wi, Sp Qtrs. 1 day per week.

**531 Restorative Dentistry P 2**

Theory, principles, and procedures for tooth preparations to receive posterior metal ceramic crowns; includes the fabrication of a metal ceramic fixed partial denture.  
Su Qtr. 1 cl, 3 lab hrs. Prereq: Dent 2nd yr standing.

**532 Restorative Dentistry P 2**

Functional and cosmetic aspects of anterior teeth; continuing of the study of mandibular movement.  
Sp Qtr. 1 cl, 3 lab hrs. Prereq: Dent 1st yr standing.

**533 Restorative Dentistry P 2**

Operative Dentistry I.  
Wi Qtr. 1 cl, 3 lab hrs. Prereq: Dent 1st yr standing.

**534 Restorative Dentistry P 2**

Operative Dentistry II.  
Sp Qtr. 1 cl, 3 lab hrs. Prereq: Dent 1st yr standing.

**535 Restorative Dentistry P 2**

Theory, principles, and techniques for anterior tooth preparations to receive aesthetic crowns and fixed partial dentures.  
Wi Qtr. 1 cl, 3 lab hrs. Prereq: Dent 2nd yr standing.

**536 Restorative Dentistry P**

Theory and techniques for fabricating correctly contoured provisional restorations; cast posts/cores; porcelain application and customizing (contouring, staining, and glazing).

**536.01 Restorative Dentistry I P 2**

Theory and technique for the restoration of endodontically treated teeth.  
Su Qtr. 4 lecture/lab hrs. Prereq: Dent 2nd yr standing.

**536.02 Restorative Dentistry II P 1**

Theory and technique for fabricating metal and ceramic restorations.  
Su Qtr. 3 lecture/lab hrs. Prereq: Dent 3rd yr standing.

**537 Restorative Dentistry P 1**

Theory, principles, and techniques for restoring atypically damaged single teeth with directly placed and cast materials.  
Wi Qtr. 1 cl, 3 lab hrs. Prereq: Dent 2nd yr standing.

**538 Restorative Dentistry P 2**

Complex esthetic restorations, diagnosis, treatment planning and care delivery including diastema closures, resin and porcelain veneers, ceramic and composite inlays, intracoronal restorations, onlays.  
Au Qtr. Prereq: Dent 3rd yr standing.

**539 Operative Dentistry P 1**

Competency exam in operative dentistry techniques.  
Sp Qtr. Arr clinic. Prereq: Dent 2nd yr standing.

**540 Restorative Dentistry P 2**

A continuation of Dent 535.  
Sp Qtr. 1 cl, 3 lab hrs. Prereq: Dent 2nd yr standing. This is a Progress course. This is the last course in a Progress series with Dent 535.

**544 Physical Evaluation P 2**

Basic and current concepts in dental management of ambulatory patients with compromised medical systems; diagnosis and management of common dental office emergencies.  
Sp Qtr. 2 cl. Prereq: Dent 2nd yr standing.

**545 Diagnostic Sciences I P 2**

Dental radiology.  
Su Qtr. 2 cl. Prereq: Dent 2nd yr standing.

**548 Diagnostic Sciences II P 3**

Oral diagnosis, radiology, and pathology; radiographic techniques and interpretation; clinical appearance and diagnosis of normal and non-normal oral anatomy.  
Sp Qtr. 3 cl. Prereq: Dent 2nd yr standing.

**551 Pediatric Dentistry P 2**

Introduction to pediatric dentistry emphasizing prevention, diagnosis and treatment of dental caries and pulp therapy. Laboratory techniques required for sealants, restorations and pulpotomy.  
Sp Qtr. 1 cl, 4 lab hrs. Prereq: Dent 2nd yr standing.

**564 Periodontology P 3**

Diagnosis etiology and activity of periodontal diseases; biology and pathophysiology of the disease process.

Au Qtr. 3 cl. Prereq: Dent 2nd yr standing.

**565 Periodontology P 3**

Examination treatment planning and instrumentation of the periodontal diseased patient; clinical and interdisciplinary management of periodontal diseases.

Sp Qtr. 2 cl, 6 3-hr clinics. Prereq: Dent 2nd yr standing.

**567 Endodontics P 1**

Basic techniques and procedures used in the treatment of pulpless teeth.

Sp Qtr. 1 cl. Prereq: Dent 2nd yr standing.

**568 Endodontics P 1**

Laboratory experience in endodontics.

Su Qtr. Arr. Prereq: Dent 3rd yr standing. This course is graded S/U.

**569 Endodontics P 1**

The rationale and prognosis of endodontic procedures; application of treatment techniques peculiar to endodontics, including radiography, intracanal preparations, and root fillings.

Sp Qtr. 1 cl. Prereq: Dent 3rd yr standing.

**571 Pharmacology P 3**

Pharmacology for dental students I.

Wi Qtr. 3 cl. Prereq: Dent 2nd yr standing.

**572 Pharmacology for Dental Students P 3**

Pharmacology for dental students II.

Sp Qtr. 3 cl. Prereq: Dent 2nd yr standing.

**579 Local Anesthesiology P 1**

The theory, chemistry, and techniques of local anesthesia for dental procedures.

Wi Qtr. 1 cl. Prereq: Dent 2nd yr standing.

**587 Removable Partial Prosthodontics P 2**

Introduction to removable partial dentures.

Sp Qtr. 1 cl, 4 lab hrs. Prereq: Dent 2nd yr standing.

**589 Removable Partial Prosthodontics P 1**

The advanced principles and design of removable partial dentures and their clinical applications.

Su Qtr. 1 cl. Prereq: Dent 3rd yr standing.

**593 Individual Studies P 1-12**

Individual studies in any of the recognized fields of dentistry.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is letter graded.

**600 Early Clinic Experience P 2**

Early clinic experience including observation, assisting and limited care delivery.

Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**603 Oral Surgery P 1**

Overview of non-dental pain in head and face emphasizing temporomandibular disorders. Includes pain neurophysiology, management principles, working diagnosis and initial management or referral.

Wi Qtr. 1 cl. Prereq: Dent 3rd yr standing.

**604 Physiology for Dental Students I P 4**

General physiology for dental students one.

Au Qtr. 4 cl. Prereq: Dent 2nd year standing. Taught in conjunction with general physiology for dental students two.

**605 Physiology for Dental Students II P 4**

General physiology for dental students two.

Wi Qtr. 4 cl. Prereq: Dent 2nd year standing. Taken in conjunction with general physiology one.

**616 Clinical Primary Care Dentistry P 7**

Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation.

Su Qtr. 4 clinic hrs/credit hr. Prereq: Dent 3rd yr standing. This is a Progress course. Credit will be awarded upon completion of 617.

**617 Clinical Primary Care Dentistry P 8**

Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation.

Au Qtr. 4 clinic hrs/credit hr. Prereq: Dent 3rd yr standing. This is a Progress course. Continuation of 616.

**618 Clinical Primary Care Dentistry P 8**

Clinical experience in primary care dentistry including diagnosis, prognosis,

treatment planning, care delivery and evaluation.

Wi Qtr. 4 clinic hrs/credit hr. Prereq: Dent 3rd yr standing.

**619 Clinical Primary Care Dentistry P 8**

Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation.

Sp Qtr. 4 clinic hrs/credit hr. Prereq: Dent 3rd yr standing.

**620 Orientation to Clinical Dentistry P 1-10**

Interdisciplinary orientation and direct guidance to clinical practice including clinical policies; procedures; time, patient, and treatment management through individual conferences, classroom presentations, and clinical practice.

Su, Au, Wi, Sp Qtrs. Prereq: Dent 3rd yr standing. Repeatable to a maximum of 18 cr hrs.

**621 Dental Ethics P 1**

Advanced study and critical analysis of the ethical issues associated with the day to day practice of the profession.

Au, Wi, Sp Qtrs. 3 3-hr cl. Prereq: Dent 3rd yr standing.

**623 Community Dentistry P 1**

Dental care for the special-needs patient; understanding of the total patient situation, mobility, psychosocial, medical issues, and interpersonal relations.

Sp Qtr. 1 cl. Prereq: Dent 3rd yr standing.

**625 Practice Management I P 1**

Dental practice planning and development. Personnel, time and information management.

Wi Qtr. 1 cl.

**626 Practice Management II P 1**

Accounting and financial planning as related to dental practice management.

Sp Qtr. 1 cl.

**627 Practice Management III P 1**

Legal issues related to dental practice management. Practice purchase and associateships.

Su Qtr. 1 cl.

**629 Dental Materials P 1**

Topics include: requirements of ideal materials, sources for evaluation, comparison of testing procedures, clinical evidence and criteria, evaluation of dental laboratories, material selection.

Au Qtr. 1 cl. Prereq: Dent 4th yr standing. This course is graded S/U.

**630 Restorative Dentistry P 2**

Techniques for collecting information necessary to diagnose accurately and plan complex prosthodontic care; integrates theory into clinical practice.

Su Qtr. 1 cl, 3 lab/clinic hrs. Prereq: Dent 3rd yr standing.

**631 Restorative Dentistry P 1**

Restorative clinical requirements and procedures plus information on tooth isolation, pulpal protection, laboratory prescriptions and protocol, and pulpal response to restorative procedures.

Su Qtr. 1 cl. Prereq: Dent 3rd yr standing.

**632 Restorative Dentistry P 1**

Comprehensive diagnosis and treatment planning for restorative and prosthetic dentistry.

Au Qtr. 1 cl. Prereq: Dent 3rd yr standing.

**633 Restorative Dentistry P 1**

Clinically applied principles for restorative and fixed prosthodontics; includes fluid control, soft-tissue management, electrosurgery, posts and cores, crowns, and fixed partial dentures.

Wi Qtr. 1 cl. Prereq: Dent 3rd yr standing. This is a Progress course.

**634 Restorative Dentistry P 1**

Complex prosthodontic treatment considerations; presents treatment considerations for patients with temporomandibular disorders, removable partial dentures, and worn dentitions.

Sp Qtr. 1 cl. Prereq: Dent 3rd yr standing.

**638 Restorative Dentistry P 2**

This course will enable the participant to recognize the need to restore dentition utilizing contemporary dental implants.

Au Qtr. 2 cl. This is a Progress course. A 'P' mark as defined by the College of Dentistry may be used.

**640 Clinical Restorative Dentistry P 2**

Competency examination for Dent III students.

Sp Qtr. 6 clinic hrs. This course is graded S/U.

**645 Diagnostic Sciences III P 2**

Provides etiology, pathogenesis, clinical and microscopic features, and management of mucocutaneous disorders, microbial disease, reactive lesions, AIDS, and salivary gland disease.

Su Qtr. 2 cl. Prereq: Dent 3rd yr standing.

**646 Microbiology P G 4**

Medical microbiology and its clinical application to dental practice.

Su Qtr. 3 cl. Prereq: Dent 2nd yr standing or permission of instructor.

**647 Immunology P G 2**

Basic immunology and its clinical application to dental practice.

Su Qtr. 2 cl. Prereq: Dent 2nd yr standing or permission of instructor.

**648 Diagnostic Sciences IV P G 2**

Oral pathology; study of clinical appearance epidemiology, etiology, diagnosis, and histopathology of common and rare lesions of oral hard and soft tissues.

Au Qtr. 2 cl. Prereq: 514, Path 655, and Dent 3rd yr standing.

**651 Pediatric Dentistry****651.01 Pediatric Dentistry Lecture P 3**

Treatment planning for pediatric dentistry. Includes discussion of child development, behavioral management, developmental disabilities, space maintenance, periodontal conditions, trauma.

Au Qtr. 3 cl. Prereq: Dent 3rd yr standing.

**652 Pediatric Dentistry****652.02 Clinical Pediatric Dentistry P 1**

Clinical experience in pediatric dentistry.

Su, Au, Wi, Sp Qtrs. 4 clinic hrs. This course is graded S/U.

**656 Orthodontics P 2**

Orthodontic diagnosis and treatment goals.

Au Qtr. 2 cl. Prereq: Dent 2nd yr standing.

**658 Clinical Orthodontics I P 3**

Clinical orthodontic course entailing the provision of limited tooth movement.

Wi Qtr. Prereq: Dent 4th yr standing. This course is graded S/U.

**659 Orthodontics**

Prereq: Dent 4th yr standing.

**659.02 Orthodontic Case Presentation P 1**

Students present completed orthodontic treatment cases in a seminar setting.

Au Qtr. 1 cl.

**660 Clinical Periodontics P 1**

Clinical rotation in graduate periodontics. Assist and observe patient treatment and participate in small group seminars.

Sp Qtr. This course is graded S/U.

**664 Periodontology P 2**

Advanced treatment modalities for the management of periodontal diseases with emphasis on surgical corrective techniques; current developments in clinical periodontics.

Su Qtr. 2 cl. Prereq: Dent 3rd yr standing.

**666 Clinical Periodontology P 1**

Periodontology clinical diagnostic exam and dental prophylaxis (scaling) exam.

Sp Qtr. Arr. Prereq: Dent 3rd yr standing. This course is graded S/U.

**668 Clinical Endodontics I P 1**

Clinic.

Wi Qtr. 2 clinic hrs. Prereq: Dent 3rd yr standing. This is a Progress course. This course is offered in a series with 669. A 'P' mark as defined by the College of Dentistry may be used.

**669 Clinical Endodontics II P 2**

A continuation of 668.

Sp Qtr. 4 clinic hrs. Prereq: Dent 3rd yr standing. This is a Progress course. This course is offered in a series with 668. This is the final course of the series. A 'P' mark as defined by the College of Dentistry may be used.

**672 Pharmacology P 1**

Review of autonomic pharmacology, psychopharmacology including antipsychotics and antidepressants, anti-Parkinson's therapy, and the principles, mechanisms, classifications, uses of antibiotic, and chemotherapeutic agents.

Au Qtr. 1 cl. Prereq: Dent 3rd yr standing.

**684 Removable Complete Prosthodontics P 2**

Block assignment of integrated didactic, laboratory, and clinical removable prosthetic instruction. Laboratory competency examination of Dent III students' ability to provide complete prosthodontic treatment.

Wi Qtr. 36-hr block. Prereq: Dent 2nd yr standing.

**690 Introduction to Clinical Dentistry V P 2**

Introduction to aspects of patient care that will allow students to effectively observe and assist with treatment.

Wi Qtr. Prereq: Dent 2nd year standing. This course is graded S/U.

**691 Introduction to Clinical Dentistry VI P 2**

Introduction to aspects of patient care that will allow students to effectively observe and assist with treatment.

Sp Qtr. Prereq: Dent 2nd year standing. This course is graded S/U.

**693 Individual Studies in Dentistry P G 1-12**

Individual studies in any of the recognized fields of dentistry.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable. This course is graded S/U.

**700 Special Problems**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Dent postgrad or grad standing.

**700.01 Advanced Oral Surgery and Anesthesia P G 1-15**

Diagnosis and treatment of surgical conditions of the teeth and contiguous structures; advanced techniques in surgery and local and general anesthesia.

Repeatable.

**700.02 Advanced Orthodontics P G 1-15**

Applied osteology and myology in cephalometric roentgenographic interpretations; review of cephalic growth and development factors in normal occlusion; correction of malocclusions and dento-facial malformations.

Repeatable.

**700.03 Advanced Periodontics P G 1-15**

Diagnosis and treatment of periodontal disease; correlation between the disease of the periodontium and probable systemic diseases, and management of diseases of a purely dental origin.

Repeatable.

**700.04 Advanced Prosthodontics P G 1-15**

The diagnosis, treatment, and replacement of missing or lost teeth and parts of the mouth by prosthetic appliances; complete removable partial or fixed restorations.

Repeatable.

**700.05 Advanced Oral Pathology and Diagnosis P G 1-15**

The interrelationships of gross microscopic and clinical pathology; current advances in the field of oral pathology and diagnosis.

Repeatable.

**700.08 Advanced Dental Materials P G 1-15**

The science of dental materials.

Repeatable.

**700.09 Advanced Oral Histology and Embryology P G 1-15**

The principles of histology and embryology applied to the structures in the oral region-their development, morphology, functions, and clinical relationships.

Repeatable.

**700.10 Advanced Operative Dentistry P G 1-15**

Clinical problems in operative dentistry and their correlation with problems in related fields of dentistry; special emphasis on preventive dentistry.

Repeatable.

**700.11 Pediatrics for Dental Residents G 2**

The Pediatrics curriculum reviews common medical conditions affecting children including dental treatment implications. Modules on history/physical examination, laboratory medicine and emergency medicine are included.

Su Qtr. 2 cl. Prereq: DDS or DMD. Repeatable to a maximum of 25 cr hrs.

**701 Advanced Clinical Oral Maxillofacial Surgery P 8**

Clinical experience in removal of teeth, biopsy, minor preprosthetic, and post operative patient care.

Su Qtr. 60 clinic hour block. Prereq: Dent 4th yr standing. This course is graded S/U.

**704 Advanced Oral and Maxillofacial Surgery P 2**

Areas of oral and maxillofacial surgeries; dentofacial deformities; trauma; reconstructive surgery; cysts and tumors; TMJ; head and neck infections; and advanced dentoalveolar surgery techniques.

Au Qtr. 2 cl. Prereq: Dent 4th yr standing.

**708 Hospital Dentistry**

Defines the role of the hospital in the treatment of dental patients and provides experience in the hospital so the dentist can contribute to total patient care.

Su, Au, Wi, Sp Qtrs. 1 week. Prereq: Dent 3rd yr standing.

**708.02 Clinic: University Hospital P 1**

In-patient and out-patient general anesthesia, operating room, emergency room, out-patient dentistry, clinics, hospital pathology service, medicine and surgery conferences, ward rounds, laboratory services, oral surgery rounds.

Su, Au, Wi, Sp Qtrs. 1 4-hr clinic. This course is graded S/U.

**708.03 Clinic: Children's Hospital P 1**

Operating room, emergency room, out-patient dentistry, out-patient clinics, observation in general anesthesia, medical and surgical conferences, ward rounds, laboratory services.

Su, Au, Wi, Sp Qtrs. 1 4-hr clinic. This course is graded S/U.

**716 Clinical Primary Care Dentistry P 6**

Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation.

Su Qtr. 4 clinic hrs/credit hr. Prereq: Dent 4th yr standing.

**717 Clinical Primary Care Dentistry P 6**

Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation.

Au Qtr. 4 clinic hrs/credit hr. Prereq: Dent 4th yr standing.

**718 Clinical Primary Care Dentistry P 6**

Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation.

Wi Qtr. 4 clinic hrs/credit hr. Prereq: Dent 4th yr standing.

**719 Clinical Primary Care Dentistry P 10**

Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation.

Sp Qtr. 4 clinic hrs/credit hr. Prereq: Dent 4th yr standing.

**724 Neurophysiology G 3**

Interdisciplinary approach to the physiology and neurobiology of the nervous system.

Au Qtr. Prereq: Permission of instructor. Not open to students with credit for Neuro Sc 724 or NeuroGSP 724. Cross-listed in Neuroscience Department and Neuroscience Graduate Studies Program.

**725 Structure and Function of the Nervous System G 6**

Interdisciplinary approach to the anatomy, neurobiology, physiology and biochemistry of the nervous system.

Wi Qtr. Prereq: Permission of instructor. Not open to students with credit for Neuro Sc 725 or NeuroGSP 725. Cross-listed in Neuroscience Department and Neuroscience Graduate Studies Program.

**730 Integrated Clinical Sciences Review P 2**

Integration and review of all areas of dentistry related to general practice.

Su Qtr. 2 cl. Prereq: Dent 4th yr standing.

**734 Clinical Restorative Dentistry P 2**

Clinical competency examinations; examinations of senior students' ability to perform efficient, high quality routine dentistry.

Wi Qtr. 2 hrs clinical. Prereq: Dent 4th yr standing.

**742 Oral Pathology P G 1**

A review of common oral lesions with emphasis on cause, clinical appearance, signs, symptoms, diagnosis, treatment and management.

Su Qtr. 1 cl. Prereq: Dent 4th yr standing.

**744 Clinical Oral Pathology P 2**

Review of common oral and paraoral diseases, with emphasis on clinical aspects, diagnosis, and management of various lesions.

Au Qtr. 1 2-hr cl. Prereq: Dent 4th yr standing.

**747 Clinical Oral Radiology I P 1**

Au Qtr. 2 clinic hrs. Prereq: Dent 3rd yr standing.

**748 Clinical Oral Radiology II P 1**

A continuation of 747.

Wi Qtr. 2 clinic hrs. Prereq: Dent 3rd yr standing.

**749 Clinical Oral Radiology III P 1**

A continuation of 748.

Sp Qtr. 2 clinic hrs. Prereq: Dent 3rd yr standing.

**756 Orthodontics II P 2**

Orthodontic treatment methods.

Wi Qtr. 2 cl. Prereq: Dent 2nd yr standing.

**768 Clinical Endodontics III P 2**

Clinic.

Au Qtr. 4 clinic hrs. Prereq: Dent 4th yr standing. This is a Progress course. This course is offered in a series with 769. A 'P' mark as defined by the College of Dentistry may be used.

**769 Clinical Endodontics IV P 1**

A continuation of 768.

Wi Qtr. 2 clinic hrs. Prereq: Dent 4th yr standing. This is a Progress course. This course is offered in a series with 768. This is the final course of the series. A 'P' mark as defined by the College of Dentistry may be used.

**771 Pharmacology P 1**

Pharmacology of drugs used primarily for medical conditions including cardiac glycosides, anti-arrhythmics, calcium channel blockers, anti-anginals, anti-hypertensives, anti-coagulants, anti-neoplastics, and gastrointestinal medications.

Su Qtr. 1 cl. Prereq: Dent 4th yr standing.

**776 Clinical Periodontology P 1**

Periodontology written periodontal exam and clinical exam of diagnostic findings, scaling and root planing.

Au Qtr. Arr. Prereq: Dent 4th yr standing.

**777 Clinical Periodontology P 2**

Periodontal clinical and written examinations NE Regional Dental Board format.

Wi Qtr. Arr. Prereq: Dent 4th yr standing.

**778 Anxiety and Pain Control P 2**

Principles of anxiety control by sedative techniques with nitrous oxide-oxygen conscious sedation and with oral I.M. or I.V. light conscious sedation; methods of pre-operative assessment, monitoring, and management of complications; a review of light sedation, deep sedation, and general anesthesia.

Sp Qtr. 2 cl. Prereq: Dent 3rd yr standing.

**785 Removable Complete Prosthodontics P 2**

Clinical competency examination; examination of Dent IV students' ability to provide removable complete prosthodontic treatment.

Wi Qtr. 6 clinic hrs. Prereq: Dent 4th yr standing.

**790 Advanced Dental Topics or Problems**

Lectures and discussions of current topics, laboratory or clinical participation in problems or investigation related to dentistry. Presented by faculty, guest lecturers or clinicians.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Open only to dent students who meet college stated prereqs and who have permission of the college office and instructor. Maximum number of cr hrs course may be repeated varies with student's standing and according to criteria established by college.

**790.09 Fixed Prosthodontics P 1-6**

Repeatable. This course is graded S/U.

**790.99 Research P 1-6**

Repeatable. This course is graded S/U.

**792 Special Lectures in Dentistry**

Lectures in special phases in dentistry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor.

**792.01 Oral Pathology P G 1-5**

General principles and concepts of pathology associated with the oral cavity.

Repeatable.

**792.02 Oral Pathology P G 1-5**

Local disturbances of the oral cavity.

Repeatable.

**792.03 Oral Pathology P G 1-5**

Systemic disturbances and their oral manifestations.

Repeatable.

**792.06 Dental Therapeutics P G 1-5**

Principles of pharmacology in relation to patient care.

Repeatable.

**792.07 Physical Diagnosis P G 1-5**

Physical evaluation of the dental patient and its correlation with the required treatment.

Repeatable.

**792.08 Conscious Sedation and General Anesthesia G 2**

Emphasizes drugs and techniques of oral intravenous and inhalation conscious sedation as they are practiced in Dentistry as well as a broad-based overview of general anesthesia/deep sedation.

Wi Qtr. 2 cl. Prereq: DDS or DMD. Repeatable to a maximum of 25 cr hrs.

**792.14 Behavioral Sciences in Dentistry P G 1-5**

A study of the psychological aspects of dental treatment involving the dentist, patients, and dental office staff.

Repeatable to a maximum of 5 cr hrs.

**792.15 Current Advances in Periodontology G 2**

Seminar-based course emphasizing current developments in clinical, translational and basic periodontics. Surgical, technological and therapeutic advances within the past year will be discussed, along with background on previous work in the same area within the last 5 years.

Au, Wi, Sp Qtrs. Prereq: DDS or equiv degree. Repeatable to a maximum of 20 cr hrs. This is a Progress course. Final grade awarded Spring Quarter. This course is graded S/U.

**792.16 Principles of Mechanics for Orthodontists P G 1-5**

Study of basic mechanical principles including forces, moments, couples, displacements, rotations, equilibrium, stress-strain, and properties of orthodontic wires.

Wi Qtr. 2 4-hr cl, 2 hr lab. Prereq: Enrollment in grad orthodontics program. Open only to grad students in orthodontics.

**792.18 Research Topics in Oral Biology G 1**

Presentations by oral biology faculty on their own ongoing research projects.

Au Qtr. 1 cl. Prereq: Permission of instructor.

**792.19 General Dentistry P G 1-5**

Lectures in special phases of dentistry -- general principles of general dental practice primary oral healthcare, and related aspects, including practice management, etc.

1-5 hrs seminar and discussion, variable each qtr. Prereq: DDS degree or equiv and permission of instructor. Repeatable. Introduction to the principles of dental specialties in general practice for the graduate in general dentistry.

**792.20 Hospital Dentistry P G 1-5**

Lectures in special phases of dentistry -- general principles of general hospital dental practice and care of the medical patient.

1-5 seminars. Prereq: DDS or equiv and permission of instructor. Repeatable. Introduction to the principles of interrelationships of medicine and dentistry and the application of these in general practice.

**792.21 Legal Issues in Developing and Managing a Dental Practice G 2**

This course outlines and discusses legal issues that a dental professional will be confronted with in dental practice.

Wi Qtr. 10 lecture and discussion sessions. Prereq: Grad standing in a Postdoctoral dental program or permission of instructor. Repeatable.

**792.22 Surgical Orthodontics G 2**

To provide the didactic component of the dentofacial deformities program and a prerequisite for participating in the clinical component of interdisciplinary management of patients.

Wi, Sp Qtrs. 1 2-hr cl. Prereq: Enrolled in a postdoctoral (DDS) program or equiv. Repeatable to a maximum of 4 cr hrs. This is a Progress course. Two qtr sequence. Progress graded first quarter; final grade awarded upon completion of 4 credit hours. This course explains the systematic approach to the diagnosis and treatment planning of complex clinical problems in an interdisciplinary format.

**792.23 Craniofacial Anomalies G 2**

Involves presentations of topics on the development, treatment, and management of patients with craniofacial anomalies.

Wi Qtr. 1.5-hr cl. Prereq: DDS or DMD. Limited to first year residents in Orthodontics and Pediatric Dentistry. Repeatable to a maximum of 4 cr hrs.

**793 Individual Studies**

Individual assignments in each specialty of dentistry; students will elect to work in desired subjects after a conference with the instructor in charge.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor.

**793.01 Oral Surgery and Anesthesia P G 1-5**

Repeatable. This course is graded S/U.

**793.02 Orthodontics P G 1-5**

Repeatable. This course is graded S/U.

**793.03 Periodontics P G 1-5**

Repeatable. This course is letter graded.

**793.04 Prosthodontics P G 1-5**

Repeatable. This course is graded S/U.

**793.05 Oral Pathology P G 1-5**

Repeatable. This course is graded S/U.

**793.06 Endodontics P G 1-5**

Repeatable. This course is graded S/U.

**793.07 Pedodontics P G 1-5**

Repeatable. This course is graded S/U.

**793.08 Operative Dentistry P G 1-5**

Repeatable. This course is graded S/U.

**793.09 Oral Diagnosis P G 1-5**

Repeatable. This course is graded S/U.

**793.10 Fixed Partial Prosthodontics P G 1-5**

Repeatable. This course is graded S/U.

**793.11 Oral Radiography P G 1-5**

Repeatable. This course is graded S/U.

**793.12 Oral Biology Laboratory Rotation P G 1-5**

Research activities and training in the laboratory of a program faculty member.

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**793.13 General Dentistry P G 1-5**

1-5 seminar and discussion hrs; self-paced work. Prereq: DDS degree or equiv, third qtr of post-graduate yr or second post-graduate yr, and permission of instructor. Repeatable. Self-directed course for the upper-level first-yr resident and second-yr resident to pursue areas of interest. This course is graded S/U.

**793.14 Hospital Dentistry P G 1-5**

1-5 seminar and discussion hrs, self-paced work. Prereq: DDS or equiv, third qtr of first post-graduate yr or second post-graduate yr and permission of instructor. Repeatable. Self-directed course for upper level first-yr resident and second-yr resident to pursue areas of interest. This course is graded S/U.

**794 Group Studies**

Group studies on special problems in each specialty of dentistry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor.

**794.01 Oral Surgery and Anesthesia P G 3-5**

Repeatable.

**794.02 Orthodontics P G 3-5**

Repeatable.

**794.03 Periodontics P G 3-5**

Repeatable.

**794.04 Prosthodontics P G 3-5**

Repeatable.

**794.05 Oral Pathology P G 3-5**

Repeatable.

**794.06 Endodontics P G 3-5**

Repeatable.

**794.07 Pedodontics P G 3-5**

Repeatable.

**794.08 Operative Dentistry P G 3-5**

Repeatable.

**794.09 Oral Diagnosis P G 3-5**

Repeatable.

**794.10 Fixed Partial Prosthodontics P G 3-5**

Repeatable.

**794.11 Oral Radiography P G 3-5**

Repeatable.

**795 Seminars in Dentistry**

Discussion of advances in dental science and review of original literature.

Su, Au, Wi, Sp Qtrs. 1-5 cl. Prereq: Dent grad standing.

**795.01 Oral Surgery and Anesthesia P G 1-5****795.02 Orthodontics P G 1-5****795.03 Periodontics P G 1-5**

Wi, Sp Qtrs. This course is graded S/U.

**795.04 Prosthodontics P G 1-5****795.05 Oral Pathology P G 1-5****795.06 Endodontics P G 1-5****795.07 Pedodontics P G 1-5****795.08 Operative Dentistry P G 1-5****795.12 General Dentistry P G 1-5**

Discussion of advances in dental science and review of the original literature that will focus on general community based dental practice and the role of dental specialties.

1-5 hrs of seminar, variable with each qtr. Prereq: DDS or equiv and permission of instructor. Seminar for presentation and discussion of relevant scientific and clinical studies and procedures as they relate to general dental practice.

**795.13 Hospital Dentistry P G 1-5**

The focus in this area will be hospital and institutional based general dental practice.

**796 Specialty Seminars in Dentistry**

Seminars in each of the specialty areas of dentistry for discussion of pertinent literature, presentation, and discussion of research work and demonstration of advanced techniques.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor.

**796.01 Oral Surgery and Anesthesia P G 1-5**

Repeatable.

**796.02 Orthodontics P G 1-5**

Repeatable.

**796.03 Periodontics P G 1-5**

Repeatable.

**796.04 Prosthodontics P G 1-5**

Repeatable.

**796.05 Oral Pathology P G 1-5**

Repeatable.

**796.06 Endodontics P G 1-5**

Repeatable.

**796.07 Pedodontics P G 1-5**

Repeatable.

**796.08 Operative Dentistry P G 1-5**

Repeatable.

**796.10 Fixed Partial Prosthodontics P G 1-5**

Repeatable.

**796.12 Oral Biology Seminar G 1**

Student presentations of recent research findings, both original and from the literature.

Repeatable to a maximum of 2 cr hrs.

**796.13 Advanced General Dentistry P G 1-5**

1-5 hrs seminar, variable with each qtr. Prereq: Permission of instructor and DDS or equiv. Repeatable. Seminar for presentation and discussion of clinical cases and advanced techniques with analysis and discussion of relevant literature.

**796.14 Hospital Dentistry P G 1-5**

1-5 seminar hrs, variable each qtr. Prereq: Permission of instructor and DDS or equiv. Repeatable. Seminar for presentation and discussion of clinical cases and advanced techniques with analysis and discussion of the literature in medicine and dentistry.

**798 Advanced Clinical Practice in Dentistry**

Broad exposure to advanced principles and practices in each specialty of dentistry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to maximum of 120 cr hrs.

**798.01 Oral Surgery and Anesthesia P 3-10**

Repeatable.

**798.02 Orthodontics P 3-10**

Repeatable. This course is graded S/U.

**798.03 Periodontics P 3-10**

Repeatable.

**798.04 Prosthodontics P 3-10**

Repeatable.

**798.05 Oral Pathology P 3-10**

Repeatable.

**798.06 Endodontics P 3-10**

Repeatable.

**798.07 Pedodontics P 3-10**

Repeatable.

**798.08 Operative Dentistry P 3-10**

Repeatable.

**798.10 Fixed Partial Prosthodontics P 3-10**

Repeatable.

**798.12 General Dentistry P 3-10**

The focus in this area will be general community based dental practice.

30 or more hrs of clinical practice time. Prereq: Permission of instructor and DDS or equiv. Repeatable. Clinical practice of application of specialty and general practice principles.

**798.13 Hospital Dentistry P 3-10**

To focus in this area will be hospital and institutional based general practice.

35 or more hrs of clinical practice time. Prereq: Permission of instructor and DDS or equiv. Repeatable. Clinical practice of the application of specialty and general dental and medical principles in general hospital practice.

**800 Statistical Inferences and its Application to Dentistry G 3**

Conceptual foundation of statistics related to basic, clinical and behavioral dental sciences.

Su Qtr. Prereq: DDS degree or permission of instructor.

**801 Epidemiology of Oral Disease G 2**

Principles and techniques used to assess oral disease in human populations.

Au Qtr. Prereq: 800 or permission of instructor.

**802 Introduction to Dental Research Designs G 3**

Conceptual and technical problems in the development and implementation of clinical, behavioral and basic science research projects related to dentistry.

Wi Qtr. 2 1.5-hr cl. Prereq: 800 or permission of instructor.

**803 Biology of Oral Wound Repair G 3**

Cell and molecular events of oral wound repair. Focus on biology of hard and soft tissues of oral cavity as related to advanced clinical dentistry.

Sp Qtr. 2 1.5-hr cl. Prereq: DDS degree or equiv.

**805 Orofacial Pain Management G 3**

Review of common non-dental conditions producing chronic pain in the head and neck region. Neurophysiology of pain, diagnosis and treatment are stressed.

Sp Qtr. 1 3-hr cl. Prereq: DDS or MD degree.

**884 Current Issues in Oral Biology G 3**

Overview of current areas of oral health research.

Su, Au, Wi, Sp Qtrs. 3 hrs. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course will cover multiple topics of current oral health concern.

**894 Group Studies G 3-5**

Advanced group studies in dentistry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable.

**993 Individual Studies G 1-5**

Advanced individual studies in dentistry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

**999 Research in Dentistry G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Dutch**

498 Hagerty Hall, 1775 College Road, 292-6985

**571\* Basic Dutch for Reading U G 5**

Fundamentals of grammar for reading purposes; applicable to students in humanities, sciences, social sciences, and professional schools.

5 cl. Prereq: Grad standing or permission of instructor.

**572\* Dutch for Research U G 3**

Continuation of the principles learned in 571; applied readings in students' disciplines; emphasis on close translation, grammatical analysis, and vocabulary building.

3 cl. Prereq: 571 or equiv or permission of instructor.

**Earth Sciences**

275 Mendenhall Laboratory, 125 South Oval Mall, 292-2721

Information concerning the frequency and quarter(s) of offering, if not specified, should be obtained by contacting the department.

Antarctic Marine Ecology and Policy

See EEOB/Int Stds/Nat Res/597.02.

**100 Planet Earth: How it Works U 5**

The materials of the Earth's crust, the processes that produce and modify them, and the development of the Earth and its life forms through time.

Su, Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab; or 2 2-hr cl, 1 2-hr lab. Not open to students with credit for Geol Sci 100. Not intended for ASC BS students. This course is available for EM credit. GEC phys sci course. NS Admis Cond course.

**105 Geology and the National Parks U 5**

Geologic processes, materials, and history revealed in geologic settings of the National Parks.

Au, Wi Qtrs. 4 cl, 1 rec. Not open to students with credit for 100, or Geol Sci 100. Not intended for ASC BS students. GEC phys sci course. NS Admis Cond course.

**107 Field-based Introduction to Oceanography U 3**

Origin, development, and structure of ocean basins and their contents; contemporary oceanic processes of geologic significance.

Su Qtr. 1 week, full-time at Stone Lab. Prereq: Permission of instructor. Not open to students with credit for Geol Sci 107.

**108 Gems and Precious Stones U 5**

General introduction to gems and precious stones, including the origin of gems, identification techniques, and the history of important gems.

Au, Sp Qtrs. (H version offered Sp). 4 cl, 1 rec. Honors version is 4 cl, 1 2-hr lab. H108 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for Geol Sci 108. Not intended for ASC BS students. GEC BA phys sci course.

**110 History of Life on Earth-Global Change in the Biosphere U 5**

3.5 billion years of biosphere global change; introduction to major evolutionary and extinction events; processes responsible for change; and biosphere, atmosphere, and lithosphere interrelationships.

Sp Qtr. 4 cl, 1 lab/discussion. H110 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 100, or Geol Sci 100, or Biology 102 or 114, or permission of instructor. Not open to students with credit for Geol Sci 110. This course is available for EM credit. NS Admis Cond course. GEC phys sci course.

**121 The Dynamic Earth U 5**

Minerals, rocks, and their origin; land forms and how they are produced; structural features of the Earth's crust.

Su, Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab; or 2 2-hr cl, 1 2-hr lab. H121 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Math 104. Not open to students with credit for Geol Sci 121. This course is available for EM credit. GEC phys sci course. NS Admis Cond course.



**122 Earth Through Time U 5**

Origin and evolution of Earth, including its physical, chemical and biological components; principles of geologic inference and their application to interpreting Earth.

Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab; or 2 2-hr cl, 1 2-hr lab. H122 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 121 or Geol Sci 121. Not open to students with credit for Geol Sci 122. Recommended second course in geol sci for science majors. GEC phys sci course. NS Admis Cond course.

**151 Natural Disasters: Earthquakes, Volcanic Eruptions and Related Hazards U 5**

Occurrence and causes of earthquakes, volcanoes and related hazards, and impact on climate, society, and history.

Sp Qtr. 2 2-hr cl, 1 2-hr recitation. GEC phys sci course.

**203 Environmental Geoscience U 5**

Concepts and challenges of geological hazards and resources, environmental pollution and health, regional and long-range planning, and global change and sustainability.

Su, Au, Sp Qtrs. 4 cl, 1 2-hr lab; or 2 2-hr cl, 1 2-hr lab. Prereq: 100 or 121 or Geol Sci 100 or 121. Not open to students with credit for Geol Sci 203. GEC phys sci course. NS Admis Cond course.

**204 Exploring Water Issues U 5**

Water on Earth, human impacts, and scientific and technological issues related to water resource development and conservation.

Wi Qtr. 5 cl. Prereq: 100 or 105 or 121 or Geol Sci 100, 105, 121; or Chem 101; or permission of instructor. Not open to students with credit for Geol Sci 204. GEC course, BA Phys Sci Sequence. Sequence with Geol Sci 100, 121, and Physical Science course. NS Admis Cond course.

**205 The Planets U 5**

Comparison of the geological processes of Earth to the planets and moons in the solar system with particular attention to surface environments.

Sp Qtr. 5 cl. Prereq: 100, 121 or Geol Sci 100, 121 or permission of instructor. Not open to students with credit for Geol Sci 205 GEC phys sci course.

**206 Principles of Oceanography U 5**

The origin, development, and structure of ocean basins and their contents; contemporary oceanic processes of geologic significance.

Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab; or 2 2-hr cl, 1 2-hr lab. Prereq: 100 or 121 or Geol Sci 100, 121. Not open to students with credit for Geol Sci 206. GEC phys sci course. NS Admis Cond course.

**210 Energy, Mineral Resources, and Society U 5**

Geologic origin, world distribution, and uses of mineral resources critical to society; topics include mineral and fossil fuels, metallic ores, and industrial minerals.

Su, Wi Qtrs. 5 cl. Prereq: 100 or 121 or Geol Sci 100, 121. Not open to students with credit for Geol Sci 210. GEC phys sci course. NS Admis Cond course.

**212\* Introduction to Earth Materials U 3**

A study of the common minerals and rocks, their associations, occurrences, identifying properties, and origin.

Sp Qtr. 3 2-hr labs. Prereq: 121 or Geol Sci 121 and Chem 121. Not open to students with credit for Geol Sci 212.

**H220 Contemporary Topics in Geological Sciences U 5**

Geological processes and their underlying principles; diverse issues of current interest; modern investigative techniques introduced in laboratory.

2 cl, 1 3-hr lab, 1 2-hr rec/disc, 1 4-day field trip, 2 3-4 hr field trips. Prereq: Introductory geological sciences; and honors student or permission of instructor. Not open to students with credit for Geol Sci H220.

**245 Introductory Data Analysis for Earth and Environmental Sciences U 5**

Data analysis using cooperative learning environment; topics include data visualization, error analysis, error propagation, probability distributions, hypothesis testing, ANOVA, linear regression, and spatial statistics.

Wi Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: Math 152, or written permission of instructor. Not open to students with credit for Geol Sci 245. GEC data analysis course.

**293 Individual Studies U 1-3**

Special problems in the geological sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs for the combination of Geol Sci 293 and Earth Sci 293. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Group study of special topics in various fields of the geological sciences.

Su, Au, Wi, Sp Qtrs. H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs for the combination of Geol Sci 294 and Earth Sci 294. Repeatable to a maximum of 15 cr hrs.

**310 Earth Systems Data Collection and Analysis U 5**

Designed to provide an introduction to the basic competencies in observation

of earth systems, image interpretation, and software integration.

Au Qtr. 3 1-hr cl, 1 3-hr lab. Prereq: GEC data analysis course; soph standing and above. Not open to students with credit for Geol Sci 310.

**315 Evolution: Contemporary and Interdisciplinary Perspectives U 5**

Develop an understanding of the interplay among different disciplinary approaches to evolutionary studies.

Sp Qtr. 2 2-hr cl. Prereq: one biology, one anthropology or one earth sciences course. Not open to students with credit for Anthropol 315. Cross-listed in Anthropology.

**410 Water in the Basin Hydrologic Cycle U 5**

The occurrence and transfer of water in the hydrologic cycle, common measurement approaches, and the importance of water in geological processes and as a resource.

Wi Qtr. 3 1-hr cl and 1 3-hr lab. Prereq: 100, or 121, or Geol Sci 100 or 121 or equiv, or permission of instructor. Not open to students with credit for Geol Sci 410.

**411 Water Security for the 21st Century U 5**

Examines the major issues that are contributing to the decline in quantity and quality of global freshwater resources and the resultant environmental and societal impacts.

Sp Qtr. 2 2-hr and 1 1-hr cl. Prereq: GEC data analysis course; soph standing and above. Not open to students with credit for Geol Sci 411.

**420 Global Oil and Gas Production, Occurrence, and Movement U 5**

The origin, migration, accumulation, exploration, and exploitation of oil and gas deposits within an historical context of the evolving global petroleum economy.

3 2-hr cl. Prereq: GEC data analysis course; soph standing and above. Not open to students with credit for Geol Sci 420.

**421 Introductory Mineralogy and Crystallography U 5**

Internal and external symmetry of minerals; relationship of physical properties to crystal structure; introduction to modern and traditional identification methods; sight identification of about 30 minerals.

Au Qtr. 3 cl, 2 2-hr labs. Prereq: Chem 121. Not open to students with credit for Geol Sci 221 or 421.

**423 Introductory Petrology U 5**

Origin, occurrence, association, and mineral composition of the common rocks; laboratory includes work by megascopic and microscopic methods.

Wi Qtr. 2 cl, 3 2-hr labs. Prereq: 121 or Geol Sci 121 and 421 or Geol Sci 421. Not open to students with credit for 212 or Geol Sci 212 or 423.

**425 Peak Oil and Sustainability U 5**

An examination of the problem of decreasing supplies of fossil fuel, alternative energy sources, and possible accommodations.

Wi Qtr. 2 2-hr cl and 1 1-hr rec. Prereq: GEC data analysis course; soph standing and above. Not open to students with credit for Geol Sci 425.

**H451 Science in the Courtroom U 5**

Development and presentation of expert testimony in a mock trial of a landmark toxic torts case, based on analysis of hydrologic, geologic, and toxicological data.

3 cl, 1 3-hr lab. Prereq: 121 or Geol Sci 121, Chem 122, and Math 152; or permission of instructor. Not open to students with credit for Geol Sci H451. GEC phys sci course.

**501 Paleontology U 5**

Fundamentals of paleontology and processes responsible for the fossil record, including application of paleontology to paleoclimatology and paleoenvironmental reconstruction.

Sp Qtr. 4 cl, 1 2-hr lab, 1 all-day field trip. Prereq: 122 or Geol Sci 122 and 5 or hrs in biological sciences. Not open to students with credit for Geol Sci 201 or Geol Sci 501.

**502 Stratigraphy and Sedimentation U G 5**

Principles of, and procedures in, stratigraphy and sedimentation, illustrated by field and laboratory studies of sedimentary rocks.

Au Qtr. 4 cl, 1 2-hr lab, and weekend field trips. Prereq: 423 or Geol Sci 423. Not open to students with credit for Geol Sci 502.

**530 Structural Geology U G 5**

An introduction to the principles of rock deformation, the classification and physical origin of rock structures, and crustal tectonic processes.

Sp Qtr. 3 cl, 2 2-hr labs, 1 3-to-4 day field trip. Prereq: 121 or Geol Sci 121 and Physics 131. Not open to students with credit for Geol Sci 530.

**550 Geomorphology U G 5**

Investigation of concepts of landscape development; interpretation of materials, processes, types, and evolution of landforms produced under diverse climates.

Sp Qtr. 2 2-hr cl, 1 2-hr lab, field trip. Prereq: 122 or Geol Sci 122 or permission of instructor. Not open to students with credit for Geol Sci 550.

**560 Introductory Geophysics U 5**

Methods and techniques of pure and applied geophysics; geological interpretation of geophysical data.

Wi Qtr. 4 cl, 1 2-hr lab. Prereq: 121 or Geol Sci 121, Math 151, and Physics 131. Not open to students with credit for Geol Sci 280 or Geol Sci 560.

**570 Senior Thesis U G 1**

The preparation of a report of professional quality, based on a research project.

Su, Au, Wi, Sp Qtrs. Prereq: Sr standing in geol sci and permission of instructor. Not open to students with credit for Geol Sci 570. To be taken during the qtr the student intends to hand in the thesis.

**580 Standards-Based Earth Science for Educators U G 1-5**

Examination of selected essential geoscience topics through appropriate field, laboratory, and classroom activities.

Su Qtr. Prereq: 15 qtr hrs in physical or biological sciences, with 5 cr hrs of introductory geological sciences recommended or permission of instructor. Repeatable to a maximum of 15 cr hrs for the combination of Geol Sci 580 and Earth Sci 580. Repeatable to a maximum of 15 cr hrs. 212 and 550 or Geol Sci 212 and 550 recommended. May not be used to satisfy BA or BS degree requirements in Geol. Sci.

**581 Field Geology I U G 5**

Concentrated training in the basic essentials of field observation and mapping; the work is done in central Utah, with headquarters in Ephraim.

Su, Su Term 1 Qtr. Prereq: 423, 530, or Geol Sci 423, 530 and written permission of instructor. Requires full time of student. Not open to students who have credit for Geol Sci 581.

**582 Field Geology II U G 4**

Continuation of 581.

Su, Su Term 2 Qtr. Prereq: 581 or Geol Sci 581. Requires full time of student. Not open to students with credit for Geol Sci 582.

**583 Field Geology for Educators**

Application of geological principles and interpretation of Earth features in selected areas, with related research reports and teaching units.

Su, Wi, Sp Qtrs. 5-8 days in field, 2-6 cl. Prereq: 100, Geol Sci 100 or equiv and permission of instructor. Intended primarily for in-service and pre-service teachers and education majors. May not be used to satisfy BS degree requirements in Geol. Sci.

**583.01 Field Geology, Appalachian Mountains U G 3**

Sp Qtr. 5-day field trip preceding the quarter, 4 pre-trip and 2 post-trip cl. Not open to students with credit for Geol Sci 583.01.

**583.02 Field Geology, Bahamas U G 3**

Wi Qtr. 8-day field trip following the quarter, 4 pre-trip and 2 post-trip cl. Not open to students with credit for Geol Sci 583.02.

**583.03 Field Geology, Lake Erie U G 3**

Su Qtr. 7-day field trip. Not open to students with credit for Geol Sci 583.03.

**583.04 Field Geology, Unspecified U G 3**

Su, Au, Wi, Sp Qtrs. Field trip and cl. Not to students with credit for 583.04.

**584 Principles of Oceanography for Educators U G 3**

Origin, development, and structure of ocean basins and their contents; contemporary oceanic processes of geologic significance.

Su Qtr. 1 week, full-time at Stone Lab. Prereq: 15 qtr hrs in physical sciences or biological sciences and permission of instructor. Intended for in-service teachers and education majors. May not be used to satisfy BS, MS, or PhD requirements in Geol. Sci. Not open to students with credit for 206 or Geol Sci 206, or Geol Sci 584.

**600 Sedimentology U G 5**

Source, dispersal, and accumulation of sediments; the interpretation of the environmental distribution of sedimentary rocks.

Au, Wi Qtrs. 4 1-hr cl, 1 2-hr lab arr. Prereq: 502 or Geol Sci 502. Not open to students with credit for Geol Sci 600.

**601 Sedimentary Petrology**

Identification and interpretation of sedimentary rocks based on mineralogical and textural study of thin sections and hand specimens.

Prereq: 600 or Geol Sci 600 or permission of instructor.

**601.01 Sedimentary Petrology of Sandstones U G 5**

3 cl, 2 2-hr labs. Not open to students with credit for Geol Sci 601.01.

**601.02 Sedimentary Petrology of Carbonate Rocks and Shales U G 5**

3 cl, 2 2-hr labs. Not open to students with credit for Geol Sci 601.02.

**602 Carbonate Depositional Systems****602.01 Carbonate Depositional Systems I U G 3**

The study of carbonates in modern settings including the origin, composition, and identification of constituents and cement, and depositional environments.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: 502 or Geol Sci 502 or 600 or Geol Sci 600, or equiv. Not open to students with credit for Geol Sci 602.01.

**602.02 Carbonate Depositional Systems II U G 2**

The field study of carbonates in a modern setting such as the Bahamas or southern Florida.

Sp Qtr. 7-day field trip preceding the qtr. Prereq: 602.01 or Geol Sci 602.01 and permission of instructor. Not open to students with credit for Geol Sci 602.02.

**603 Stratigraphy U G 5**

Advanced study of the principles and procedures of stratigraphic nomenclature, subdivision, correlation, and interpretation, with examples from the international stratigraphic record.

3 cl, 2 2-hr labs. Prereq: 502 or Geol Sci 502. Not open to students with credit for Geol Sci 603.

**604 Sequence Stratigraphy U G 5**

Advanced study of the principles and practice of sequence stratigraphy; cyclicity in the stratigraphic record; computer modeling of sedimentary patterns; and reservoir characterization.

4 cl, 1 2-hr lab, field trips. Prereq: 502 or Geol Sci 502 or equiv. Not open to students with credit for Geol Sci 604.

**605 Biogeochemical Evolution of the Oceans U G 5**

Basic principles of stable and radiogenic isotope methods as applied to paleoenvironmental investigation of ancient sediments.

2 cl, 1 2-hr lab, 2 weekend field trips. Prereq: 502 or Geol Sci 502 or permission of instructor. Not open to students with credit for Geol Sci 605.

**607 Fundamentals of Geographic Information Systems U G 5**

Basic principles of geographic and land information systems and their use in spatial analysis and information management.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: Sr standing. Not open to students with credit for Geol Sci 607 or Geog 685; or 607 in C&R Plan, Civil En, Geod Sci, Geog, or Nat Res. Cross-listed in City and Regional Planning, Civil Engineering, Geodetic Science, Geography, and Natural Resources.

**613 Micropaleontology U G 5**

Advanced consideration of the preservation, collection, laboratory methods, interrelationships, and stratigraphic distribution of major groups of animal microfossils.

4 cl, 1 2-hr lab. Prereq: 501 or Geol Sci 501 or equiv. Not open to students with credit for Geol Sci 613.

**614 Paleobiology U G 5**

Advanced consideration of paleontological principles, paleontological inference, and evolutionary theory, including patterns and processes, paleoecology, numerical analysis, and fossilization.

Au Qtr. 4 cl, 1 2-hr lab. Prereq: 501 or Geol Sci 501 or equiv. Not open to students with credit for Geol Sci 614.

**615 Paleoecology U G 5**

Concepts and numerical methods for the advanced treatment of autecology, marine community paleoecology, and evolutionary paleoecology in the fossil record.

4 cl, 1 2-hr lab, 1 wkend field trip. Prereq: 614 or Geol Sci 614 or permission of instructor. Not open to students with credit for Geol Sci 615.

**617 Petrology of Earth and Planets U G 5**

Interpretation of processes operating on Earth and on other planets from a petrological perspective.

1 cl, 4 2-hr labs. Prereq: 423 or Geol Sci 423 or equiv. Not open to students with credit for Geol Sci 617.

**618 Advanced Historical Geology U G 3**

Principles of historical-geological analysis and interpretation of Earth's physical, chemical, and biological history.

3 cl. Prereq: 502 or Geol Sci 502 or equiv. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 618 and Earth Sci 618. Repeatable to a maximum of 18 cr hrs.

**620 Principles of Isotope Geology U G 5**

Theory of natural isotope abundance variations and applications to problems in the earth sciences.

5 cl. Prereq: Sr standing in geol sci or earth sci or related fields. Not open to students with credit for Geol Sci 620.

**621 Principles of Geochemistry U G 5**

Introduction to the chemistry of the solid Earth and hydrosphere describing the processes controlling the distribution of elements.

Au Qtr. 5 cl. Prereq: Sr standing in geol sci or earth sci or related fields; Chem 123 or permission of instructor. Not open to students with credit for Geol Sci 621.

**622 Stable Isotope Biogeochemistry U G 5**

Focus on theoretical and applied aspects of stable isotope biogeochemistry in the natural environment with emphasis on carbon, oxygen and nitrogen.

Prereq: Sr standing in any science program or grad standing in any of the sciences or permission of instructor. Not open to students with credit for Geol Sci 622.

**624 Microscopy of Opaque Minerals U G 3**

Application of the petrographic microscope to the study of opaque minerals and ores, their identification, textures, and paragenesis.  
3 2-hr labs. Prereq: 423 or Geol Sci 423. Not open to students with credit for Geol Sci 624.

**625 Igneous Petrology U G 5**

Petrography, petrogenesis, and occurrence of igneous rocks, with special emphasis on phase equilibria; macroscopic and microscopic examination of igneous and petrographic suites in the laboratory.  
3 cl, 2 2-hr labs. Prereq: 423 or Geol Sci 423. Not open to students with credit for Geol Sci 625.

**627 Global Biogeochemical Cycles U G 5**

Examination of processes influencing the cycling of major elements in the environment: anthropogenic alteration of these cycles (e.g. nutrient addition, acid rain, greenhouse gases).  
5 cl. Prereq: 621 or Geol Sci 621. Not open to students with credit for Geol Sci 627.

**628 Environmental Isotope Geochemistry U G 5**

Use of natural and anthropogenic radioactivity and of natural variations in the isotope compositions of selected elements to study geochemical processes on the Earth's surface.  
5 cl. Prereq: 621 or Geol Sci 621. Not open to students with credit for Geol Sci 628.

**629 Principles of Petrology U G 5**

Application of physics, chemistry, and mathematics to the interpretation of igneous and metamorphic rocks.  
5 cl. Prereq: Sr standing in geol sci or earth sci or related fields, or permission of instructor. Not open to students with credit for Geol Sci 629.

**635 Advanced Crystallography U G 4**

Point isometries, derivation of crystallographic point groups, space-lattice types, and crystallographic space-group types; crystallographic calculations emphasizing the metrical matrix and changes of basis.  
2 2-hr cl. Prereq: 421 or Geol Sci 421 or equiv. Repeatable to a maximum of 12 cr hrs for the combination of Geol Sci 635 and Earth Sci 635. Repeatable to a maximum of 12 cr hrs.

**636 Advanced Mineralogy U G 4**

Crystallography and crystal chemistry of the rock-forming silicate minerals.  
2 2-hr cl. Prereq: 221 or Geol Sci 221 or 414 or Geol Sci 414 or equiv. Not open to students with credit for Geol Sci 636.

**637 X-Ray Diffraction U G 3**

Emphasis on diffraction by crystalline powders; factors affecting the position and intensity of diffraction maxima; applications include qualitative and quantitative analysis.  
2 cl, 1 2-hr lab. Prereq: 414 or Geol Sci 414 or permission of instructor. Not open to students with credit for Geol Sci 637.

**641 Geostatistics Laboratory U G 2**

Computer-oriented application of statistical methods to geodata analysis; topics include error analysis, applied geodata probability and statistics, sampling, least squares, and linear regression.  
2 cl. Prereq: Stat 528, prereq or concur: Stat 529, or written permission of instructor. Not open to students with credit for Geol Sci 641.

**642 Geomathematical Analysis U G 5**

Principles of geoscientific analysis and computing, including digital inversion, factor analysis, discriminant analysis, spectral analysis, digital systems analysis, and presentation graphics for the earth sciences.  
5 cl. Prereq: 641 or Geol Sci 641 and Math 153, or written permission of instructor. Not open to students with credit for Geol Sci 642.

**644 Tectonic Evolution of Continents U G 5**

Survey of lithotectonic assemblages and structural associations in Archean, Proterozoic, and Phanerozoic orogenic terranes in relation to tectonic models for crustal evolution.  
3 2.5-hr cl. Prereq: 423 or Geol Sci 423, 502 or Geol Sci 502, and 530 or Geol Sci 530; or written permission of instructor. Not open to students with credit for Geol Sci 644.

**645 Advanced Structural Geology U G 5**

Mechanisms of deformation; dynamic and kinematic analysis of rock structures; field and laboratory methods of structural analysis.  
2 2-hr cl, 1 2-hr lab, 1 3-4 day fieldtrip. Prereq: 530 or Geol Sci 530 or equiv. Not open to students with credit for Geol Sci 645.

**646 Geodynamics U G 5**

Application of mathematical and physical methods to the solution of geologic problems in heat flow, plate tectonics, interior dynamics, mountain building, ground-water flow, river mechanics.  
5 cl. Prereq: 530 or Geol Sci 530 and written permission of instructor. Not open to students with credit for Geol Sci 646.

**650 Glaciers and Landscapes U G 5**

Glaciers and glacial landforms, glacier flow, and the history of glaciation during the Pleistocene, with emphasis on Ohio.  
2 2-hr cl, 1 2-hr lab, field trip. Prereq: 550 or Geol Sci 550 or equiv, or permission of instructor. Not open to students with credit for Geol Sci 650.

**651 Hydrogeology U G 5**

Geologic and hydrologic factors controlling the occurrence, movement, storage, and chemical quality of surface water and ground water; exploration, evaluation, development and management of water resources.  
Au Qtr. 4 cl, 1 2-hr lab, 1 all-day field trip. Prereq: 121 or Geol Sci 121 and Math 153. Not open to students with credit for Geol Sci 651.

**652 Hydrologic Field Methods for Surface Water and Ground Water U G 5**

Field study of various ground water and surface water environments (rivers, lakes, wetlands) incorporating the use of hydrologic field equipment and testing procedures.  
3 cl, 3-5-day field trips, 2 3-day field trips. Prereq: 651 or Geol Sci 651. Not open to students with credit for Geol Sci 652.

**660 Geology of Metallic Deposits U G 5**

Occurrence, origin, distribution, properties, and exploration for metallic deposits.  
4 cl, 1 2-hr lab. Prereq: 423 or Geol Sci 423. Not open to students with credit for Geol Sci 660.01 or Geol Sci 660.

**661 Petroleum Geology U G 5**

Not open to students with credit for Geol Sci 661.

**663 Global Change and Sustainability in the Earth System U G 5**

Analysis of Earth systems, global environmental change and options for sustainability.  
Wi Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: Sr or grad standing in Geol. Sci. or Earth Sci, or permission of instructor, 203 or Geol Sci 203 recommended. Not open to students with credit for Geol Sci 663.

**670 General and Economic Geology of Selected Areas U G 3,5**

Concentrated field study of the stratigraphy, structural geology, tectonics, petrology, and geomorphology of a selected region, with special attention to the economic utilization of earth materials.  
Au, Sp Qtrs. 5 or 10-day field trip preceding or following the qtr. Post-trip readings and report required. Prereq: 502 or Geol Sci 502, 530 or Geol Sci 530, and 550 or Geol Sci 550; or permission of instructor. Repeatable to a maximum of 15 cr hrs for the combination of Geol Sci 670 and Earth Sci 670. Repeatable to a maximum of 15 cr hrs.

**674 Introduction to Applications of Elemental Chemical Analysis and Electron Microscopy in Earth and Environmental Sciences G 1**

Introduction to instrument facilities and how elemental chemical analysis and electron microscopy data can be applied to research in earth and environmental sciences.  
Au Qtr. 1 1-hr cl. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

**675 Scanning Electron Microscopy U G 2**

Basic theoretical concepts and practice of scanning electron microscopy (SEM). Emphasis on hands-on experience, understanding and optimization of SEM images.  
1 cl, 1 2-hr lab arr. Prereq: Written permission of instructor. Not open to students with credit for Geol Sci 675. Students use their own samples in lab. This course is graded S/U.

**680 Advanced Geophysics U G 5**

Methods and techniques for study of Earth's crust and interior, involving potential fields, seismology, and heat flow.  
Au Qtr. 4 cl, 1 2-hr lab. Prereq: 530 or Geol Sci 530, Math 153, and Physics 133. Not open to students with credit for Geol Sci 680.

**686 Environmental Geophysics U G 5**

Principles and applications of geophysical techniques to environmental and site characterization in the shallow subsurface.  
4 cl, 1 2-hr lab. Prereq: 121 or Geol Sci 121, Math 151, and Physics 131. Not open to students with credit for Geol Sci 686.

**687 Exploration Geophysics U G 5**

Geophysical practices in exploration; seismology and methods in sedimentary rocks; electrical methods in crystalline rocks; remote-sensing and potential-field methods in regional analysis.  
4 cl, 1 2-hr lab. Prereq: 121 or Geol Sci 121, Math 151, and Physics 131. Not open to students with credit for Geol Sci 687.

**693 Individual Studies**

Special problems in any branch of the earth sciences for which the student has the proper qualifications.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Courses repeatable in any combination of decimal subdivisions.

**693.01 Economic Geology U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.02 Engineering Geology U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.03 Earth and Planetary Sciences U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.04 Field Geology U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.05 Geochemistry U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.06 Geomorphology U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.07 Geophysics U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.08 Glaciology and Glacial Geology U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.09 History of the Geological Sciences U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.10 Hydrogeology U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.11 Marine Geology, Limnology, and Oceanography U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.12 Paleontology U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.13 Petrology and Petrography U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.14 Remote Sensing and Geographic Information Systems U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.15 Sedimentation U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.16 Stratigraphy U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.17 Structural Geology U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.18 Earth Science Education U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.19 Unspecified U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.20 Global Change U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is

graded S/U.

**693.21 Sustainability U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.22 Neotectonics U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.23 Mineralogy U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**693.24 Mineral Physics U G 1-5**

Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 693 and Earth Sci 693. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Group study of special topics in various fields of the geological sciences.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 45 cr hrs for the combination of Geol Sci 694 and Earth Sci 694. Repeatable to a maximum of 45 cr hrs.

**699 Undergraduate Research in Earth Sciences U 1-15**

Undergraduate research or creative activities in variable topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs for the combination of Geol Sci 699 and Earth Sci 699. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**703 Principles of Biostratigraphy U G 3**

Principles of zonal and azonal biostratigraphy; definition, identification, and correlation of standard biostratigraphic units; quantitative development of chronostratigraphically significant azonal frameworks.

3 cl. Prereq: 501 or Geol Sci 501 or 613 or Geol Sci 613 or 614 or Geol Sci 614, and 603 or Geol Sci 603 or equiv; or written permission of instructor. Not open to students with credit for Geol Sci 703.

**713 Taxonomy and Phylogeny in the Fossil Record U G 3**

Theory and practice of taxonomy and phylogenetic reconstruction as applied to organisms in the fossil record.

3 cl. Prereq: 614 or Geol Sci 614 or permission of instructor. Not open to students with credit for Geol Sci 713.

**714 Biometry U G 3**

Biometric principles and methods as applied to the solution of taxonomic, ontogenetic, and evolutionary problems in the fossil record.

3 cl. Prereq: 614 or Geol Sci 614 and 641 or Geol Sci 641 or equiv; or permission of instructor. Not open to students with credit for Geol Sci 714.

**717 Critical Issues in World Freshwater Resources U G 5**

Examination of major issues relating to the world's freshwater resources; consideration of increasing water needs with a diminishing supply.

3 cl, 2 labs. Prereq: 651 or Geol Sci 651; 752 or Geol Sci 752 recommended. Not open to students with credit for Geol Sci 717.

**718 Aquatic Geochemistry U G 5**

Examination of the processes that control chemical equilibria in natural waters: acid/base reactions, metal complexation/speciation and oxidation-reduction processes.

Sp Qtr. 2-2-hr cl, 1 1-hr rec. Prereq: Chem 122 and Math 152; or equivs. Not open to students with credit for Geol Sci 718.

**719 Environmental Organic Geochemistry U G 5**

Fate and distribution of organic pollutants in the environment including aqueous solubility, vapor pressure, air/water, air/solvent/water and soil/water partial coefficients.

Au Qtr. 5 cl. Prereq: 718 or Geol Sci 718, and Chem 520 or permission of instructor. Intended for students in Geol. Sci., Earth Sci., Civil En., and the Grad Environmental Sci Program. Not open to students with credit for Geol Sci 719.

**720 Noble Gas Geochemistry U G 4**

Application of noble gas, K-Ar, and <sup>40</sup>Ar/<sup>39</sup>Ar research methods to geological and geochemical problems.

4 cl. Prereq: 620 or Geol Sci 620 or equiv, or written permission of instructor. Not open to students with credit for Geol Sci 720.

**725 Isotope Geochemistry of Igneous and Metamorphic Systems U G 4**

Advanced study of the principles, methods, and applications of isotope geochemistry to igneous and metamorphic processes and the origin and evolution of the Earth.

4 cl. Prereq: 620 or Geol Sci 620 or equiv or written permission of instructor, 625 or Geol Sci 625 recommended. Not open to students with credit for Geol Sci 725.

**746 Rheological Properties of Solids U G 3**

Principles of rheology of solids and empirical studies of brittle and ductile deformation mechanics, with special reference of applications to crust and mantle problems and glacial flow.

3 cl. Prereq: 530 or Geol Sci 530. Not open to students with credit for Geol Sci 746.

**750 Paleoclimatology G 5**

Examination of climate records in ice, lake and marine cores, tree rings, corals and historical records for a global perspective of Quaternary climate change.

2 2-hr cl, 1 1-hr rec. Prereq: Grad standing or permission of instructor. Not open to students with credit for Geol Sci 750. BPRC facilities for recitation demonstrations.

**751 Quantitative Ground-Water Flow Modeling U G 5**

Principles of analytical and numerical techniques in modeling ground-water flow in porous media, development of two- and three-dimensional steady-state and transient flow codes.

4 cl, 1 2-hr lab. Prereq: 651 or Geol Sci 651. Not open to students with credit for Geol Sci 751.

**752 Contaminants in Aqueous Systems U G 5**

Examination of the occurrence, fate, and transport of contaminants in waters; emphasis on concepts of fluid flow and mass transport along with practical problems.

4 cl, 1 2-hr lab, 2 all-day field trips. Prereq: 651 or Geol Sci 651. Not open to students with credit for Geol Sci 752.

**754 Risk Assessment and Management in Earth Systems U G 5**

Quantitative risk assessment for geologic processes and human activities by applying numerical modeling approaches.

2 2-hr cl, 1 2-hr lab. Prereq: 651 or Geol Sci 651 or appropriate course in engineering or environmental sciences, or permission of instructor. Not open to students with credit for Geol Sci 754.

**779 Physical Properties of Minerals and Rocks U G 3**

Quantitative survey of electrical, magnetic, elastic, inelastic, radioactive, thermal, density, and seismic properties and chemical compositions of rocks and minerals.

3 cl. Prereq: 421 or Geol Sci 421, 680 or Geol Sci 680, and 617 or Geol Sci 617; or equivs; or written permission of instructor. Not open to students with credit for Geol Sci 779.

**780 Reflection Seismology U G 3**

Not open to students with credit for Geol Sci 780.

**781 Gravimetry U G 3**

Analytical treatment of concepts and methods of gravimetry; introductory theory of gravitational potential; geological interpretation of gravity data.

3 cl. Prereq: 680 or Geol Sci 680 or written permission of instructor. Not open to students with credit for 643, Geol Sci 643, or Geol Sci 781.

**782 Magnetometry G 3**

Advanced magnetic theory and practice applied to investigations of the subsurface, including interpretation of surface, airborne, and satellite magnetic measurements.

3 cl. Prereq: 680 or Geol Sci 680 or written permission of instructor. Not open to students with credit for Geol Sci 782

**784 Paleomagnetism U G 3**

Physical and mineralogical basis for permanent magnetization in rocks, physical basis of measurement, geological basis for sampling, and geological constraints on interpretation of results.

3 cl. Prereq: 680 or Geol Sci 680 or equiv or written permission of instructor. Not open to students with credit for Geol Sci 784.

**800 Seminar in Stratigraphy and Basin Analysis G 3**

Consideration of current and classical problems and procedures in biostratigraphic and lithostratigraphic analysis and synthesis.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 800 and Earth Sci 800. Repeatable to a maximum of 18 cr hrs.

**801 Seminar in Sedimentology G 3**

Consideration of sedimentation, and the structures, petrography, depositional environments, and paleontologic interpretation of sedimentary rocks.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 801 and Earth Sci 801. Repeatable to a maximum of 18 cr hrs.

**810 Seminar in Paleobiology G 3**

Advanced topics in paleozoologic and paleobotanic morphology, taxonomy, and procedure; current questions in biostratigraphy, paleoecology, and evolutionary development of fossil floras and faunas.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 810 and Earth Sci 810. Repeatable to a maximum of 18 cr hrs.

**821 Seminar in Isotope Geology and Geochemistry G 3**

Discussion of selected topics in isotope geology, geochronology, geochemistry, and cosmochemistry.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 821 and Earth Sci 821. Repeatable to a maximum of 18 cr hrs.

**822 Seminar in Mineralogy, Mineral Physics, and Petrology G 3**

Selected topics in optical mineralogy and igneous, sedimentary, and metamorphic petrology.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 822 and Earth Sci 822. Repeatable to a maximum of 18 cr hrs.

**824 Seminar in Structural Mineralogy G 3**

Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 824 and Earth Sci 824. Repeatable to a maximum of 18 cr hrs.

**840 Seminar in Structural Geology G 3**

Selected topics in structural geology, rock deformation, and geotectonics.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 840 and Earth Sci 840. Repeatable to a maximum of 18 cr hrs.

**850 Seminar in Geomorphology and Quaternary Geology G 1-3**

Topics on formation of fluvial, desert, coastal volcanic, mass wasting, weathering, periglacial and glacial landforms; interpretation of Quaternary processes and history in field and classroom.

1 3-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 850 and Earth Sci 850. Repeatable to a maximum of 18 cr hrs.

**851 Seminar in Hydrogeology and Oceanography G 3**

Topics in hydrogeology and oceanography, such as ground-water hydrology and hydraulics, basin management, reef and atoll development, or paleo-oceanography.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 851 and Earth Sci 851. Repeatable to a maximum of 18 cr hrs.

**860 Seminar in Mineralogy and Energy Resources G 3**

Study of selected deposits of metallic minerals, industrial rocks, and minerals and fossil fuels.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 860 and Earth Sci 860. Repeatable to a maximum of 18 cr hrs.

**874 Seminar in History of Geologic Concepts G 3**

Investigation of geoscience concepts and techniques, of the early literature and of geoscience leaders to provide a firm basis for comprehension of modern science.

1 3-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs for the combination of Geol Sci 874 and Earth Sci 874. Repeatable to a maximum of 9 cr hrs.

**880 Seminar in Geophysics G 3**

Investigation and discussion of recent developments in geophysics, including exploration geophysics, glaciology, solid-earth geophysics, paleomagnetism, tectonics, or engineering evaluation.

2 2-hr cl. Prereq: Written permission of instructor. Repeatable to a maximum of 18 cr hrs for the combination of Geol Sci 880 and Earth Sci 880. Repeatable to a maximum of 18 cr hrs.

**888 Colloquium in the Earth Sciences G 1**

Discussion of current research in the earth sciences.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing in Geol. Sci. or Earth Sci. Repeatable to a maximum of 8 cr hrs for the combination of Geol Sci 888 and Earth Sci 888. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**896 Interdepartmental Seminar in Polar and Alpine Studies G 1-3**

Selected topics of instructor's choice including anthropology, biology, climatology, exploration, geology, glaciology, global change, resources and soils.

1 cl. Prereq: Permission of instructor. Not open to students with credit for Geol Sci 896. Given cooperatively by the Byrd Polar Research Center, the College of Biological Sciences, the School of Earth Sciences, and the departments of Geography, and EEOB.

**999 Research in the Earth Sciences G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## East Asian Languages and Literatures

398 Hagerty Hall 1775 College Road, 292-5816

Women in East Asia and Asian-American Literature  
See Comp Std 314.

### 131 East Asian Humanities U 5

Introduction to the contemporary and traditional cultures of China, Korea, and Japan taught through readings, films, demonstrations, and discussions.  
Su, Au, Wi, Sp Qtrs. 5 cl. GEC arts and hums cultures and ideas course.

### 293 Individual Studies U 1-5

Individual investigation of problems in East Asian cultures, languages, and literatures.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 294 Group Studies U 1-10

Special group studies course in some special area of East Asian language, literature, or culture.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 20 cr hrs.

### 323 The Buddhist Tradition U 5

History and structure of Buddhism from founding to present in South, Southeast, and East Asia; emphasis on rituals, beliefs, and local and regional variations.  
5 cl. Prereq: Rel Stds or Comp Std 270; Comp Std 202.01 or 202.02 recommended. Not open to students with credit for Rel Stds or Comp Std 323. Cross-listed in Comparative Studies.

### 341 Thought in China and Japan U 5

The shaping of two cultures; essentials of the major traditional schools of thought in China and Japan and their impact on society.

Au, Wi, Sp Qtrs. 5 cl. GEC arts and hums cultures and ideas course.

### 346 Asian American Film U 5

Introduction to Asian American cinema from the 1960s to the present, including documentaries, feature films, and experimental films.

Au, Wi, Sp Qtrs. 2 2-hr cl. GEC arts and hums VPA course.

### 357 East Asian Folklore U 5

Diverse folk traditions in China, Korea, and Japan; relevant theory; song, narrative, epic, dance, ritual, material culture, tourism; emphasis on local and ethnic cultures.

Taught in English.

### H399 East Asian Thought in the Western Imagination, 1600-2000 U 5

Examination of the construction and impact of Buddhism, Confucianism, and Taoism on a number of Western disciplines, including religion, philosophy, literature, economics, and science.

Au, Wi, Sp Qtrs. 2 2-hr cl.

### 601 Classical Tibetan I U G 5

Introduction to the basics of classical Tibetan script, pronunciation, and grammar.

Au Qtr. 2 1.5-hr cl. Repeatable to a maximum of 15 cr hrs. Taught with real-time videoconferencing delivery.

### 602 Classical Tibetan II U G 5

Introduction to classical Tibetan grammar.

Wi Qtr. 2 1.5-hr cl. Prereq: 601. Repeatable to a maximum of 15 cr hrs. Taught with real-time videoconferencing delivery.

### 603 Classical Tibetan III U G 5

Acquaints learners with classical Tibetan grammar and exposes them to introductory readings in the literature.

Sp Qtr. 2 1.5-hr cl. Prereq: 602. Repeatable to a maximum of 15 cr hrs. Taught with real-time videoconferencing delivery.

### 675 Women Writers, Culture, and Society in East Asia U G 5

Close examination of representative works of major women writers from China, Japan, and Korea in the cultural and ideological context of each country.

Au, Wi, Sp Qtrs. 2 2-hr cl. No knowledge of East Asian languages is required. All reading materials are in English.

### 677 Performance Traditions in Contemporary East Asia U G 5

Introduction to performance traditions of East Asia (China, Korea, and Japan) as they are practiced today; ethnographic methods.

Au, Wi, Sp Qtrs. 2 2-hr cl.

### 683 Scripts of East Asia U G 5

A critical survey of writing systems that use Chinese characters, popular and scholarly myths about them, and their impact on the history of ideas.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Chinese or Japanese 103, or permission of instructor.

### 693 Individual Studies U G 1-5

Individual investigation of East Asian cultures, languages, and literatures.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept chairperson. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 694 Group Studies U G 1-5

Special topics to be announced in the quarter previous to the one in which the course is offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 697 Study at a Foreign Institution U G 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

### 700 Learning East Asian Languages in Cross-Cultural Contexts: College Level G 4

Principles and practices of teaching an East Asian language as a foreign language at post-secondary level American academic institutions.

Su Qtr. 5 cl. Prereq: High-level competency in the target East Asian language, concurrent registration in 703 and 704, and permission of instructor. Repeatable to a maximum of 8 cr hrs.

### 701 Pedagogical Syntax for East Asian Languages U G 5

Training in the presentation of grammar in East Asian language classes; special attention given to problems of translating linguistic studies into teachable units.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

### 702 Materials Preparation for East Asian Languages U G 5

Preparation of materials for teaching Chinese, Japanese, and Korean; emphasis on the special problems faced by English-speaking students in learning these languages.

Au, Wi, Sp Qtrs. 5 cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

### 703 Presentation of East Asian Languages and Cultures: College Level G 4

Preparation and presentation of curriculum and syllabus for East Asian language program at the college level.

Su Qtr. 5 cl. Prereq: High-level competency in the target East Asian language, concurrent registration in 700 and 704, and permission of instructor. Repeatable to a maximum of 8 cr hrs.

### 704 Teaching Practicum in East Asian Languages: College Level U G 3-7

Training as a classroom teacher through practice teaching to college students and the observation of classes taught by trainees and master teachers.

Su, Au, Wi, Sp Qtrs. 10 cl. Prereq: High-level competency in the target East Asian language, and permission of instructor. Repeatable to a maximum of 10 cr hrs.

### 705 Seminar in the Learning of East Asian Languages and Cultures U G 5

Critical analysis and discussion of insights and theories from various disciplines relevant to the pedagogy of East Asian languages and cultures.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: High level competence in an East Asian language, grad standing or advanced undergrad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs.

### 710 Learning East Asian Languages in Cross-Cultural Contexts: High School Level G 2

Principles and practices of teaching an East Asian language as a foreign language in American high schools.

Su Qtr. 5 cl per week for 4 weeks. Prereq: Intermediate to high competency in the target East Asian language, concurrent registration in 713 and 714, and permission of instructor. Repeatable to a maximum of 4 cr hrs.

### 713 Presentation of East Asian Languages: High School Level

Principles and practices of an East Asian language at the high school level.

Su Qtr.

#### 713.01 Year One G 2

5 cl per week for 4 weeks. Prereq: Intermediate to high competency in the target East Asian language, concurrent registration in 710 and 714.01, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This is a Progress course. Credit will be given upon completion of 713.02.

**713.02 Year Two G 1**

5 cl per week for 2 weeks. Prereq: Intermediate to high competency in the target East Asian language, 710 and 713.01, concurrent registration in 714.02, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This is a Progress course.

**714 Teaching Practicum in East Asian Languages: High School Level**

Training as a classroom teacher through practice teaching to high school students and the observation of classes taught by trainees and master teachers.

Su Qtr.

**714.01 Year One G 2**

10 cl per week for 4 weeks. Prereq: Intermediate to high competency in the target East Asian language, concurrent registration in 710 and 713.01, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This is a Progress course. Credit will be given upon completion of 714.02.

**714.02 Year Two G 2**

10 cl per week for 2 weeks. Prereq: Intermediate to high competency in the target East Asian language, 710 and 714.01, concurrent registration in 713.02, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This is a Progress course.

**797 Introduction to Graduate-level East Asian Studies G 5**

We explore the origin, development and current state of East Asian Area Studies in the U.S., including its relationship to other intellectual disciplines.

Prereq: Grad standing or permission of instructor. Not open to students with credit for History 797 or Hist Art 797. Cross-listed in History and History of Art.

**801 Teaching East Asian Languages at the College Level G 5**

Methods and techniques of teaching college-level East Asian languages; selection and preparation of teaching, testing, and laboratory materials; observation of a variety of language classes.

Au Qtr. Two wks intensive workshop previous to qtr followed by a 2-hr wkly cl. Prereq: Permission of instructor. Not open to students with credit for Chinese or Japanese 801. For students enrolled in this course, the minimum number of cr hrs required for graduation is increased by 5 hrs.

**850 Analytical Methods G 5**

Introduction to the literary and linguistic analysis of Chinese and Japanese texts.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Chinese or Japanese 800.

## East European Languages and Literatures

400 Hagerty Hall, 1775 College Road, 292-6733

Also see Slavic Languages and Literatures.

**294 Group Studies U 1-5**

Topics related primarily to Albanian, Estonian, Hungarian, Latvian, and Lithuanian.

Arr. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. Each language repeatable to a maximum of 20 cr hrs.

**671 Grammar of Selected East European Languages U G 1-5**

Fundamentals of grammar as required for reading one of the following: Albanian, Estonian, Hungarian, Latvian, Lithuanian, or Romanian.

Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs. Individual languages not repeatable.

**672 Reading of Selected East European Languages U G 5**

Reading of elementary and intermediate texts and translating into English one of the following: Albanian, Estonian, Hungarian, Latvian, Lithuanian, or Romanian.

Prereq: 671 (same language) or equiv, and permission of instructor. Repeatable to a maximum of 25 cr hrs. Individual languages not repeatable.

**693 Individual Studies U G 1-10**

Topics related primarily to Albanian, Estonian, Hungarian, Latvian, Lithuanian, and Romanian.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of chairperson. Repeatable to a maximum of 20 cr hrs. Including cr hrs earned in 693.40. This course is graded S/U.

**694 Group Studies U G 1-10**

Topics related primarily to Albanian, Estonian, Hungarian, Latvian, Lithuanian, and Romanian.

Arr. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. Each language repeatable to a maximum of 20 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well

as all travel and subsistence costs.

## Economics

410 Arps Hall, 1945 North High Street, 292-6701

**110 Basic Economic Concepts**

Introduction to elementary techniques of economic analysis; historical background useful for interpreting current economic events.

22-hr cl. Intended for students who desire a one-course introduction to economics. GEC soc sci human, natural, and economic resources courses.

**110.01 Current Economic Events in Historical Perspective U 5**

Discuss current issues in the political economy within a historical framework, including such topics as taxes and unemployment.

**110.02 Freakonomics U 5**

Discuss current social problems and issues within an economics framework, including topics such as job discrimination and integration.

**110.03 Economics of the Internet U 5**

Rise of new electronic technology; operation of markets; online shopping; auctions; trading; the evolution of the world economy; and economic growth.

**200 Principles of Microeconomics U 5**

Introduction to economic theory: supply and demand for goods and services; market structure; the distribution of income.

Su, Au, Wi, Sp Qtrs. 22-hr cl. H200 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. First required course for students planning to take 500-level courses in econ. GEC soc sci human, natural, and economic resources course. SS Admis Cond course.

**201 Principles of Macroeconomics U 5**

Theory of national income determination; economic fluctuations; money; government policy; international economics.

Su, Au, Wi, Sp Qtrs. 22-hr cl. H201 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 400. GEC soc sci organizations and polities course.

**H271 Law and Economics U 5**

Study of the use of economic analysis to understand the sources of legal rules and the effect of those rules on society.

Sp Qtr. 2 2-hr cl. Prereq: H200 recommended and enrollment in an honors program.

**294 Group Studies U 1-5**

Current problems not covered in other courses; application of economic analysis of scarcity and choice of current policy significance.

2 2-hr cl. Prereq: 100 or 200 or equiv. Repeatable to a maximum of 10 cr hrs.

**348 Ethics and Social Responsibility in Economic Life U 5**

Examines the role of ethical norms and social constraints in determining economic outcomes.

At least one of these courses (Econ 110.01 or 110.02 or 110.03 or 200 or 201) is recommended. GEC soc sci individuals and groups course.

**367 Second Writing Course**

2 2-hr cl or 4 1-hr cl. Prereq: 200 and 201 or 400, or equivs. GEC second writing courses.

**367.01 The American Economy in the 20th Century U 5**

Survey of major economic developments in the American economy during the 20th century.

Au, Wi Qtrs.

**367.02 Current Economic Issues in the United States U 5**

Study of problems currently facing the U.S. economy.

Su, Au, Wi, Sp Qtrs.

**443 The Analysis and Display of Data U 5**

Analysis of data; introduction to the internet; introduction to techniques in the graphical presentation of data; designed for economics and international studies majors.

Sp Qtr. 2 2-hr cl, lab arr. Prereq: Completion of GEC data analysis requirement. Not open to students with credit for Int Stds 443. Cross-listed in International Studies.

**444 Elementary Econometrics U 5**

Basic methods of data analysis used in economics, including descriptive statistics, hypothesis testing, and regression analysis.

Su, Au, Wi, Sp Qtrs. 4 1-hr cl, or 2 2-hr cl. Prereq: Stat 145 or 245, or AED Econ 205 or equiv.

**479 Economics of Crime U 5**

Investigates incentives and deterrents to criminal activity with respect to general economic conditions and analyzes the effectiveness of public policies designed to deter crime.

Sp Qtr. 2 2-hr cl. Prereq: 200.

**482 The Economics of Gender in Labor Markets U 5**

Application of economic analysis to the evolution and economic condition of women and men in the labor force; occupational distribution and segregation; wage gap; the glass ceiling.

Au Qtr. 2 2-hr cl. Prereq: 200. GEC social diversity course.

**485 Diversity Economics U 5**

Examines race, gender, and ethnicity in labor markets; impact of labor market discrimination and differences in human capital acquisition on labor market outcomes.

Sp Qtr. 2 2-hr cl. Prereq: 200. GEC social diversity course.

**501 Intermediate Microeconomic Theory**

Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 200 and 201 or 400, or equivs.

**501.01 Intermediate Microeconomic Theory U G 5****501.02 Intermediate Microeconomic Theory U G 5**

Prereq: Designates a calculus based version which requires Math 132 or 151 or 152 or 153 or 161 or 162 or 263 or H263 or H190, or equiv, or permission of instructor.

**502 Intermediate Macroeconomic Theory**

Analysis of the determinants of national output, income and employment levels; theory of economic growth and progressive equilibrium in an economy.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 200 and 201 or 400, or equivs.

**502.01 Intermediate Macroeconomic Theory U G 5****502.02 Intermediate Macroeconomic Theory U G 5**

Prereq: Designates a calculus based version which requires Math 132 or 151 or 152 or 153 or 161 or 162 or 263 or H263 or H190, or equiv, or permission of instructor.

**505 Experimental Economics U G 5**

Develops techniques of experimental economics to study individual decision-making, game theory and behavior within markets.

Sp Qtr. 2 2-hr cl. Prereq: 200.

**508\* Comparative Economic Systems U G 5**

Principles and institutions for economic decision making under capitalism, socialism, communism, and mixed systems; comparison of selected countries.

Wi Qtr. 2 2-hr cl. Prereq: 200 and 201 or 400, or equivs. Not open to students with credit for 690.

**515 World Economic Development in Historical Perspective I U G 5**

First course in a survey of economic development from the middle ages through the 20th century.

Au, Sp Qtrs. 2 2-hr or 4 1-hr cl. Prereq: 200 and 201 or 400, or equivs. GEC historical survey course.

**516 World Economic Development in Historical Perspective II U G 5**

Second course in a survey of economic development from the middle ages through the 20th century.

Au, Wi, Sp Qtrs. 2 2-hr or 4 1-hr cl. Prereq: 515. GEC historical survey course.

**520 Money and Banking U G 5**

Organization, operation, and economic significance of our monetary and banking system; special reference to current conditions and problems.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H520 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 200 and 201 or 400, or equivs.

**530 Government Finance in the American Economy U G 5**

Analysis of fiscal institutions and decision making in the public sector of the American economy; budget planning and execution; taxation, debt, and fiscal policy.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 200.

**532 Public Expenditure and Cost-Benefit Analysis U G 5**

Economics of public choice, public goods, non-market allocations, collective decision-making, and net-benefit maximization; case studies.

Wi Qtr. 4 cl. Prereq: 200.

**547 Economics of War U G 5**

Concepts of economics are applied to war and conflict, defense spending alliance building, the arms trade, peacekeeping, terrorism, and weapons of mass destruction proliferation.

Prereq: 200 and 201.

**550 Economic Development U G 5**

Empirical and theoretical consideration of long-term economic changes, including changes in industrial structure, technology, and level of national product; emphasis on developing economics.

2 2-hr cl. Prereq: 200 and 201, or equivs. Not open to students with credit for 610 or 650.

**553 Economics of Population U G 5**

Uses economic principles to analyze population growth, fertility, mortality, mating, dating, marriage, teen pregnancy, divorce and migration.

Sp Qtr. 2 2-hr cl. Prereq: 200.

**556 Cooperation and Conflict in the Global Economy U G 5**

The economic, social, and political bases for and responses to increasing global economic integration.

Sp Qtr. 2 2-hr cl. H556 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 200 and 201 or 400, or equivs. Not open to students with credit for Int Stds 556. Cross-listed in International Studies.

**560 International Economic Relations U G 5**

Survey of international economic relations; the basis of world trade; commercial and financial policy, particularly of the United States; and recent international economic organization.

2 2-hr cl. Prereq: 200 and 201 or 400, or equivs. Not recommended for students who plan to take 665 and 666.

**570 Government and Business U G 5**

Economic and legal aspects of government regulation of business in the United States; philosophies and concepts of public control; contemporary problems.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 200.

**580 Labor Economics and Industrial Relations U G 5**

Survey of the field of labor economics; trade unionism, collective bargaining; wage determination, employment, unemployment; labor legislation.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 200.

**583 Economics of Sports U G 5**

Analysis of economic and business aspects of sports teams and their strategic interactions in sports markets.

Wi Qtr. 2 2-hr cl. Prereq: 200.

**589 Internships U 1-5**

Allow students to apply knowledge from their economics courses and learn from hands on experience in approved positions.

Prereq: 200 and 201, 3.2 GPA or above in Econ major, open to juniors and seniors, approval of DUS. Repeatable to a maximum of 10 cr hrs. Applies toward an Econ 500 level elective, 5 credit hours maximum toward major. This course is graded S/U.

**592 Housing Economics U G 5**

The study of housing markets using the tools of economics. Demand and supply, prices and appreciation, ownership and renting, government policy, and brokerage.

Sp Qtr. 2 2-hr cl. Prereq: 200 or AED Econ 200.

**594 Group Studies U G 5**

Topics vary from quarter to quarter and will be announced in advance.

2 2-hr cl. Prereq: 200 and/or 201. Repeatable to a maximum of 15 cr hrs.

**H596 Honors Seminar in Economics U 2-3**

Presentations by selected faculty of economic topics and issues of current interest; discussion of research problems and methods.

1 2-hr cl. Prereq: Honors program enrollment or permission of instructor.

**601 Game Theory in Economics U G 5**

Game theory and applications to strategic situations.

2 2-hr cl or 4 cl. Prereq: 501 and Math 132 or 151 or 152 or 153 or 161 or 162 or 263 or H263 or H190, or equiv.

**613 Economic History of the United States U G 5**

General survey from discovery of America to present; European economic background; westward movement and its effects; development of economic institutions in the United States.

Au, Sp Qtrs. 2 2-hr cl. Prereq: 444 or 641, or Stat 245, 501 and 502; or grad standing.

**614 Economic History of Western Europe U G 5**

Survey from 1750 through the post-World War II period; from Britain in the West to Russia in the East.

Wi Qtr. 2 2-hr cl. Prereq: 444 or 641, or Stat 245, 501 and 502; or grad standing.

**615 Economic Transitions in the 20th Century U G 5**

Surveys major themes in transitioning economies in the 20th century; focus on planned economies and developing economies as they integrate into world economy.

Sp Qtr. 2 2-hr cl. Prereq: 444 or 641 or Stat 245, and Econ 501 or 502 or permission of instructor.



**625 National and International Money Markets U G 5**

Organization, functions, and control of money markets and their submarkets; flow of funds in these markets and investment policies of market participants. 2 2-hr cl. Prereq: 444 or 641, 501, and 520.

**640 Probability Theory U G 5**

Probability, random variables, Markov chains, discrete and continuous distributions, transformations, moment generating function techniques, limit theorems, expectation, variance.

Au Qtr. 2 2-hr cl. Prereq: Math 153 or equiv. Not open to students with credit for Stat 520 or 620.

**641 Applied Regression and Correlation Analysis U G 5**

The general linear regression model; multiple correlation, path analysis, analysis of variance and tests of significance; specification errors.

Wi Qtr. 2 2-hr cl. Prereq: 501 and Stat 245 or equivs.

**642 Applied Economic Models and Forecasting U G 5**

Application of economic and statistical principles to economic problems; applications include topics in labor economics, industrial organization, macro models, and international trade.

Sp Qtr. 2 2-hr cl. Prereq: 501, 502, 641, and Math 132; or equivs.

**665 International Commodity Flows: Theory and Policy U G 5**

Comparative advantage and the gains from trade; tariffs and other trade restrictions; economic effects of protective policies; U.S. commercial policies; regional economic integration.

2 2-hr cl. Prereq: 444 or 641 and 501.

**666 Financial Aspects of International Trade U G 5**

International payments and receipts; foreign exchange markets; balance-of-payments adjustment under different monetary systems; macroeconomic policy; international monetary reforms; foreign investments; multinational corporations.

2 2-hr cl. Prereq: 444 or 641, and 502.

**670 Structure of Industry U G 5**

Nature, role, and regulation of competition; market structure and social performance; antitrust laws; current economic, legal, and policy problems in the antitrust area.

2 2-hr cl. Prereq: 444 or 641, and 501, or grad standing.

**672 Economic Analysis of Japanese Firms and Markets U G 5**

Applications of economic analysis to Japanese industrial organization including the firm's internal incentive structure, labor markets, and financial institutions.

2 2-hr cl. Prereq: 501 or 501A or 570.

**685 Labor Economics U G 5**

Labor demand and supply; wages, unemployment, and inflation; economics of the household's allocation of time.

2 2-hr cl. Prereq: 501 or equiv.

**693 Individual Studies U G 1-5**

Advanced readings in economics and related fields.

Su, Au, Wi, Sp Qtrs. Prereq for jrs: An average of B or better in all econ courses taken and a CPHR of 3.00 or above. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694^ Group Studies U G 3-5**

Advanced courses in economics and related fields.

Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**699 Undergraduate Research in Economics U 1-10**

Directed research related to tasks of an internship for an Economics major, or involve collection and analysis of data and information for a research project.

Prereq: 200 or 201. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**700 Advanced Mathematical Techniques in Economics G 5**

Advanced mathematical analysis of economics problems; topics to include basic set theory and real analysis; optimization subject to inequality constraints and dynamic optimization.

Au Qtr. 2 1.66-hr cl. Prereq: 600 or equiv. Not open to students with credit for this topic under 894.

**701 Dynamic Analysis in Economics G 5**

Optimization methods and economic applications, calculus of variations, optimal control, and elements of dynamic programming.

Wi Qtr. 2 2-hr cl. Prereq: 700 or permission of instructor. Primarily for the first year economics Ph.D. students to complement micro, macro and econometrics core courses.

**730 Public Finance U G 5**

Comprehensive survey and analysis of the principal fiscal activities of contemporary governments; logic of public sector activity, taxation principles and practice, intergovernmental relations, current fiscal problems.

Wi Qtr. 2 2-hr cl. Prereq: PubPol&M 830, or Econ 501A and grad standing, or permission of instructor. Not open to students with credit for 530 or PubPol&M 730. Cross-listed in Public Policy and Management.

**735 Comparative Political Economy G 5**

A graduate-level course designed to survey contemporary theories on the interaction between economic policies, domestic institutions, the international economy, and their consequences on the macroeconomy.

Wi Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with 10 cr hrs of Polit Sc 735. Repeatable to a maximum of 10 cr hrs. Cross-listed in Political Science.

**740 Inference and Decision Analysis G 5**

Distribution theory, point and interval estimation, statistical hypothesis testing, decision analysis under uncertainty.

Wi Qtr. 4 cl. Prereq: 640 or equiv.

**741 General Linear Regression Analysis G 5**

Multiple regression analysis; the general linear model; non-linear and distributed lag models.

Sp Qtr. 4 cl. Prereq: 600 and 740, or Stat 521.

**742 Econometrics G 5**

Review of the general linear model; identification; estimating criteria; single and simultaneous equation estimation; econometric application.

Au, Sp Qtrs. 4 cl. Prereq: 741.

**H783 Honors Research U 3-5**

A program of study arranged for each student, with individual conferences, reports, and honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the econ courses taken and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 2 qtrs are required of candidates for the degree with distinction in econ. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**789 Survey Research Practicum G 5**

Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.

Sp Qtr. 1 3-hr cl. Prereq: Admission to grad interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 789 in AED Econ, Agr Educ, Bus-Mktg, Edu P&L, Geog, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, Sociol, or Stat. Cross-listed in AED Econ, Agr Educ, Bus-Mktg, Edu P&L, Geog, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, Sociol, and Stat.

**790 Urban Economics G 5**

Application of economic theory to urban problems; topics include slums, residential segregation, intracity location of economic activity, urban renewal, urban sprawl, transportation, and governmental organization.

Sp Qtr. 4 cl. Prereq: 705, Geog 650, and grad standing; or permission of instructor.

**804 Microeconomic Theory I G 5**

Theories of consumers and producers.

Au Qtr. Prereq: 501A or equiv.

**805 Microeconomic Theory II G 5**

Classical partial equilibrium (competition, monopoly, monopolistic competition, Cournot and Bertrand oligopoly models, location models) and general equilibrium theory.

Wi Qtr. Prereq: 600 and 804.

**806 Macroeconomic Theory I G 5**

Theory of income and employment; Keynesian aggregate supply and demand; consumption, saving, and the multiplier; determinants of investment and the accelerator; government's role.

Au Qtr. Prereq: 502A or equiv.

**807 Macroeconomic Theory II G 5**

Aggregate supply: expectations, introduction to dynamic macroeconomic models.

Wi Qtr. Prereq: 600, 804, and 806. Not open to students with credit for 809.01.

**808 Microeconomic Theory III G 5**

Partial equilibrium welfare theory; economic dynamics; economics of information and uncertainty; and elementary game theory; may also include topics in industrial organization, labor, public finance, and others.

Sp Qtr. Prereq: 805.

**809 Macroeconomic Theory III G 5**

Stochastic dynamic problems in macroeconomics; questions of growth, business cycles, and policy.

Sp Qtr. Prereq: 807. Not open to students with credit for 809.02.

**810 Advanced Macroeconomics G 5**

Examines recent contributions to macroeconomics and trains advanced graduate students to develop skills for research in theoretical, empirical and policy areas in macroeconomics.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 809 or permission of instructor.

**811 Applied Macroeconomics G 5**

Application of econometric methods to theoretical structures developed in 806 and 809; estimation and validation of macroeconomic models.

Sp Qtr. 2 2.75-hr cl. Prereq: 742 and 809, or permission of instructor.

**815\* Mathematical Economics I G 5**

Mathematical analysis of microeconomic problems including consumer and production theory and general equilibrium.

Prereq: 808.

**816\* Mathematical Economics II G 5**

Mathematical analysis of macroeconomic problems including static and dynamic systems and optimal control.

Prereq: 809.

**817 Game Theory G 5**

The methodology and survey of the development of game theory including concepts of equilibrium, beliefs, expectations and behavioral strategies.

Wi Qtr. 2 2-hr cl. Prereq: 804, 805 and 808 or equiv with permission of instructor.

**818 Economics of Information G 5**

How information affects economic decision making in strategic settings and on markets; topics include theories of speculation, rational expectations, signaling principal-agent models, and search.

Au Qtr. 2 1.66-hr cl. Prereq: 804, 805, 808. Not open to students with credit for this topic under 894.

**819 Economic Behavior under Uncertainty G 5**

Axiomatic approaches to economic behavior under uncertainty, classical expected utility paradigm, subjective probability, and behavioral theory of economic choice under uncertainty.

Prereq: 804, 805, and 808, or equiv of the first-year graduate microeconomics sequence with permission of instructor. S/U option available only upon the Economics DGS approval.

**820 Monetary Theory G 5**

Role of money in theoretical analysis of forces determining and influencing level of income, employment, and prices.

Au Qtr. Prereq: 520, 805, and 806; or equivs.

**821 Monetary Economics G 5**

Develops monetary economics as a research field and covers a range of topics in the theoretical, empirical and policy aspects of money, credit and banking.

Wi Qtr. Prereq: 806, 807, 809 or permission of instructor. May be graded S/U with approval of Economics Director of Graduate Studies.

**830 Advanced Public Finance I G 5**

A theoretical and empirical investigation of the economic behavior of the public sector; theory of social goods, problems of tax structure, incidence, multi-unit finance.

Au Qtr. Prereq: 805.

**832 Advanced Public Finance II G 5**

Continuation of 830; topics include intergovernmental relations, tax incidence, and tax reform.

Wi Qtr. Prereq: 830.

**840 Time-Series Econometrics G 5**

Fundamental elements of time series methods; recently developed techniques for the analysis of economic time series.

Au Qtr. 2 2-hr cl. Prereq: 742.

**841 Advanced Econometrics I G 5**

Selected advanced topics in econometrics such as non-parametric and semiparametric estimation, numerical optimization, Markov chain, Monte Carlo methods and duration models used in economics.

Prereq: 742 or equiv with permission of instructor.

**842 Advanced Econometrics II G 5**

Theory and application of advanced quantitative research methods; computerized application of econometric methods developed in 742.

Sp Qtr. Prereq: 742.

**843 Research Topics in Micro Econometrics G 5**

Surveys and trains advanced PhD students in recent developments in micro econometrics; both theoretical and applied topics in economics will be covered.

Au Qtr. 2 2-hr cl. Prereq: 742, 841 and 842 or equiv with permission of instructor. Repeatable to a maximum of 15 cr hrs.

**844 Research Topics in Time Series Econometrics G 5**

Advanced nonmonetary international trade theory; analysis of the effect of trade and commercial policies on the allocation of resources, income distribution, and growth.

Wi Qtr. 2 2-hr cl. Prereq: 742 or equiv with instructor's permission, 840 recommended. Repeatable to a maximum of 15 cr hrs.

**861 Advanced Microeconomic Trade Theory G 5**

Advanced nonmonetary international trade theory; analysis of the effect of trade and commercial policies on the allocation of resources, income distribution, and growth.

Au Qtr. 4 cl. Prereq: 805.

**862 Advanced Macroeconomic Trade Theory G 5**

Advanced monetary international trade theory; analysis of payments adjustments under alternative international monetary institutions.

Wi Qtr. Prereq: 805 and 806; 861 recommended.

**863 Economic Growth and International Trade G 5**

Evolution of the world economy, from theoretical and empirical perspectives, including Solow growth models, optimal economic growth, models of overlapping generations, and endogenous economic growth.

Sp Qtr. 2 2-hr cl. Prereq: 808.

**871 Industrial Organization I G 5**

An investigation of information economics and market-based transactions in the theory of the firm.

Wi Qtr. 2 2-hr cl. Prereq: 808.

**872 Industrial Organization II G 5**

Economic analysis of industry structure, conduct, performance, and related issues of public policy.

Sp Qtr. Prereq: 808 and 871.

**883 Advanced Labor Economics I G 5**

The firm as production function, employment contracting in a competitive market, and collective action (labor unions and employment contracting).

Au Qtr. Prereq: 805 and 806.

**884 Advanced Economics of the Labor Market G 5**

Economic theory and empirical evidence relating to labor allocation and wage determination.

Wi Qtr. Prereq: 805 and 806.

**893 Individual Studies G 1-15**

Advanced readings in economics and related fields.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

**894 Group Studies G 3-5**

Advanced courses in economics and related fields.

Su, Au, Wi, Sp Qtrs. Repeatable.

**901 Supervised Teaching in Economics G 5**

Supervised teaching of undergraduate courses in economics for students pursuing the Doctor of Arts degree.

Au Qtr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**915 Seminar in Price Theory G 5**

Special topics in economic theory.

Au, Sp Qtrs. Prereq: 808 and 809. Repeatable to a maximum of 30 cr hrs.

**920 Seminar in Monetary Policy G 5**

Application of monetary theory to issues of public policy in banking and monetary affairs; examination of public hearings and policy literature.

Au, Sp Qtrs. Prereq: 820 and 821. Repeatable to a maximum of 30 cr hrs.

**940 Seminar in Econometrics G 5**

Examination of economic problems whose solutions may advantageously be sought by use of the methods of mathematics and mathematical statistics.

Au, Sp Qtrs. Prereq: 742 and 842 or equiv or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**970 Seminar in Structure and Regulation of Industry G 5**

Economic bases for government participation in business activities: antitrust, regulation, and collective decision making.

Au, Sp Qtrs. Prereq: 872. Repeatable to a maximum of 30 cr hrs.

**981 Seminar in the Economics of the Labor Market G 5**

Selected topics and issues in wage determination, employment, and unemployment.

Sp Qtr. Prereq: 884. Repeatable to a maximum of 10 cr hrs.

**999 Research in Economics: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Education

Education Minor

An Education Minor is available to undergraduate students who wish to explore opportunities in the field of Education.

For more information, visit The College of Education, 1945 N. High Street, 227 Arps Hall or call (614) 292-2332.

Note: The courses listed below do not comprise the Education Minor.

**289 Field Experience: Tutoring U 2-5**

Professional service with children or youth in a school or community agency.

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**494 Group Studies U 1-5**

Group studies on special issues in education.

Arr depending upon number of hrs 1-5. Repeatable to a maximum of 20 cr hrs.

**692 Workshop U G 1-8**

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices.

Arr cl. Repeatable to a maximum of 12 cr hrs.

**693 Individual Studies U G 1-4**

Individual study in the field of education.

Arr according to number of hrs 1-4. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727 Special Topics in Education G 1-5**

Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.

Prereq: Grad standing. Repeatable. This course is graded S/U.

## Education: Educational Policy and Leadership

Office of Student Services, 688-4007

122 Ramseyer Hall, 29 West Woodruff

Notice: All courses may not appear in this listing. (For a complete listing of courses, please contact the Office of Student Services listed above.)

Cultural Studies in Education, 688-5590

260, 370, 600, 610, 615, 622, 624, 626.01, 626.02, 626.03, 650.01, 650.02, 650.03, 650.04, 658, 676, 677, 678, 692.46, 692.49, 693.40, 693.46, 693.49, 694.40, 694.46, 694.49, 704, 705, 706, 706.01, 706.05, 727.40, 727.46, 727.49, 730, 778, 791, 798, 800, 812, 817, 819, 822, 823, 824, 825, 826, 829, 830, 831, 832, 833, 834, 839, 849, 851, 852, 853, 855, 860, 863, 864, 865, 869, 871, 872, 884.40, 884.46, 884.49, 893.40, 893.46, 893.49, 894.40, 894.46, 894.49, 897, 904, 905, 906, 907, 908, 925.40, 925.46, 925.49, 927, 966, 999.40, 999.46, 999.49.

Educational Administration and Higher Education, 292-7700

270.01, 270.04, 271, 692.30, 692.32, 692.44, 693.30, 693.32, 693.44, 694.30, 694.32, 694.44, 707, 708, 723, 726, 727.30, 727.32, 727.44, 780, 782, 806, 813, 815, 820, 835, 840, 841, 842, 843, 844, 845, 846, 847, 858, 861, 866, 870, 884.30, 884.32, 884.44, 887, 888, 893.30, 893.32, 893.44, 894.30, 894.32, 894.44, 899, 910, 912, 913, 914, 915, 916, 925.30, 925.32, 925.44, 926, 930, 943, 945, 946, 947, 949, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 971, 999.30, 999.32, 999.44.

General Professional Studies, 292-4872

259, 306, 450, 451, 607, 609, 650.01, 650.02, 650.03, 650.04, 671, 683, 692.46, 692.49, 692.50, 693.036, 693.40, 693.46, 693.49, 693.50, 694.36, 694.40, 694.46, 694.49, 694.50, 700.01, 700.02, 700.03, 700.04, 700.05, 700.06, 700.07, 701, 702, 717, 718, 722, 723, 726, 727.40, 727.46, 727.49,

727.50, 756, 768, 801, 802, 803, 804, 805, 811, 812, 816, 818, 821, 828, 841, 851, 859, 860, 862, 863, 865, 868, 869, 873, 880, 884.46, 884.49, 884.50, 889, 890, 901, 903, 893.36, 893.40, 893.46, 893.49, 893.50, 894.36, 894.40, 894.46, 894.49, 902, 924, 925.36, 925.40, 925.46, 925.49, 925.50, 927, 928, 929, 932, 937, 999.36, 999.40, 999.46, 999.49, 999.50

Quantitative Research, Evaluation and Measurement in Education, 292-3229

692.60, 693.60, 694.60, 727.60, 744, 745, 765, 785, 786, 795, 796, 807, 808, 809, 810, 836, 837, 838, 850, 854, 867, 874, 878, 884.60, 893.60, 894.60, 925.60, 931, 966, 999.60.

**259 Individual Learning and Motivation: Strategies for Success in College U 5**

Teaches learning and motivation strategies to improve study skills and increase college success. Students learn how to manage their time and improve their grades.

2 2-hr cl, arr. 259D indicates course is taught at a distance via the Internet.

**270 Seminars in Career and Self Development**

Examination of self in relation to educational and career goals; self assessment, decision making, identification, and use of campus resources, employability, and work adjustment skills.

**270.01 Self-Career Development U 3**

Designed to provide opportunities for self-exploration and skill development; exploration of and clarification of vocational and educational interests.

This course is graded S/U.

**270.04 Career Development and Leadership Training in Higher Education U 3**

Designed to explore possible careers in higher education and to conduct leadership training in terms of higher educational functions and organizations.

**271 Leadership in Community Service U 5**

Introduction to the knowledge, skills, and competencies for responsible service and leadership in diverse communities. Prepares students for engaged, responsible, and active community involvement and leadership.

Off-campus field experience required for minimum of 3 hrs week.

**305 Childhoods in Historical and Comparative Perspective U 5**

Comparative and historical study of the childhood experience.

**306 School and Society**

Use of concepts and methods of history, philosophy, and the social sciences to grasp the interrelationship between society and education.

**306.07 General Student Body U 5**

**306.20 Middle Childhood Education U 5**

**306.70 Early Childhood Education U 5**

**307 History of American Education U 5**

Designed to develop a more thorough and systematic understanding of education and schooling in the United States.

**309 Psychological Perspectives on Education**

Examination of research, theory, and practice pertaining to important aspects of learning and teaching; the nature of learners, cognition, problem solving, motivation, teaching approaches, and assessment.

**309.07 General Student Body U 5**

**309.20 Middle Childhood Education U 5**

**309.70 Early Childhood Education U 5**

**311 Impact of Technology in Learning and Education U 5**

The theories, function, impact, and use of technology in formal and informal learning and education environments.

**359 Technology-Enhanced Learning Strategies U 5**

Impart specific and general strategies for learning in college with special attention to technology and tools that enhance learning in individual and group settings.

Au, Wi, Sp Qtrs. 2.5-hr cl, coursework as assigned, collaborative work as arranged. Taught as a hybrid course. In addition to class time, students will work independently and collaboratively online and outside of class meetings.

**370 Computers in the Classroom: An Introduction U 4**

An introduction to educational computing.

1 2.5-hr cl, 1 2.75-hr lab. Not open to students with credit for Ed-P&L 671.

**411 Body/Mind Goes to School U 5**

Current and emerging theoretical and cultural conception of body and mind and how they affect educational theories and practices.

Prereq: Soph standing. GEC soc sci individuals and groups course.

**413 Legal Issues in Education U 5**

An exploration of legislative, executive and judicial action pertaining to activities in education.

**414 Gender Education U 5**

Examination of the education of females in schools through the lenses of history, psychology, sociology, policy analysis, and curriculum.

**415 Sexualities and Education: Issues and Practices U 5**

Provides knowledge and awareness of legal, ethical, interpersonal and community issues related to sexual orientation as area of diversity in education.

**551 An Historical Account of the Education of Black Folk in the US, Part I: 1700-1950 U 5**

Examines the tradition of Black education and the implications of this tradition for educators and future generations of students.

2 2.5-hr cl. Prereq: Jr or sr standing. GEC social diversity in the United States course.

**552 An Historical Account of the Education of Black Folk in the US, Part II: 1950-Present U 5**

Designed to provide students with a perspective on historical and contemporary Black education through the writings of Black scholars.

2 2.5-hr cl. Prereq: Jr or sr standing. GEC social diversity in the United States course.

**600 Basic Media Skills U G 1**

Self-instructional modules and activities emphasizing the selection, utilization, and preparation of teaching material.

Prereq: Admission to a teacher education program certification area or permission of instructor. Not open to students with credit for Ed-T&P 600. Cost of production materials must be borne by the student. This course is graded S/U.

**607 Adolescent Learning and Development in School Contexts**

Provides students with an introduction to the field of adolescent development and psychology and applications to education.

Teacher education licensure course.

**607.07 General Student Body U G 3****607.20 Middle Childhood Education U G 3****607.23 MSAT U G 3****607.70 Early Childhood Education U G 3****609 Teaching as a Profession**

Examines complexities surrounding the practice of teaching at national, state and local levels, highlighting legal, professional, and ethical issues surrounding American schools and teaching.

Part of a prescribed series of courses leading to teacher licensure in Early Childhood, Middle Childhood and Young Adult Education.

**609.07 General Student Body U G 3****609.20 Middle Childhood Education U G 3****609.70 Early Childhood Education U G 3****615 Developing Discipline for Effective Learning**

Causes of and procedures for dealing with school discipline problems; focus upon the teacher, student, classroom, and school situations.

Arranged practicum. Prereq: teaching experience or enrolled in student teaching.

**615.07 General Student Body U G 3-5****615.99 Language, Literacy and Culture U G 3-5****626 Sport and Popular Culture Series**

A variety of themes present in selected popular cultural forms dealing with a variety of sports such as football, basketball, baseball, and track and field.

Cross-listed with Edu PAES.

**626.01 Sport and Popular Culture Overview U G 3****626.02 Sport and Popular Culture - Race and Gender U G 3****650 Humanistic Foundations of Education**

Prereq: 3rd yr standing in a recognized university teacher education program, or grad standing, or permission of dept office.

**650.01 Philosophy of Education U G 3**

Designed to provide students with an application of philosophy of education to issues and problems of teaching and living in a culturally diverse society.

**650.02 History of Modern Education U G 3**

Education and schools as factors in the development of the modern world; theories, practice, relations with other social institutions and forces, especially in Europe and America.

**650.03 Applied Ethics for Teachers U G 3**

An examination of selected moral/ethical issues which face practicing educators; emphasis on developing ethical decision-making skills.

**650.04 Social Criticism in American Education U G 3**

Analysis and interpretation of critical stances taken by selected major writers on educational topics of current interest.

**658 Sport in Western Culture U G 3**

Examines sport in North American, South American, and European countries with emphasis on influences of political ideology, economics, gender, race, and nationalism.

**671 Fundamentals of Computer Applications in Education and Training U G 4**

An introduction to the common uses of computers in educational and training settings; emphasis on instruction and management.

Not open to students with credit for Ed-P&L 370. Open only to professional educators.

**673 Improving Professional Practice of Teaching with Technology using Action Research G 4**

Teachers learn action research in order to study the effective use of technology in teaching and learning in their classroom(s).

Wi Qtr. Distance Learning Course (Web taught).

**676 Planning and Preparing Teacher-Made Educational Media U G 3**

Demonstration and practice in the preparation of teaching materials using desktop publishing; emphasis on the development of fliers, worksheets, overheads, and simple animations.

Prereq: 4th yr or grad standing.

**677 Educational Telecommunications U G 3**

The varied types of educational telecommunications in relation to designs, planning, production, utilization, and evaluation.

Prereq: 4th yr standing.

**678 Introduction to Instructional Systems Development U G 3**

Paradigms for instructional development; learner, task, and curriculum analysis; prototype development; completion of a production proposal/storyboard; subsequent enrollment in 778 expected.

Prereq: 675.

**680 Educational Videography U G 4**

Functions and operations of small format video production and post-production equipment; application of theory and research to the production of video materials for instruction.

Prereq: 677 and 678 recommended.

**681 Introduction to Developing Educational Web Sites U G 4**

In this introductory course students will begin to develop the visual, technical, and pedagogical design skills to create educational web sites.

Au Qtr.

**683 Solving Classroom Problems U G 3**

Exploration of problem areas of classroom control, student learning, parent relationships, relationships with other teachers, and time management.

Prereq: Student teaching or permission of instructor.

**692 Workshops**

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.

Arr. Prereq: Teaching experience and written permission of workshop director. Repeatable with not more than 4 workshops to a maximum of 12 cr hrs.

**692.10 Educational Policy and Leadership U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.30 Educational Administration U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.32 Higher Education U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.44 Educational Administration and Supervision U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.46 Instructional Design Workshop U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.49 Curriculum and Instruction U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.50 General Professional Studies U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.60 Quantitative Research, Evaluation and Measurement in Education U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**693 Individual Studies**

Prereq: Permission of instructor. A total of not more than 30 cr hrs of individual study (any 693) will apply toward graduation for undergrad students, or 15 cr hrs for the masters degree and 30 cr hrs for the doctoral degree.

**693.10 Educational Policy and Leadership U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.30 Educational Administration U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.32 Higher Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.36 Teacher Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.40 History of Education and Comparative Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.44 Educational Administration and Supervision U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.46 Instructional Design U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.49 Curriculum and Instruction U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.50 General Professional Studies U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.60 Quantitative Research, Evaluation and Measurement in Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies**

Group studies on special problems in education.

Prereq: Permission of instructor.

**694.10 Educational Policy and Leadership U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.30 Educational Administration U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.32 Higher Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.36 Teacher Education U G 1-4**

Repeatable to a maximum of 20 cr hrs.

**694.40 History of Education and Comparative Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.44 Educational Administration and Supervision U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.46 Instructional Design U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.49 Curriculum and Instruction U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.50 General Professional Studies U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.60 Quantitative Research, Evaluation and Measurement in Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Arr Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-5**

Repeatable.

**698.02 Foreign U G 1-5**

Repeatable.

**700 Interprofessional Education**

Focus on ethical issues, changing professional/consumer rights, and interprofessional cooperation.

Limited to students enrolled in allied medical professions, education, law, medicine, nursing, social work, and theology. Cross-listed in Edu P&L, Edu PAES, Edu T&L. Repeatable to a maximum of 9 cr hrs; subdivisions not repeatable, except 700.04 which is repeatable to a maximum of 10 cr hrs.

**700.01 Seminar on Interprofessional Care U G 3**

Treatment of the whole person through the analysis of the interrelated problems of actual cases.

Repeatable to a maximum of 9 cr hrs.

**700.02 Changing Societal Values U G 3**

Identification and clarification of values considerations as they relate to professional problems in dealing with consumer/clients/ patients.

Repeatable to a maximum of 9 cr hrs.

**700.03 Seminar on Ethical Issues Common to the Helping Professions U G 3**

Ethical issues of concern to the professions and arising out of advanced technology: euthanasia, enforced treatment, privacy and confidentiality, malpractice, and the social responsibility of the professions.

Repeatable to a maximum of 9 cr hrs.

**700.04 Interprofessional Practicum in Clinical Settings U G 3,5**

Interprofessionally explores issues in the identification and treatment of chemical dependency within the family context.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**700.05 Interprofessional Seminar in Policy Analysis U G 3**

Explores interprofessionally the history, formation, and implementation of public policy issues of significance to seven helping professions.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**700.06 Care of Chemically Dependent Families U G 3**

Interprofessionally explores issues in the identification and treatment of chemical dependency within the family context.

Repeatable to a maximum of 9 cr hrs.

**700.07 Interprofessional Approaches to Child Abuse and Neglect G 3**

Interprofessionally explores issues in the identification, treatment, and prevention of child abuse and neglect.

Prereq: Permission of instructor. Limited to 12 students each in allied medicine, education, law, medicine, nursing, psychology, social work, and theology through Columbus Cluster. Repeatable to a maximum of 9 cr hrs.

**701 Logic in Teaching U G 3**

Study of the logical aspects of teaching; includes attention to definitions, arguments, explanations, questions, and value judgments.

Prereq: 650.01 and 4th yr standing.

**702 Modern Trends in Educational Philosophy U G 3**

A study of contemporary work in philosophy of education and applications of that work to educational practice.

**705 Education and Spirituality: Holistic Perspectives U G 3**

Examination of emerging themes and theories of spirit and spirituality in curriculum thought and educational practice, including cross-cultural, feminist, ecological, and postmodern perspectives.

**707 Applied Technology in Educational Administration G 3**

Develops skills and knowledge in the application of technology to administrative practice in educational organizations. Hands-on instruction in Macintosh computer lab. Computer applications covered include word processing, databases, spreadsheets, communications, web-browsers, graphics and presentation software.

**708 Administering Service-Learning Programs G 3**

Provides knowledge, skills, and competencies for leading, directing, and administering service-learning programs.

**717 Comparative Education U G 3**

Social and cultural factors influencing the differential development of educational institutions and organization.

Prereq: 4th yr standing.

**718 Pedagogical Studies**

Key research studies and major perspectives on classroom pedagogy including effective classroom management, teaching and learning, and school functioning.

Prereq: EDU T&L 702 and 704. Open to students enrolled in the MED program.

**718.07 General Student Body G 3****718.20 Middle Childhood Education G 3****718.70 Early Childhood Education G 3****722 Studies in the History of Educational Policy U G 3**

Historical analysis of social, economic, and political factors shaping public school policy in the US since 1800.

Prereq: 4th yr standing.

**724 Local School District Finance G 3**

Designed for superintendent licensure candidates. Explores the larger context of school district finance, emphasizing economics and politics.

1 3-hr cl.

**725 Local School District Politics and Public Relations G 3**

Designed for superintendent licensure candidates. Explores school district level community relations models, marketing strategies, and communication theory related to developing effective school district-community partnerships.

Su Qtr. 1 3-hr cl.

**726 Educational Change U G 3,5**

Commonly used strategies for changing people and organizations are studied; the strategies vary from collaborative problem solving to the coercive use of violence and non-violence.

**727 Special Topics in Education**

Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.

Prereq: Grad standing or registration in one of the professional schools. Special Topics in Education (Edu-P&L 727) may be offered by any of the program areas listed below.

**727.10 Educational Policy and Leadership G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.30 Educational Administration G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.32 Higher Education G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.36 Teacher Education G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.40 History of Education and Comparative Education G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.44 Educational Administration and Supervision G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.46 Instructional Design G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.49 Curriculum, Instruction, and Professional Development G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.50 General Professional Studies G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**727.60 Quantitative Research, Evaluation and Measurement in Education G 1-5**

Repeatable to a maximum of 20 or hrs. This course is graded S/U.

**732 Graduate Teaching Fellows G 4**

Students will study important aspects of teaching and learning support at the university level, and examine models for departmental GTA preparation and support programs.

Su Qtr. 2 2-hr cl for 5 wks, 20 arr hrs. Prereq: Enrollment by permission only. This course is graded S/U.

**744 Assessment for Classroom Teachers G 2-4**

Concepts and practical experience in student assessment with optional clinical work.

20 hrs of clinical experience in public schools for each additional cr hr. Prereq: Grad standing and enrollment in a teacher education program. Repeatable to a maximum of 4 cr hrs.

**745 The Inquiry Process - The Classroom Teacher as an Inquirer and Consumer of Research G 2-4**

Approaches to educational research with critical review of research studies and their relationship to practice.

2 1-hr cl for 2 cr hrs, 20 hrs of clinical experience in public schools for each additional cr hr. Prereq: Grad standing and enrollment in a teacher education program. Repeatable to a maximum of 4 cr hrs.

**756 Professional Development for Teachers G 3**

An overview of the goals, problems, practices, issues, research, theory, organizations, and literature of inservice education for teachers.

**760 Survey of Feminist Methodologies G 5**

An overview of feminist methodological issues and dilemmas and an introduction to a variety of research methods.

Field research. Prereq: Grad standing in Edu P&L or wom stds or permission of instructor. Not open to students with credit for Wom Stds 760. Cross-listed in Women's Studies.

**765 Introduction to Educational Evaluation U G 3**

Introduction to educational evaluation including history, models, theories, politics of evaluation, and types of evaluation.

Prereq: 785 and/or permission of instructor.

**768 Directing Student Teachers U G 3**

Principles and techniques for directing the laboratory experiences of student teachers and other teacher education students.

Prereq: experience.

**778 Formative Evaluation of Instructional Systems U G 3**

Theory and practice of developmental testing and field evaluation of instructional systems.

Prereq: 678 and course(s) in media production resulting in a prototype instructional system.

**779 Development and Management of Educational Media Centers G 3**

Media specialist's responsibilities for the successful operations of a media program; planning, organization, administration, and service functions; emphasis on school library media programs.

Prereq: 675 or equiv.

**780 Introduction to Student Affairs U G 3**

The nature of and issues involved in the work of student affairs in higher education.

**782 Practice of College Student Development G 3**

First practical course in professional sequence; prerequisite to field work; major college student development practices are examined; research on practitioners' projects are examined.

2 1.5-hr cl.

**785 Introduction to Inquiry, Principles, Strategies, and Techniques U G 3**

Introduction to inquiry strategies and their role in educational development; emphasis is on the conceptualization of educational problems.

Prereq: 4th year or grad standing.

**786 Introduction to Inquiry: Quantitative Methods U G 5**

An introduction to quantitative techniques, with emphasis on application in educational settings.

2 2-hr cl, 1.5-hr lab, arr hrs. Prereq: 4th year or grad standing.

**788 Computer Concepts and Skills for Educators**

Practica in using various programming languages and common microcomputing operating systems.

Prereq: Cptr/Inf 548, Ed-P&L 671, or permission of instructor.

**788.01 PILOT Authoring Language U G 5**

Systematic exploration of instructional and educational problems for which interactive, instructional courseware can provide powerful solutions; practical experience in using the PILOT authoring system to address those problems.

2 cl, 8 hrs lab. Prereq: Cptr/Inf 548, or Ed-P&L 678, or permission of instructor.

**789 Urban Communities, Technology and Education G 3**

Students use critical race theory to study the pedagogical, political, and historical factors that frame and impact the integration of educational technologies in urban schools.

Wi Qtr.

**791 Media and Technology in Education**

Overview of the impact and use of media and technology in education; courses directed to teacher education students.

**791.07 General Student Body G 4****791.20 Middle Childhood Education G 4****791.70 Early Childhood Education G 4****791.99 Language, Literacy and Culture G 4****795 Proposal Development U G 3**

Principles, processes, and research relating to the creation of proposals for developmental and research activities in educational agencies and institutions.

Prereq: 785 or equiv.

**796 Classroom Test Construction U G 3**

General principles and techniques for construction and utilization of classroom tests for assessment of student achievement.

Prereq: 786 or equiv or permission of instructor.

**797 Cooperative Learning for Teachers and Supervisors U G 3**

Examines research, theory, and practice related to cooperative and collaborative learning, including teacher's role, strategies and structures, and assessment of outcomes.

**798 Qualitative Research for Educators G 3**

An introduction to qualitative research at the Master's level, this course offers an introduction to the history and substantive topics of educational ethnography.

**800 Qualitative Research in Education G 3**

Issues and problems of scientific inquiry in educational research with emphasis on field research.

**801 Comparative Perspectives on Education and Community Violence G 3**

Cross-cultural and theoretical perspectives of impact of violence on children. Explores intervention strategies.

**802 Comparative Perspectives on Education and Democratization G 3**

Cross-cultural and theoretical perspectives on the relationship between education and democratization.

**803 Psychological Perspectives on Teachers, Teaching and Teacher Education G 4**

Psychological research (including quantitative and qualitative studies) on teaching; teacher characteristics, knowledge and beliefs; learning to teach; and the role of educational psychology in teacher education.

**804 Technology in Education Network (TIENET) Forum: Application of Technology to Engaged Life-Long Learning G 4**

Explores integration of technology in the curriculum.

Arr field trips. Prereq: 671 or equiv; teaching experience. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**805 Education in Developing Societies G 3**

Comparative examination of the social and cultural contours of education in developing societies, and the contrast between educational problems in these societies and the industrial world.

**806 Administration of Higher Education G 3**

Purposes and scope of higher education; governance; problems of administration-student-staff relationships; and administrative organization.

**807 Educational Survey Research Methods G 3**

A study of the design principles, sampling, and data-gathering methods used in the conduct of educational survey research.

Prereq: 785, and 786 or equivs with written permission of instructor.

**808 Experimental Design in Education I G 5**

An examination of logical and quantitative principles, especially the analysis of variance, underlying basic experimental designs employed in educational research.

3-hr cl, 2-hr lab. Prereq: 786 or equiv. Not open to students with credit for Edu T&L 808.

**809 Experimental Design in Education II G 5**

An examination of intermediate quantitative principles and issues underlying experimental design in education, especially principles and issues associated with factorial designs employing multiple response measures.

3-hr cl, 2-hr lab. Prereq: 808.

**810 Experimental Design in Education III G 5**

An examination of repeated measurements, mixed, hierarchical, partial hierarchical, and quasi-experimental designs and associated methods of univariate and multivariate statistical analyses.

3-hr cl, 2-hr lab. Prereq: 809 or equiv.

**811 Sources of Progressive Thought in American Education G 3**

An examination of the ideas that provided the philosophical basis for progressive education with an emphasis on the historical context in which these ideas were developed.

**812 American Schools and American Society G 3**

Education and schooling in the United States.

Prereq: Grad standing.

**813 Understanding Educational Organizations: G 3**

An introductory survey of the applications of formal organization theory for the purpose of understanding educational organizations—a core course in administrator certification.

Certification students must also enroll for 1 hr in 884B44.

**814 Historical Bases of Curriculum Development G 3**

Intensive analysis of the outstanding contributions made by scholars in the field from 1900 to 1960.

Prereq: 860.

**815 The Community College G 3**

History of community colleges; evaluation of organization and administration; campus planning; and federal, state, and local governmental relations with these colleges.

**816 Contemporary Research and Issues in Teacher Thinking, Curriculum, and Educational Technology G 4**

Surveys research about teacher thinking, curriculum, and educational technology and explores issues related to it and its implications.

**817 Qualitative Research: The Analysis of Interaction in Educational Settings**

Qualitative research and the analysis of interaction in educational studies via the history and practices of educational ethnography, fieldwork, and analysis of discourse.

**817.01 Qualitative Research: Introduction to the Analysis of Interaction in Educational Settings G 3**

As the first course of the 817 sequence, this course offers an introduction to the intellectual history of qualitative research and the analysis of interaction.

**817.02 Analysis of Classroom Discourse G 3**

An introduction to the analysis of the discourse structures of the classroom, this course addresses the face to face organization of classroom order,

interaction and instruction.

Prereq: 817.01 or permission of instructor. Not open to students with credit for 817.

**817.03 Advanced Topics in the Analysis of Interaction in Education G 3**

An advanced course in the analysis of interaction in classroom and instructional contexts, bringing to bear literature in analysis of discourse and situated action.

Prereq: 817.01, 817.02; or permission of instructor.

**818 Contemporary Perspectives on Instruction G 3**

Overview of the research basis of classroom instruction, both historical and contemporary; the conceptual framework used, the paradigm used, questions explored, variables studied, and findings will be examined.

**820 Financing Higher Education G 3**

A study of financing higher education with emphasis on issues affecting higher education; criteria for identifying and developing sources of financial support for institutions of higher education.

1 2.5-hr cl or 2 1.5-hr cl. Prereq: 806 or 815.

**821 Comparative Perspectives on Education in Latin America G 3**

Comparative examination of the social and cultural contours of education through Latin America.

**822 Cultural Studies in Education G 3**

Examines how cultural studies frames questions and themes pertinent to the study of education, technology, inquiry, sport, and the body.

**823 The Functions of the Computer in the Classroom G 3**

A critical examination of the issues raised by the implementation and use of microcomputers in schools.

**824 Educational Policy Analysis in Contemporary Culture G 5**

An exploration of traditional and emerging approaches to policy analysis in education.

**825 Visualizing the Curriculum G 3**

Investigates questions relating to visual literacy with emphasis on the design and use of images in educational settings.

**826 Cultural Diversity, Equity, and School Reform G 3**

Examination of intersections of cultural diversity, equity and school reform.

**827 Analyzing Categorical Data in Educational Research G 3**

An introduction to the use of log-linear models and related statistical techniques for the purpose of analyzing multidimensional contingency tables and categorical response.

Prereq: 808.

**828 Ethical Problems in Education G 3**

An examination of theories of value in education which focuses on the philosophical problems of formulating and defending moral judgements.

**829 Technology, Society, and Schools G 3**

Examination of theories and history of interaction of society and technology with implications for instructional technology and schooling. Resources for constructing personal definitions of technology.

**830 Critical Issues in Global Education G 3**

Examines pedagogy for global perspectives in teaching about cultures, global inequalities, advocacy, positionality, privilege, marginalization and resistance to oppression.

**831 Integrating Multicultural and Global Education G 3**

Alternative conceptual and programmatic approaches to the integration of multicultural and global education.

**833 The Politics of Curriculum Knowledge: Critical Issues in Curriculum G 3**

Examination of how politics, ideology, economics and cultural perspectives impact on curricular knowledge.

**834 An Interpretative History of African American Education 1950 to 1990 G 3**

Examination of African American education from the perspective of African American scholars from the 1950s to the 1990s.

**835 Personnel Administration in Higher Education G 3**

A study of the staff personnel function in institutions of higher education through a consideration of personnel policies and operating principles.

**836 Evaluation Methods: Principles of Needs Assessment I G 4**

Introduction to the concept of need, issues in needs assessment, and types of needs assessment strategies with a special emphasis on basic techniques and procedures.

1 2.5-hr cl. Prereq: 765 or permission of instructor.

**837 Evaluation Methods: Principles for the Evaluation of Professional Personnel in Education G 3**

Designed to help people to manage the design, implementation, and evaluation of performance appraisal and review systems in educational organizations. Ed-P&L 765 recommended.

**838 Evaluation Methods: Principles of Needs Assessment II G 3**

A brief overview of needs assessment followed by an inspection of in-depth needs assessment, procedures used in education, agencies, and business/industry settings.

1 2.5-hr cl. Prereq: 765 or 851 or permission of instructor.

**839 Women in Higher Education G 3**

Examines conditions and positions of women in higher education and strategies for enhancing the quality of their experiences in the academy.

1 2.5-hr cl.

**840 Legal Aspects of Higher Education Administration G 3**

Statutory and case law are analyzed for administrative implications; changing legal developments in college and university governance patterns.

**841 Curriculum in Higher Education G 3**

A study of representative and experimental college programs in the United States.

1 2.5-hr cl.

**842 Administration of Academic Affairs in Higher Education G 3**

Principles and problems of administering academic affairs in light of development, financial considerations, and evaluation.

Prereq: 806.

**843 Administrative Responsibilities and Perspectives: Equity, Learning, and the Individual G 3**

Administrators' responsibility to see equity and the rights of individual are recognized and enhanced in the school setting.

Prereq: 846 or permission of instructor. Mandated requirement for the Certification of Administrators in the State of Ohio.

**844 The Educational Leader as Learner: Knowledge and Administration G 3**

Designed to increase the educational administrator's ability to accept and use the notion that human beings believe differently (alternative ideologies) and learn differently (alternate epistemologies).

**845 Politics and Political Leadership in American Education G 3**

A critical examination of national, state, and local politics and political leadership in American education.

**846 Introduction to Educational Administration G 3**

Introduction to the organizational setting of the school, the nature of administration, and personal decision making about careers in educational administration—a core course in administrator certification.

**847 Human Relations in Educational Administration G 3**

Interpersonal behavior in educational organizations with emphasis on such topics as values, groups, power, communicating, conflict management, motivation, and human diversity.

Prereq: 806 or 846.

**848 Educational Inquiry Within the Affective Domain: Theory and Methods G 4**

Provides theory and practice for advanced graduate students to conduct scientific inquiry within the affective domain including attitudes, values, perceptions, opinions, orientations, and belief.

Prereq: 785 and 786.

**849\* Feminist Perspectives of Women in Education G 3**

Examines current positions and conditions of female faculty and students in schools, colleges, and universities. Feminist scholarship provides theoretical lenses through which to consider the intersections of gender, sexuality, race, ethnicity, and class, and their impact on daily lives of women.

1 3-hr cl. Prereq: Written permission.

**850 Internship in Educational Research and Development G 3-12**

Internship experiences in research, development, or evaluation settings. Prereq: Permission of instructor.

Arr. Repeatable to a maximum of 12 cr hrs.

**851 College Teaching G 3**

Designed as initial preparation for instruction at the college level; focuses on the generic skills, strategies, and issues common to university teaching.

Open to grad students committed to teaching in any area at the college level. This course is graded S/U.

**852 A History of the Education of Women G 3**

Investigation and critical analysis of selected educational theories by significant past and present theorists who have addressed the education of women.

Prereq: Grad standing.

**853 Women, Technology, and Education G 3**

Analysis of issues in the relationships between women's lives and technological development; exploration of current needed educational response to these issues.

**854 Evaluation Methods: Principles and Techniques for the Evaluation of Teaching and Teachers G 3**

Designed to help people manage the design, implementation, and evaluation of performance appraisal and review systems in educational organizations.

1 2.5-hr cl. Prereq: 765.

**856 Observing Classroom Instruction G 3**

Exploration of different approaches used to observe the nature of instruction in classrooms and other educational settings; examines theoretical bases and assumptions.

**857 Individualizing Instruction G 3**

A study of theory, practice, and materials related to individualizing instruction.

**858 Case Studies in Higher Education Administration G 3**

Designed to enhance decision-making skills and managerial communication and to increase understanding of current problems and practices in higher education governance and administration.

Prereq: 806.

**859 Junior High School Curriculum G 3**

A study of various types of junior high school programs, with special emphasis upon teaching-learning procedures as they apply to the early adolescent years.

**860 Fundamentals of Curriculum G 3**

Designed to serve as an overview of the field of curriculum and instruction; kindergarten through 12th grade.

1 2.5-hr cl.

**861 Fundamentals of Supervision G 3**

Supervision of instruction emphasizing general principles and practices in elementary and secondary schools.

**862 Role of the School in the Social Order G 3**

An orientation for teachers and administrators which deals with the basic purposes of secondary education in relation to major issues and current trends.

**863 An Interpretive History of African-American Education: 1700-1950 G 3**

Designed to give students an understanding of the education of African-Americans from the perspective of African-American scholars.

**864 Fundamentals of Instruction G 3**

Survey of instructional theory and related behavioral science disciplines; emphasis is on application of principles of instructional theory to classroom teaching.

Prereq: Secondary (587) student teaching or equiv.

**865 Curriculum Theory G 3**

Advanced study of curriculum; kindergarten through the 12th grade.

2 1.5-hr cl. Prereq: 860 or equiv.

**866 Supervision Theory G 3**

Advanced study of supervision of instruction; kindergarten through the 12th grade.

Prereq: 861 or equiv.

**867 Educational Experimentation G 2-5**

Analysis of contribution of selected experiments to elementary, secondary, and higher education; design of experimental method for attacking educational problems.

Prereq: 785 and 15 cr hrs of grad work in educ. Repeatable to a maximum of 5 cr hrs.

**868 Laboratory in Curriculum Development G 3**

Advanced study of techniques of curriculum development and organization; specific problems in curriculum development which are of concern to the students enrolled.

Prereq: 862 or equiv.

**869 Instructional Theory G 3**

Advanced study dealing with theoretical conceptions, basic principles, and generalized techniques involved in developing, executing, and evaluating instructional activities.

Prereq: Permission of instructor.



**870 Internationalizing Colleges and Universities G 3**

Examines goals and program strategies for internationalizing colleges and universities, including implications for faculty, students, and the curriculum. Explores both broad rationale for internationalizing institutions, as well as specific program elements such as study abroad, international student enrollment, language or international study.

**871 Theories of Gender in Education G 5**

Introduces major intellectual currents informing theories of gender in education.  
1 4-hr cl.

**872 Practicum in Curriculum, Instruction, G 3**

A study of the literature and methods of curriculum, instruction, and supervision in a field setting, with emphasis on curriculum.  
Prereq: 860 or 861; and master's degree.

**873 Problems of Secondary School G 3**

Supervision and curriculum development emphasizing problems involved in initiating and conducting change in the secondary school curriculum.  
Prereq: 860.

**874 Item Response Theory (Rasch Model) Techniques for Competency Testing G 3**

Item Response Theory (IRT) specifically the Rasch Model, is examined in-depth followed by hands-on applications of IRT procedures.  
Prereq: 786. Requires basic statistics and measurement.

**878 Alternative Assessment for Student Learning G 3**

Study of alternative assessment of student learning including performance, authentic, portfolio, and small group learning. Emphasis focuses on principles, procedures and issues in assessment of student learning.

**879 Developing Computer-Based Concepts Lessons G 5**

Application of research knowledge to the development of computer-based lessons for teaching concepts.  
Prereq: 678, or permission of instructor.

**880 Educational Psychology: Cognition, Learning and Instruction G 4**

Examination of theory and research about cognitive perspectives on classroom learning and instruction, particularly research on the teaching and learning of school subjects.

**881 Applications of Regression Analysis to Educational Research G 3**

An introduction to the concepts of regression analysis and their application to research in education and behavioral sciences.  
1 2.5-hr cl. Prereq: 786.

**882 Philosophy of Science and Educational Research: Issues and Controversies G 3**

Examines the controversies in educational research in light of work in the philosophy of science.  
Sp Qtr. 1 2.5-hr cl, other course-work as assigned.

**884 Planned Field Experience**

Planned professional teaching experience under supervision in a public school or other educational agency.  
Prereq: Written permission of area adviser.

**884.02 Foreign G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.10 Educational Policy and Leadership G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.30 Educational Administration G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.32 Higher Education G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.36 Teacher Education G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.40 History of Education and Comparative Education G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.44 Educational Administration and Supervision G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.46 Instructional Design G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.49 Curriculum and Instruction G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.50 General Professional Studies G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.60 Quantitative Research, Evaluation and Measurement in Education G 1-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**885 Educational Leadership, Learning and Teaching**

Applies theory from classroom management, learning, motivation, and teaching to the practice of education.

Repeatable to a maximum of 8 cr hrs; subdivisions not repeatable. Administrative Licensure course.

**885.01 Early Childhood G 4**

Applies theory from classroom management, learning, motivation, and teaching to the practice of elementary education.

**885.02 Middle Childhood, Adolescence to Young Adulthood G 4**

Applies theory from classroom management, learning, motivation, and teaching to the practice of secondary education.

**886 Educational Leadership, Organization Dynamics and School Culture G 4**

Focus on the school as a social system with emphasis on culture, structure, politics, decision making, leadership, and motivation.

Administrative Licensure course.

**887 Diversity in Higher Education G 3**

A survey of collegiate experimental programs and practices, their philosophies, organization, administration, educational audiences, etc., for the culturally different.

**888 Group Interventions in Higher Education G 3**

Emphasis on laboratory learning process for interpersonal growth and organizational dynamics; treatment of group theory, processes, and dynamics.

Mandatory weekend lab. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**889 Practicum in Instructional Design and Technology G 3-5**

Group observation, limited participation, and functional analysis of design and implementation in instructional systems and environments.

Repeatable to a maximum of 10 cr hrs.

**890 Action Research to Understand and Improve Educational Practices G 3**

Action research is inquiry aimed at becoming a more astute practitioner by collecting and analyzing data about an aspect of concern about one's practice.

Permission of instructor needed for PhD students.

**891 Educational Leadership**

Designed to review relevant leadership theories and then apply those theories to the solution of actual school problems.

Repeatable to a maximum of 8 cr hrs; subdivisions not repeatable. Administrative Licensure course.

**891.01 Instructional Leadership and Supervision G 4**

Leading schools for high achievement: emphases on community-based mission, standards and accountability, teacher professionalism and development, equity, and organizational learning for continuous school improvement.

**891.02 Educational Leadership, Inquiry and Ethics G 4**

Leadership and the ethics that undergird decision making.

**893 Advanced Individual Studies**

**893.10 Educational Policy and Leadership G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.30 Educational Administration G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.32 Higher Education G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.36 Teacher Education G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.40 History of Education and Comparative Education G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.44 Educational Administration and Supervision G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.46 Instructional Design G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.49 Curriculum and Instruction G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.50 General Professional Studies G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.60 Quantitative Research, Evaluation and Measurement in Education G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**894 Advanced Group Studies**

Advanced group studies on special problems in education.

Prereq: Written permission of instructor.

**894.10 Educational Policy and Leadership G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.30 Educational Administration G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.32 Higher Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.36 Teacher Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.40 History of Education and Comparative Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.44 Educational Administration and Supervision G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.46 Instructional Design G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.49 Curriculum and Instruction G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.50 General Professional Studies G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.60 Quantitative Research, Evaluation and Measurement in Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**895 Fundamentals of Instructional Materials and Media G 3**

Theory in educational media applied to the process of instructional development.

Prereq: 675 or practical experience in using educational media in school settings.

**896 Educational Leadership Portfolio Development G 2**

Designed to help students develop a professional portfolio based on administrative and academic experiences.

Prereq or concur: 884.30. Repeatable to a maximum of 4 cr hrs. Administrative Licensure course.

**897 Designing Multimedia for Instruction G 4**

Introduction to the instructional capabilities and hands-on development of multimedia including videodisc and CDROM: topics include relevant learning theories, programming techniques and design models.

Prereq: 678. Fundamentals of computing recommended.

**899 Interdepartmental Seminar G 1-5**

Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced.

**901 Motivation in Learning and Teaching G 3**

Examines research and theory about motivation to learn in academic settings, including studies of goal theory, social cognitive approaches and teaching practices.

**902 Educational Philosophy of John Dewey G 3**

A systematic study of the writings of John Dewey in their bearings upon educational theory and practice.

**903 Fundamentals of Journal Editing G 3**

Fundamentals of journal writing, editing, management, and ethics. Practice in the use of copy-editing symbols and styles of publication.

**904 Women: Leadership and Empowerment G 5**

Focus on understanding and enacting leadership and empowerment that is congruent with women's lives and feminist perspectives.

4 hrs social action project. Prereq: Written permission.

**905 Research in Cultural Studies G 3**

Discussion of current research in Cultural Studies in Education.

Prereq: Two earlier core courses in Cultural Studies. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**906 Contemporary Readings in Cultural Studies G 3**

Explores central topics in Cultural Studies in Education.

Prereq: 822.

**907 Themes and Theories in Cultural Studies G 3**

Examines themes and theories which undergird cultural studies and relates them to the study of education, technology, sport, and the body.

**909 Cultural Process in Education G 3**

Uses anthropological perspectives to examine how culture, ethnicity, and power operate in informal and formal educational settings in multiple context.

Prereq: Accepted into PhD program, MA students may enroll with permission of instructor.

**910 Admissions and Retention in Higher Education G 3**

Analysis and review of research and practice in college admissions and retention programs.

Elective in MA and PhD programs in higher education and student affairs.

**912 Impact of College on Students G 3**

Analysis of philosophical assumptions and statistical evidence on the impact of colleges.

Part of doctoral core in higher education.

**913 Leadership in Educational Administration G 3**

Study of theory and practice of leadership in educational administration; course directed to doctoral students concentrating in K-12 administration.

Limited to 1st yr doctoral students in educational administration. Part of the doctoral core in educational administration.

**914 Strategy and University Leadership G 3**

Advanced study of institutional strategy, resource management and leadership issues for colleges and universities.

Prereq: 806 and 842, or permission of instructor. Course for PhD and advanced master's students interested in institutional leadership roles.

**915 Professional Development in Higher Education G 3**

Introduction to research and theoretical foundations of organizational, faculty, and instructional development in higher education; emphasis on major issues and careers in professional development.

Prereq: 851. Focus on professional development in higher education. Focus on professional development in higher education.

**916 Data Based Decision Making in Educational Administration G 3**

Examines research in educational administration from a critical perspective.

Prereq: Admission to PhD program. Limited to PhD students in ed-admin.

**922 Educational Policy in Democratic Society G 3**

Focus on conceptions of democracy, democratic aims of public education, and the processes of developing, implementing and analyzing policies that further those aims.

Au Qtr. 1 2.5-hr cl. Prereq: Doctoral students. Designed for doctoral students in the College of Education and Human Ecology. All others by permission of instructor.

**924 Pedagogy in Teacher Education G 6**

Provides for an in-depth study of and experiences with the dimensions of planning, instruction, and assessment at the professoriate level in teaching professional education.

Su Qtr.

**925 Seminars**

Prereq: Written permission of instructor. Students with permission of advisers may register for more than one section of 925 or for the same section two or more times.

**925.10 Educational Policy and Leadership G 2-5**

Repeatable.

**925.30 Educational Administration G 2-5**

Repeatable.

**925.32 Higher Education G 2-5**

Repeatable.

**925.36 Teacher Education G 2-5**

Repeatable. This course is graded S/U.

**925.40 History of Education and Comparative Education G 2-5**

Repeatable.

**925.44 Educational Administration and Supervision G 2-5**

Repeatable.

**925.46 Instructional Design G 2-5**

Repeatable.

**925.49 Curriculum and Instruction G 2-5**

Repeatable.

**925.50 General Professional Studies G 2-5**

Repeatable.

**927 History of the Universities G 3**

The university as an institution through 10 centuries; patterns of development in different countries; German, English, and American contributions to the idea of the American university.

**928 Inquiry in Teacher Education G 3**

Study of a variety of research in teacher education with emphasis on research on teacher effectiveness.

1 2.5-hr cl.

**929 Program Development in Teacher Education G 4**

Focuses in totality of teacher education through the development of a teacher preparation program.

Open only to PhD students.

**930 Internship in Higher Education G 6-12**

Students are assigned as a participant-observer in a work situation closely approximating their vocational goals, under the supervision of a qualified practitioner or professor.

Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**931 Applied Evaluation Design G 3**

Techniques for planning, implementing, and reporting the evaluation of programs in varied educational settings.

1 2-hr cl. Prereq: 765 or permission of instructor.

**932 Trends, Issues, and Problems in Teacher Education G 3**

Provides awareness and knowledge of critical events and circumstances related to teacher preparation.

**937 Field Experiences and Clinical Practices in Teacher Education G 3**

An analysis of the standards for, and the development, implementation, and supervision of field experiences and clinical practices in teacher education.

Prereq: Master's degree, college supervision of student teachers, or permission of instructor.

**943 Interaction of the Student and the G 3**

A focus on the nature of the college environment, entering student, academic procedures, student performance, and student culture for those planning careers in college student personnel work.

2 1.5-hr cl.

**945 Practicum in Higher Education G 5**

Supervised practicum in higher education offices such as admissions, dean of students, academic affairs, housing, international students, financial aid, student union.

Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**946 The Writings of C. G. Jung: Implications for Educational Research and Practice G 3**

The writings of Jung are critically examined; implications for educational research and practice are discussed, with emphasis on student/professional development, interpersonal communications, and learning.

Prereq: Grad standing

**947 The Theory of Psychological Types: Applications to Education G 3**

The theory of psychological types (C.G. Jung) and related literature will be critically examined, with applications to learner/teacher behaviors, achievement, academic advisement, assessment methods, and research.

**949 Collective Bargaining and Contract G 3**

Introduction to the processes of collective bargaining in educational organizations.

1 2.5-hr cl. Prereq: 813, 846, 847, or permission of the instructor.

**952 Legal Aspects of School Administration G 3**

A study of statutory and case law, legal principles, and provisions relevant to educational administration, particularly in the areas of personnel, finance, curriculum, contracts, property, liability, and organization.

Prereq: 846 or equiv.

**953 School Community Relations G 3**

Principles and practice in developing and maintaining appropriate school community relationships; opinion analysis; communication processes; decision-making patterns.

Prereq: 846 or equiv.

**954 Theory and Practice Student Development in Higher Education G 3**

The organization and practice of student development services; college student development theory and approaches to student development.

Repeatable to a maximum of 6 cr hrs.

**955 Staff Personnel Administration G 3**

Study of personnel administration in educational institutions; theory, principles, and practices as they relate to personnel policy, recruitment, selection, orientation, appraisal, in-service education, promotion, collective negotiations, and general welfare.

Prereq: 846.

**956 School Finance G 3**

Examination of the theory and economics of financing public education; emphasis on sources of revenue, variations in ability and effort, state-local plans, and the federal role.

Prereq: 846.

**957 Business Administration of Schools G 3**

Function and role of business administrators in schools; emphasis on budgeting; payroll and accounting; purchasing; planning, constructing, operating, and

maintaining the school plant.

Prereq: 846.

**958 Educational Facility Planning G 3**

Problems and techniques in determining educational facility needs, evaluating facilities, planning for new construction and remodeling, and utilizing specialized personnel; related legal and financial aspects.

Prereq: 846 or equiv.

**959 Doctoral Core I G 4**

Analysis of significant research in organization theory.

2 2-hr cl, lab arr. Prereq: Master's degree and permission of instructor.

**960 Doctoral Core II G 4**

Advanced study of administrative problems, leadership, and organization behavior from personality and developmental perspectives.

Prereq: Master's degree and permission of instructor.

**961 Doctoral Core III G 4**

Advanced study of the political and social settings of education.

Prereq: Master's degree and permission of instructor.

**962 Board Relations G 3**

A study of the respective ideas and responsibilities of the board of education (board of trustees) and the superintendent (chief educational administrator) in the governance of the school district (college/university).

Prereq: 810, 813, 846, 849, 861, and 925D44.

**963 Legal Aspects of Special Education Administration G 3**

Legislative, executive, and judicial action pertaining to the rights of students with disabilities, with focus on the responsibilities of school administrators and state officials.

1 cl. Prereq: 840, 952N, or permission of instructor.

**966 Practicum in Educational Research and Evaluation G 3**

The utilization of research strategies and evaluation techniques in studying educational problems with emphasis upon the development, conduct, and completion of individual projects.

3 cl. Prereq: Previous courses in the basic sequence in educational research or evaluation or permission of instructor.

**967 Analyzing Qualitative Data in Educational Research G 5**

Focus on the interpretation of qualitative data and the writing of research reports.

1 3-hr cl, 6 hrs lab. Prereq: 800 and 966 or equivs.

**971 Legal Research in Educational Administration G 3**

Inquiry into the field of educational administration using legal research methodology.

Limited to doctoral students only.

**999 Research**

Research for thesis or dissertation purposes only.

**999.10 Educational Policy and Leadership G 1-18**

Repeatable. This course is graded S/U.

**999.30 Educational Administration G 1-18**

Repeatable. This course is graded S/U.

**999.32 Higher Education G 1-18**

Repeatable. This course is graded S/U.

**999.36 Teacher Education G 1-18**

Repeatable. This course is graded S/U.

**999.44 Educational Administration and Supervision G 1-18**

Repeatable. This course is graded S/U.

**999.46 Instructional Design G 1-18**

Repeatable. This course is graded S/U.

**999.49 Curriculum and Instruction G 1-18**

Repeatable. This course is graded S/U.

**999.50 General Professional Studies G 1-18**

Repeatable. This course is graded S/U.

**999.60 Quantitative Research, Evaluation and Measurement in Education G 1-18**

Repeatable. This course is graded S/U.

## Education: Physical Activity and Educational Services

Office of Student and Alumni Services

PE A100, 305 West 17th Ave 614-292-6787

Notice: All courses may not appear in this listing. (For a complete listing of courses, please contact the Office of Student and Alumni Services.

The areas of specialization and the courses in the School of Physical Activity and Educational Services are listed below:

### Special Education

251, 289.10, 650, 669, 676, 677, 693.10, 705, 712, 715, 718, 725, 742, 743, 746, 748, 749, 750, 751, 752, 764, 771, 772, 805, 812, 813, 824, 825, 826, 829, 830, 831, 832, 833, 847, 848, 861, 871, 873, 874, 884.10, 885.11, 885.12, 885.13, 888, 893.10, 925.10, 999.10

### Sport and Exercise Education, Humanities, Management, and Science

102-197, 200, 201, 204, 205, 208, 209, 221, 245, 250, 260, 262, 263, 289.03, 293, 300, 301, 302, 303, 304, 305, 307, 312, 314, 331, 360, 380, 400, 401, 402, 410, 414, 415, 489, 490.10 - 13, 500, 509, 514, 520, 521, 522, 525, 531, 542, 544, 545, 589, 600.02, 601, 605, 607, 610, 611, 625, 626.01, 626.02, 626.03, 630, 634, 635, 636, 637, 640, 643, 651, 652, 657, 660.01, 660.02, 660.03, 661, 676, 681, 685, 686, 689.01, 689.02, 693.20, 706, 707, 708, 709, 711, 713, 714, 720, 723, 724, 726, 730, 732, 740, 741, 754, 755, 759, 762, 765, 780, 785, 786, 787, 795, 802.01, 802.02, 802.03, 802.04, 806, 807, 808, 809, 819, 823, 835, 836, 837, 839, 840, 841, 850, 851, 855, 863, 865, 867, 868, 869, 870, 871, 872, 880, 884.20, 886, 889, 893.20, 925.20, 951, 952, 953, 989, 999.20

### Sport, Fitness and Health Program

102-197, 204, 250, 312, 314, 631

### Counselor Education, Rehabilitation Services, and School Psychology

270.01, 270.02, 270.03, 270.04, 271, 289.01, 728, 729, 767, 768, 773, 774, 775, 776, 779, 790, 791, 792, 796, 800.01, 800.02, 801.01, 801.02, 856, 857, 858, 859, 860, 877, 878, 882, 883, 897, 862, 864, 876, 884.25, 884.34, 884.63, 893.25, 893.34, 893.63, 925.25, 925.34, 925.63, 926.01-.09, 927, 928, 974, 975, 976, 977, 978, 979, 992, 995, 999.25, 999.34, 999.63.

### Workforce Development & Education

575.02-575.09, 612, 622, 623, 628.01, 628.02, 628.03, 629, 632, 633, 646, 648, 649, 655, 662, 663, 664, 665, 667, 668.01-.09, 672, 673, 674, 675, 693.40, 702, 757, 784, 788, 789, 803, 804, 811, 817, 818, 827, 828, 834, 838, 911, 912, 925.40, 931, 932, 934, 935, 961, 999.40.

### General Prerequisite for Courses Numbered 600 or 700

The minimal requirement for 600- and 700-level courses is junior standing.

### 100 School of PAES Survey U 1

Academic requirements and resources; University policies, college procedures and resources; student rights and responsibilities; academic areas of specialization; careers in PAES.

Prereq: Direct enrollment into the School of PAES. Not open to students with credit in other freshman survey courses.

### 102 First Aid U 2

A consideration of first aid practices to the injured; designed to lead to Red Cross certification in first aid.

### 103 Health and Well-Being in American Society U 3

A study of student health problems; designed to foster understandings and attitudes needed for intelligent decision-making related to present and future health needs.

Not open to students with credit for 200.

### 122 Techniques in Cardiopulmonary Resuscitation U 1

Development of skills and competency in recognizing and reacting to situations requiring cardiopulmonary resuscitation measures; completion leads to certification in CPR by American Red Cross.

This course is graded S/U.

### 137 Sport for the Spectator U 3

A study of the great American spectator sports including football, basketball, baseball, ice hockey, golf, tennis, and others which meet the interests of the class.

### 139 Introductory Program of Outdoor Pursuits

A study of and participation in the skills and knowledges of various sports and outdoor recreational activities in a natural setting. Not open to students who have completed a corresponding subdivision of 140.

Preregistration with department required. Travel and subsistence costs for activities will be borne by the student.

#### 139.01 Scuba II U 1

Introduction to fresh water diving.

Prereq: 179 or equiv. Student must provide wetsuit (rentals may be available). This course is graded S/U.

#### 139.02 Whitewater Rafting U 1

Introduction to basic whitewater rafting, including: river reading, paddling techniques, equipment, trip planning, and safety.

6 cr hrs, 24 lab hrs, arr trip. Prereq: Student must provide sleeping bag and appropriate clothing for river conditions. This course is graded S/U.

#### 139.03 Backpacking I U 1

Introduction to basic backpacking techniques, equipment, wilderness travel, emergency procedures, and environmental awareness.

Student must provide sleeping bag and hiking boots. This course is graded S/U.

#### 139.05 Winter Backpacking U 1

Designed for the experienced backpacker and covers winter camping, clothing, travel techniques, and advanced first aid.

Prereq: 139.03 or previous backpacking experience. Student must provide sleeping bag and hiking boots. This course is graded S/U.

#### 139.07 Experimental Sections U 1

Activities will be announced and publicized whenever an experimental section is deemed worthy of trial.

This course is graded S/U.

#### 139.09 Caving I U 1

Introduction to basic caving techniques, equipment, trip planning, and safety; cave related ecology, flora, and fauna will also be emphasized.

Student must provide sleeping bag. This course is graded S/U.

#### 139.10 Lightweight Backpacking U 1

Advanced backpacking activities including navigation, rope handling skills, and survival techniques.

Prereq: 139.03 or previous backpacking experience. Not open to students with credit for 140.05. Student must provide sleeping bag and hiking boots. This course is graded S/U.

#### 139.11 Rock Climbing U 1

Basic rock climbing techniques, rope handling, and safety systems will be covered.

Prereq: Good physical condition. Students must provide sleeping bag, appropriate footwear for the climbing trip and a 20' length of new 1" nylon webbing. This course is graded S/U.

#### 139.12 Beginning Trap Shooting U 1

An introductory course covering equipment selection and maintenance, shooting techniques, scoring, safety, and the opportunities for lifetime involvement.

Cost of ammunition and targets must be borne by the student. This course is graded S/U.

#### 139.13 Orienteering U 1

Introduction to the sport of orienteering involving compass skills, map reading, and cross-country travel; cross-country racing in its competitive form.

Student must provide compass and bear transportation costs. This course is graded S/U.

#### 139.16 Small Bore Outdoor Prone Rifle Shooting U 1

A continuation of 171.01 and 171.02 in the sport of outdoor prone shooting as practiced locally and nationally.

Arr. Prereq: 171.01 or 171.02 or permission of instructor. Repeatable to a maximum of 2 cr hrs. Fee for supplies required. This course is graded S/U.

## 140 Outdoor Pursuits Program

A study of and participation in the skills and knowledge of various sports and outdoor recreational activities in a natural setting.

Preregistration with dept is required.

### 140.03 Backpacking II U 3

Opportunity for practice in advanced camping and outing skills on an extended trip.

Prereq: Backpacking I or prior backpacking experience.

### 140.05 Lake Erie Sport Fishing U 3

An introduction to techniques and equipment used in Lake Erie sport fishing featuring Lake Erie angling trips with lectures that include related aquatic science information.

Su Qtr. 2-13 hrs/day. Prereq: Permission of instructor.

### 140.06 Skiing U 3

### 140.07 Experimental Sections U 3

Activities deemed worthy of developing on an experimental basis; activities will be announced and published when course is offered.

### 140.10 Wilderness Advanced First Aid U 3

Will prepare students for emergency situations that involve prolonged patient care and transport, severe environments, and improvised gear. 4 day Intensive live-in program.

Arr. Repeatable to a maximum of 6 cr hrs.

## 142 Archery

### 142.01 Archery I U 1

Introductory skills and knowledges essential for target shooting.

**143 Badminton****143.01 Badminton I U 1**

Beginning skills and knowledge essential for playing badminton.

**143.02 Badminton II U 1**

Continuation of 143.01 with emphasis on advanced strategy in doubles and singles; intermediate skills.

Prereq: 143.01 or equiv racquet sport experience.

**144 Basketball**

Skill and strategy necessary for playing basketball.

2 lab hrs arr. Prereq: Previous playing experience. Those with varsity experience should elect 631.02.

**144.01 Basketball Women U 1**

Limited to Women only.

**144.02 Basketball Men U 1**

Limited to Men only.

**145 Bowling**

Students must provide bowling shoes (rentals available) and have ID card.

**145.01 Bowling I U 1**

Introductory skills and knowledge essential for bowling.

**145.02 Bowling II U 1**

Emphasis on improving the average through increased efficiency in the use of the hook ball and spot bowling.

Prereq: 145.01 or ability to average at least 125.

**146 Boxing for Beginners U 1**

Fundamentals of boxing.

**147 Conditioning Principles U 1**

Students will have the opportunity to study conditioning materials and principles. Register for desired concurrent sections using 148 decimal designation.

1 1-hr class. Prereq: Must take 148.01 or 148.02 or 148.03 or 148.04 or 148.05 or 148.06 concurrently.

**148 Conditioning Activities**

Students will have the opportunity to experience a conditioning activity of their choice.

3 1-hr lab. Prereq: Must take 147 concurrently.

**148.01 Circuit Training U 1**

Prereq: Must be taken concurrently with 147.

**148.02 Jogging U 1**

Prereq: Must be taken concurrently with 147.

**148.03 Swimming U 1**

Prereq: Must be taken concurrently with 147.

**148.04 Weight Training U 1**

Prereq: Must be taken concurrently with 147.

**148.05 Cardio Equipment Training U 1**

Prereq: Must be taken concurrently with 147.

**148.06 Rhythmic Aerobics U 1**

Prereq: Must be taken concurrently with 147.

**149 Lifetime Fitness Programs**

Continued application of the principles covered in 147 and 148.

Prereq: Must have taken 147.

**149.01 Circuit Training U 1**

This course is graded S/U.

**149.02 Jogging U 1****149.03 Swimming U 1****149.04 Weight Training U 1****149.05 Cardio Equipment Training U 1****149.06 Rhythmic Aerobics U 1****150 Increasing Free Living Physical Activity U 2**

Web-based course to promote self-regulation skills to support adherence to physical activity.

**151 Advanced Strength and Conditioning U 3**

Strength and power training; advanced anaerobic and speed conditioning.

Prereq: Permission of instructor based on past strength training and experience and current conditioning level as determined by pretest. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**152 Social Dance**

Opportunities provided to learn a variety of standard social dances such as foxtrot, waltz, swing; dance positions; and related cultural paradigms.

**152.01 Social Dance I Women U 1**

Introduction to basic steps and variations of selected dances.

Cross-listed with 152.02.

**152.02 Social Dance I Men U 1**

Cross-listed with 152.01.

**152.03 Social Dance II Women U 2**

Continuation of 152.01 with emphasis on style and technique; introduction of additional social dance contents.

Prereq: 152.01 or equivalent experience. Cross-listed with 153.04.

**152.04 Social Dance II Men U 2**

Continuation of 152.02 with emphasis on style and technique; introduction of additional social dance contents.

Prereq: 152.02 or equivalent experience. Cross-listed with 152.03.

**152.05 Social Dance III Women U 2**

Advanced social dance skills and techniques with increased emphasis on design and development of steps and variations; a performance project is required.

Prereq: 152.03 or equivalent experience. Repeatable to a maximum of 4 cr hrs. Cross-listed with 152.06.

**152.06 Social Dance III Men U 2**

Advanced social dance skills and techniques with increased emphasis on design and development of steps and variations; a performance project is required.

Prereq: 152.04 or equivalent experience. Repeatable to a maximum of 4 cr hrs. Cross-listed with 152.05.

**153 Recreational Dance**

Beginning and intermediate level courses in folk/square dance and other recreational dances.

**153.05 Folk and Square Dance I U 1**

Introduction to basic folk and square dance steps and patterns.

**154 Fencing****154.01 Fencing I U 1**

Fundamentals of foil fencing.

**154.02 Fencing II U 1**

Continuation of 154.01 with emphasis on the bout.

Prereq: 154.01 or equiv.

**155 Physical Fitness Training for the Reserve Officer Training Corps**

Designed to allow ROTC student to demonstrate improvement in overall physical conditioning, body composition, and general health.

3 1-hr cl. Concurrent enrollment in Military Science Program. Limited to students enrolled in Reserve Officer Training Corps (ROTC).

**155.01 Army U 1**

Limited to students enrolled in Army Reserve Officer Training Corps (ROTC). Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**155.02 Navy U 1**

Limited to students enrolled in Naval Reserve Officer Training Corps (ROTC). Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**156 Football**

Fundamental skills of touch football.

**156.03 Flag Football U 1**

Co-ed sections for experienced touch football players.

**157 Golf****157.01 Golf I U 1**

Introductory skills and knowledge preparatory to course play with emphasis on irons.

**157.02 Golf II U 1**

Continuation of 157.01 with emphasis on woods and on introduction to course play.

Prereq: 157.01 or equiv. Advanced players should elect 631.06.

**158 Gymnastics**

Development and practice of gymnastic skills.

Subdivisions 158.01 and 158.04 not repeatable.

**158.10 Tumbling I U 1**

Introduction to basic through advanced-basic tumbling skills.

**158.11 Tumbling II U 1**

Introduction to advanced-basic through intermediate tumbling skills.

Prereq: 158.10 or previous experience.

**161 Horseback Riding**

Travel and stable costs (rental of horse and equipment) for activities must be borne by the student. Offered only when arrangements can be made with local stables. Preregistration with dept required.

**161.01 Horseback Riding I, Western Style U 1**

Student will safely halter, lead, groom, saddle, bridle, ride at a walk and jog/canter in the Western riding discipline.

This course is graded S/U.

**161.02 Horseback Riding II, Western Style U 1**

Student will effectively troubleshoot equipment, walk, jog, or trot without breaking gait, halts on command; learn to canter/lope, and good seat and control.

Prereq: 161.01 or prior experience. This course is graded S/U.

**161.03 Horseback Riding III, Western Style U 1**

Student will refine level I and II skills, effectively execute patterns and transitions; identify and explain bits, clean equipment, identify concentrates and roughages (feeding).

Prereq: 161.02 or equiv. This course is graded S/U.

**161.05 Horseback Riding I, English Style U 1**

Student will safely halter, lead, groom, saddle, bridle, ride at a walk and jog/canter in the English riding discipline.

This course is graded S/U.

**161.06 Horseback Riding II, English Style U 1**

Student will effectively access equipment; walk, jog, or trot without breaking gait, halts on command; learn to canter/lope, and good seat and control.

Prereq: 161.05 or prior experience. This course is graded S/U.

**161.07 Horseback Riding III, English Style U 1**

Student will refine level I and II skills, effectively execute patterns and transitions; identify and explain bits, clean equipment, be able to explain feeding basics.

Prereq: 161.06 or equiv. This course is graded S/U.

**162 Ice Skating**

Basic skills of ice skating.

Students must provide skates (rentals available).

**162.01 Ice Skating I U 1**

Fundamentals of balance, movement, and safety on the ice; forward, backward, and stopping. Guidance in choice, use and care of equipment.

Open only to beginners. This course is graded S/U.

**162.02 Ice Skating II U 1**

Elementary skating with emphasis on correct technique for basic skills.

Prereq: 162.01 or ability to skate forward, backward, and stop with no balance problems.

**162.03 Ice Skating III U 2**

Power skating; designed for persons having had more than 30 hrs on ice and who can execute the basic strokes (including back crossovers) with correct techniques.

Prereq: 162.02 or 162.04 or equiv skill level.

**163 Figure Skating**

Figure skating skills and techniques including the elements of free skating and compulsory figures.

Students must provide figure skates (no rentals). VPA Admis Cond courses.

**163.01 Figure Skating I U 2**

Lectures: survey of figure skating includes history, types of competition, judging, recreational, and show skating. Lab: introduction to free skating, compulsory figures, and dance skating.

Prereq: 162.03 or permission of instructor.

**163.02 Figure Skating II U 2**

Intermediate and advanced freestyle; intermediate: all single jumps, basic spins, and advanced footwork; advanced: jump combinations, spin combinations, and double jumps.

Prereq: 163.01 or permission of instructor.

**163.03 Creative Skating U 2****163.05 Competitive Figure Skating U 2**

Compulsory figures and freestyle designed to prepare skater for United States Figure Skating Association tests and competitions.

Prereq: 163.02 or permission of instructor.

**164 Ice Hockey**

Fundamental skills and knowledges essential for playing ice hockey.

Students must provide hockey skates (rentals available).

**164.01 Ice Hockey I U 1**

Introductory skills and techniques of ice hockey.

Prereq: 162.02 or equiv. Open only to beginners.

**164.03 Ice Hockey II U 1**

Intermediate-advanced play.

Prereq: 164.01 or previous playing experience.

**168 Movement and Self Awareness U 1**

Student's natural movement vocabulary is explored and extended through movement experiences designed to heighten self and social awareness; creative rather than imitative approach is used.

**169 Martial Art Forms**

An exploration and orientation to Eastern movement martial art forms.

**169.01 Aikido U 1**

An introduction to a harmonizing martial art, designed to increase physical and mental centeredness; to improve grace, balance, awareness, and general movement abilities; to aid in self defense.

**169.04 Judo I U 1**

Introductory skills and knowledge essential in throwing techniques and mat work of Judo.

**169.05 Judo II U 2**

Intermediate skills and techniques of Judo as well as an introduction to the

skills involved in competitive Judo.

Prereq: 164.04 or equiv or certified Gokyu by National Collegiate Judo Association.

**169.06 Judo III U 2**

Advanced skill acquisition in techniques of sport Judo and experience in competitive Judo.

Prereq: 169.05 or equiv or certified Yonkyu by National Collegiate Judo Association.

**169.07 Karate I U 1**

Introduction to the fundamental forms and techniques of Karate.

**169.08 Karate II U 2**

The refinement of basic forms and techniques and the introduction of advanced forms; more emphasis on free fighting.

Prereq: 169.07 or equiv.

**169.10 Shuai Chiao U 1**

Introduction to the various forms and techniques of Shuai Chiao-Chinese wrestling, a combination of Karate and Judo.

**169.13 Tae Kwon Do I U 1**

Beginning course in the Korean martial art form; includes etiquette, basic blocking, thrusting and kicking techniques, and self defense.

**169.14 Tae Kwon Do II U 2**

Continuation of Tae Kwon Do I, refinement of technique and form; introduction of intermediate forms and skills, breaking, and conditioning techniques.

Prereq: 169.13.

**169.16 T'ai Chi Ch'uan U 1**

An introduction to T'ai Chi Ch'uan with emphasis on an exploration of body/energy awareness.

Repeatable to a maximum of 3 or hrs.

**169.17 T'ai Chi Ch'uan II U 1**

Intermediate forms and techniques of T'ai Chi Ch'uan and experience in joint hands operation as well as in combat T'ai Chi Ch'uan.

Prereq: 169.16 or equiv. Not open to students with credit for 169.17.

**169.18 T'ai Chi Ch'uan III U 2**

Further development of the form practiced in T'ai Chi Ch'uan II; principles of breath control, mediation, and self massage are introduced.

Prereq: 169.17. Repeatable to a maximum of 4 or hrs.

**170 Racquetball****170.01 Racquetball I U 1**

Beginning skills and knowledge for students with no prior experience in racquetball.

**170.02 Racquetball II U 1**

Continuation of 170.01 with emphasis on strategy and the playing of singles.

Prereq: 170.01 or equiv.

**171 Riflery****171.01 Riflery I U 1**

Introduction to target shooting techniques in the prone and standing positions.

**171.02 Riflery II U 1**

A continuation of 171.01 stressing the other shooting positions.

Prereq: 171.01.

**171.03 International Air Pistol Target Shooting U 1**

Introduction to the sport of international air pistol shooting.

**172 Self Defense**

Skills and understandings essential to defend oneself against an aggressor with emphasis on avoiding attack.

**172.01 Self Defense Women U 1**

Limited to women only.

**172.02 Self Defense Men U 1****174 Soccer**

Techniques and knowledge essential for playing soccer.

**174.01 Women's Soccer U 1****174.03 Men's Soccer U 1****175 Softball**

Skills and knowledge necessary for playing softball.

**175.01 Women's Slo Pitch I U 1****175.02 Women's Slo Pitch II U 1**

Prereq: Intermediate level skills.

**175.06 Men's Slo Pitch I U 1****175.07 Men's Slo Pitch II U 1**

Prereq: Intermediate skills.

**176 Squash U 1**

Skills and knowledge necessary for playing squash.

2 lab hrs arr.

**178 Swimming and Diving**

Fundamental swimming and diving skills with emphasis on personal safety. Student must provide bathing suit. See 147 and 148 for swim conditioning.

**178.01 Swimming I U 2**

Beginning swimming.

Open only to non-swimmers and students with no deep water experience. This course is graded S/U.

**178.02 Swimming II U 2**

Elementary swimming skills for those who can swim in deep water but no farther than 2 pool lengths (50 yards).

**178.03 Swimming III U 2**

Intermediate skills for those who can swim at least 100 yards using the front crawl and at least 2 other strokes.

Prereq: 178.01 or equiv.

**179 Skin and Scuba Diving U 3**

Skills and knowledge essential for safe diving and preparation for open water checkout dives.

Prereq: Ability to swim .25-mile in 10 min. Student must provide bathing suit and bear cost of required special scuba medical exam. See 139 and 140 for additional offerings.

**180 Springboard Diving**

Prereq: 178.02 or equiv. Student must provide bathing suit.

**180.01 Springboard Diving I U 1**

Fundamentals of diving from the one meter (low) board.

**182 Life Saving and Water Safety**

Student must provide bathing suit. Repeatable to a maximum of 12 hrs.

**182.02 Water Safety Instructor U 3**

Designed to lead to certification as an American Red Cross Water Safety Instructor.

**182.05 Lifeguard Training I U 3**

Designed to lead to ARC Lifeguard Training and CPR for the Professional Rescue certification.

Prereq: 178.03 or equiv.

**183 Water Polo U 2**

Introductory skills and knowledge essential in the sport of water polo.

Prereq: 178.03 or equiv. Student must provide bathing suit.

**185 Table Tennis****185.01 Table Tennis I U 1**

Beginning skills and knowledge essential for playing table tennis with emphasis on the use of backspin and topspin in the singles game.

**185.02 Table Tennis II U 1**

Continuation of 185.01 with emphasis on advanced strokes and their application in the playing of singles and doubles.

Prereq: 185.01 or the ability to do backspin and topspin serves.

**188 Tennis**

Skills and knowledge essential in playing tennis.

Student must provide racket and 6 balls; advanced students should elect 631.10.

**188.01 Tennis I U 1**

Beginning skills; forehand, backhand, and serve-singles play.

**188.02 Tennis II U 1**

Elementary skills; introduction to doubles play.

Prereq: 188.01 or equiv.

**190 Acroport**

subdivisions not repeatable.

**190.04 Acroport I U 1**

Basic skills in tumbling, and hand balancing.

**191 Volleyball**

Advanced students should elect 631.14.

**191.01 Volleyball I U 2**

Introduction to power volleyball.

**191.02 Volleyball II U 2**

Continuation of power volleyball fundamental skill perfection and game strategies woven to produce an intermediate playing experience.

Prereq: 191.01 or equiv.

**195 Yoga**

Introduction to fundamental techniques and basic yogic principles of pranayama (breath control), asana (posture), relaxation, and meditation; emphasis on major postures.

**195.01 Yoga I U 1****195.02 Yoga II U 1**

Asanas (postures) at the intermediate level of Hatha yoga are introduced; continued development and practice of relaxation and meditative techniques;

further exploration of yogic philosophy.

Prereq: 195.01 or equiv.

**195.03 Yoga in Depth U 3**

This course will allow students the opportunity to explore the theory behind the practice of yoga, in addition to its meditative benefits.

Prereq: 195.01 or permission of instructor.

**196 Varsity Squads**

Participation as a player on a varsity squad.

Prereq: Admission by tryout. Repeatable to a maximum of 10 cr hrs in any combination of decimal subdivisions.

**196.01 Baseball U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.02 Basketball U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.03 Cross Country U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.04 Fencing U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.05 Field Hockey U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.06 Football U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.07 Golf U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.08 Gymnastics U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.09 Ice Hockey U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.10 Lacrosse U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.11 Pistol U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.12 Riflery U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.13 Soccer U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.14 Softball U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.15 Swimming U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.16 Swimming (Synchronized) U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.17 Tennis U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.18 Track and Field U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.19 Volleyball U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.20 Wrestling U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.21 Rowing U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**196.22 Diving U 2**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**197 Competitive Club Sports U 1**

Participation as a member of a competitive club sport team.

Prereq: Prior experience on at least one competitive club sport team and soph standing. Repeatable to a maximum of 3 cr hrs. Preregistration with dept required. This course is graded S/U.

**204 Sexuality and Health U 3**

The study of sexuality as an aspect of the healthy individual; the demythologizing of sexual beliefs and behaviors; sexual behavior and attitudes in young adults.

**205 Social Recreation U 2**

Age characteristics and developmental levels relative to social activities; techniques, rules, strategy and social behaviors in a range of cultural activities, i.e., social games and pastimes.

SS Admis Cond course.

**208 Orientation to Sport and Leisure Studies U 3**

A general introduction to sport and leisure studies. Examination of the current scene, curricular opportunities, careers, and needed personal competencies. Two observations in various sport and leisure settings.

**209 Orientation to Exercise Science U 1**

A general introduction to exercise science focusing on instrumentation; measurement, and training equipment.

Open only to students admitted to the Exercise Science program.

**214 Introduction to Sexuality Studies U 5**

This course will provide an introduction to sexuality studies through an interdisciplinary approach. To apply the knowledge learned, this course requires a fieldwork component.

22-hr cl. Prereq: English 110 or 110.01 or 110.02 or 110.03. Not open to students with credit for Comp Std 214. Cross-listed in Comparative Studies.

**221 Sports Officiating**

Study of playing rules, rule interpretation, techniques, and mechanics of officiating various interscholastic and intercollegiate athletic sports.

Prereq: Satisfactory evidence of playing skill in the elected athletic sport.

**221.01 Baseball U 2****221.02 Basketball U 2**

Students completing the course are eligible for certification to officiate in Ohio schools.

**221.04 Football U 2**

Students completing the course are eligible for certification to officiate in Ohio schools.

**221.12 Wrestling U 2**

Students completing the course are eligible for certification to officiate in Ohio schools.

**221.14 Volleyball U 2****221.15 Softball U 2****245 Sport and Recreation Leadership U 3**

Methods and materials for comprehensive programming with individuals and different groups in a variety of sport and recreation settings.

Prereq: 208, or permission of instructor.

**250 How to Avoid Dying from Cancer Now and Later U 2**

Discussion of the latest findings on avoiding cancer through lifestyle choices and assessment of one's family health history.

**251 Introduction to the Special Education Profession U 5**

Overview of Special Education, including individuals identified as gifted, and those with sensory, orthopedic, behavioral, and learning problems.

5 cl.

**260 Sport in Contemporary America U 3**

A study of the contemporary sport scene in America; the issues, the controversies confronting the athlete, the coach, the administrator, and the general public.

Not open to students with credit for Edu P&L 260.

**262 Coaching the Young Athlete U 3**

Skills and knowledges essential to planning, coaching, and supervising competitive sports programs which are consistent with the needs of children.

**263 Special Issues Affecting Contemporary Student-Athletes U 3**

An exploration of current topics and problems concerning collegiate athletes and the decision-making skills needed to facilitate college adjustment.

**270 Seminars in Career and Self Development**

Examination of self in relation to educational and career goals; self assessment, decision making, identification and use of campus resources, employability, and work adjustment skills.

Repeatable hrs, including cr hrs in Ed-P&L 270.04; with a maximum of 3 cr hrs in any decimal subdivision.

**270.01 Self-Career Development U 3**

Designed to provide opportunities for self-exploration and skill development; exploration of and clarification of vocational and educational interests.

This course is graded S/U.

**270.02 Personal Growth to Increase Career Competencies U 3**

Designed to provide opportunities to assist in self-exploration of and clarification for more effective development beyond the level of average performance.

This course is graded S/U.

**270.03 Study Skills Related to Career Goals U 3**

Designed to assist underachieving students with their efforts to ascertain and resolve the causes of low academic productivity; attitudinal and behavioral skills emphasized.

This course is graded S/U.

**270.04 Career Development and Leadership Training in Higher Education U 3**

Designed to explore possible careers in higher education and to conduct leadership training in terms of higher educational functions and organizations.

This course is graded S/U.

**271 Seminar in Exploring Helping Relationships: Teaching/Learning U 3**

Focus on self development, decision making, world of work for students exploring careers through placement in educational, and community agency settings. Repeatable to a maximum with special written permission, when unusual circumstances warrant.

Repeatable to a maximum of 6 cr hrs. To be taken concurrently with field experience 289.01.

**289 Directed Field Experience**

Professional service in school or community settings.

Preregistration with school required.

**289.01 Intro Experience in a School System U 2-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**289.02 Experience in a Community Agency U 2-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**289.03 Sport and Leisure Studies I U 2,3**

Open only to students admitted to a major in PAES or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**289.04 Sport and Leisure Studies II U 3**

Open only to students admitted to a major in PAES or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**289.10 General Special Education U 2-5**

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**293 Individual Study: Sport and Exercise Education, Humanities, Management, and Science**

For individuals who wish to pursue special studies in work not normally offered in courses.

Prereq: Permission of instructor.

**293.20 Sport and Exercise Education U 1-4**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**293.21 Sport and Exercise Humanities U 1-4**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**293.22 Sport and Exercise Management U 1-4**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**293.23 Sport and Exercise Science U 1-4**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Study: Sport and Exercise Education, Humanities, Management, and Science**

For groups of students who wish to pursue special studies.

Prereq: Permission of instructor.

**294.20 Sport and Exercise Education U 1-5**

Repeatable to a maximum of 10 cr hrs.

**294.21 Sport and Exercise Humanities U 1-5**

Repeatable to a maximum of 10 cr hrs.

**294.22 Sport and Exercise Management U 1-5**

Repeatable to a maximum of 10 cr hrs.

**294.23 Sport and Exercise Science U 1-5**

Repeatable to a maximum of 10 cr hrs.

**300 Health Education for Elementary Teachers U 3**

The teacher's responsibility for health of school child; screening, referral, vision and hearing, nutritional problems, instructional programs, emergency care, and teacher's health.

Prereq: 103 and; admission to EDU.

**301 Field Sports U 3**

Acquisition of performance skills in a variety of field sports, including rules, traditions, and values of the sports and their roles in various sport cultures.

Open only to students admitted to a major in PAES or permission of the instructor.

**302 Racquet Sports U 3**

Acquisition of performance skills in a variety of racquet sports, including rules, traditions, and values of the sports and their roles in various sport cultures.

Open only to students admitted to a major in PAES or permission of the instructor.

**303 Individual Sports U 3**

Acquisition of performance skills in a variety of individual sports, including rules, traditions, and values of the sports and their roles in various sport cultures.

Open only to students admitted to a major in PAES or permission of the instructor.

**305 Court Games U 3**

Acquisition of performance skills in a variety of court games, including rules, traditions, and values of the games and their role in various sport cultures.

Open only to students admitted to a major in PAES or permission of the instructor.



**307 Adventure/Experiential-Based Activities U 3**

Acquisition of performance skills including philosophy, facilitation techniques, and safety of adventure/experiential-based activities and their roles in various sport cultures.

Open only to students admitted to a major in PAES or permission of instructor.

**312 Issues in Alcohol/Drug Use and Abuse U 3**

Provides an understanding of the dynamics of substance abuse.

**314 AIDS: What Every College Student Should Know U 3**

A review of the physiological, psychological, social, legal, and moral issues surrounding the disease AIDS with emphasis placed on responsible decision making about one's lifestyle.

**315 Positive Transitions for Intercollegiate Student-Athletes U 2**

Addresses transitional issues unique to intercollegiate student-athletes. Students will learn appropriate developmental "Life Skills" needed to facilitate their personal and career adjustment.

Prereq: Jr standing or permission of instructor. This course is graded S/U.

**360 Kinesiology U 3**

A study of functional anatomy and biomechanics and their application to human movement.

**361 Kinesiology Laboratory U 1**

The application of functional anatomy and biomechanics to human movement.

Prereq or concur: 360.

**380 Exercise Physiology and Sport Performance U 4**

Provide students with information and skills that will enhance their understanding of the principles of exercise physiology and athletic fitness, and to improve their ability to prepare athletes for competition.

4 cl. Prereq: EEOB 232 or Zoology 232 or permission of instructor. Not open to students with credit for 414 or 514. Open only to students admitted to a PAES major or the coaching education minor who have completed Zoology 232, EEOB 232 or permission of instructor.

**381 Introduction to Exercise Physiology Laboratory U 1**

The laboratory practice of exercise physiology testing methods.

Prereq or concur: 380. Prereq: EEOB 232 or Zoology 232 or permission of instructor. Not open to students with credit for 415 or 515.

**401 Fundamentals of Epidemiology and Biostatistics U 3**

Introduction to factors affecting the distribution of health problems in populations and to disease causation.

Prereq: 201 or permission of instructor.

**410 History of Leisure and Physical Activities in Western Society U 3**

Examination of the evolution of leisure, recreation, and physical education as personal, cultural, and institutional activity.

Prereq: 208 or permission of instructor.

**411 College Sport U 3**

Explores historical development of college sport; the influence of race, ethnicity, class, and gender.

**414 Applied Physiology of Exercise I U 3**

In-depth examination of the effects of acute and chronic exercise on the human body.

Prereq: Physiol 311, or PhysioCB 311; concur: 415.

**415 Applied Physiology of Exercise Laboratory Experience I U 1**

In-depth examination of the effects of acute and chronic exercise on the human body through a laboratory experience.

Prereq: Physiol 311, or PhysioCB 311; concur: 414.

**489 Advanced Field Experience**

Directed teaching experience for advanced undergraduate students in Edu PAES.

**489.05 Interscholastic Coaching U 6-8**

Directed coaching experience.

SLS coaching strand prereqs are 643, 657, 661. Open only to students admitted to a major in PAES or coaching education minor or permission of the instructor. Repeatable to a maximum of 20 cr hrs.

**489.09 Teaching in Physical Activity Settings U 2**

Directed teaching experience for advanced undergrad students in Sport and Leisure Studies.

Prereq: Cum GPA 2.75. Open only to students admitted in a major in PAES. Repeatable to a maximum of 20 cr hrs. Taken concurrently with 601. This course is graded S/U.

**490 Fitness Program Development and Evaluation**

Only one course in the series may be taken per quarter.

**490.10 Graded Exercise Testing U 3**

Practical experience conducting graded exercise tests using treadmill and cycle ergometer.

6 hours of arranged practical experience/directed practice. Prereq: Current First Aid/CPR certification, 685 and 660.01.

**490.11 Body Composition Evaluation U 2**

Practical experience in the assessment of body composition using anthropometers and hydrostatic weighing procedures.

4 hours of arranged practical experience/directed practice. Prereq: Current First Aid/CPR certification.

**490.12 Muscular Strength and Endurance U 2**

Practical experience in assessing anaerobic power and strength using isokinetic and isotonic methods.

4 hours of arranged practical experience/directed practice. Prereq: Current First Aid/CPR certification.

**490.13 General Fitness Evaluation U 2**

Practical experience conducting fitness/wellness screening for campus community (students, faculty and staff).

4 hours of arranged practical experience/directed practice. Prereq: Current First Aid/CPR certification.

**500 Science of Physical Activity for Health Care Professionals U 3**

Primary human physiological systems and their response to acute and chronic exercise stimuli.

Au Qtr. 3 cl. Prereq: EEOB 232 or Zoology 232 or equiv with permission of instructor. Not open to Exercise Science or Sport and Leisure Studies undergrad majors. Repeatable to a maximum of 6 cr hrs.

**501 Science of Exercise for Health Care Professionals Laboratory U 1**

Exercise physiology-related laboratory assessment techniques.

Au Qtr. 2-hr lab. Prereq: EEOB/Zoology 232. Repeatable to a maximum of 2 cr hrs.

**509 Sport and Leisure Service Delivery and Promotion U 3**

The purpose of this course is to acquaint students with issues related to the promotion of sport and leisure services.

Open only to students admitted to a major in PAES or permission of instructor.

**514 Applied Physiology of Exercise II U 3**

Continuation of 414.

Prereq: 414; concur: 515.

**515 Applied Physiology of Exercise Laboratory Experience II U 1**

Continuation of the laboratory experience of 415.

Prereq: 414 and 415; concur: 514.

**520 Content in Elementary Physical Education U 6**

Development and application of content and teaching strategies in elementary physical education.

2.3-hr cl. Prereq: 301, 302, 303, 307, 360, 380, 489.09, 521, 531, 542, and 601. Student must receive a B- or higher to be prepared for subsequent courses.

**521 Sport Skill and Strategy Analysis I U 3**

Analysis and diagnosis of closed sport and movement skill performance.

Open only to students admitted to a major in PAES or permission of instructor.

**525 Promoting Behavior Change in Sport, Leisure and Exercise U 3**

Introduction to behavior change strategies, to include the acquisition, maintenance, and generalization of behavior change useful in sport and exercise settings, and leisure activities.

Open only to students admitted to a major in PAES or permission of the instructor.

**531 Social Issues and Concerns in Sport, Leisure, and Exercise Behavior U 5**

Examination of social and ethical issues such as discrimination, drug use, and the significance of the sport experience to individuals and sub-groups in the United States. Prereq: Completion of first and second writing courses.

Open only to students admitted to a major in PAES or permission of instructor. GEC/LAR course.

**542 Lifespan Motor Development U 5**

Physical growth, development, and motor behavior across the lifespan.

3 cl and 2 2.5-hr clinical experiences.

**544 Sport and Leisure Perspectives for Special Populations U 5**

Introduction to sport and leisure for persons with special needs across school, community, and clinical based programs.

Open only to students admitted to a major in PAES or permission of the instructor.

**545 Programming in Sport and Recreation U 3**

Examination of the development, organization, and implementation of programs and activities in sport, recreation, and leisure.

Prereq: 245. Open only to students admitted to a major in PAES or permission of instructor.

**575 Career and Technical Education Teacher Licensure Clinics**

Development of basic cognitive and performance skills required to earn a two-year teaching license by new career and technical education teachers.

Prereq: Current employment as a career and technical education teacher.

**575.02 Inservice I U 2**

Repeatable to a maximum of 24 cr hrs.

**575.03 Inservice II U 2**

Prereq: 575.02. Repeatable to a maximum of 24 cr hrs.

**575.04 Inservice III U 2**

Prereq: 575.03. Repeatable to a maximum of 24 cr hrs.

**575.05 Two Week Followup Program U 4**

The refinement of curriculum development leadership and human relations skills required by employed, two-year licensed career and technical education teachers. 8 hrs/day for 10 days.

Prereq: 575.04. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**575.06 Career and Technical Education Teaching: In-Service IV U 1**

The development and refinement of basic design and development skills required of a second year career and technical education teacher to earn a two-year teaching license.

**575.07 Career and Technical Education Teaching: In-Service V U 1**

Continuation of 575.06.

Prereq: 575.06.

**575.08 Career and Technical Education Teaching: In-Service VI U 1**

Continuation of 575.07.

Prereq: 575.07.

**589 Internship**

Directed and supervised experience in a professional setting.

Preregistration with the school required.

**589.01 Exercise Science U 6-8,15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**589.02 Health Promotion U 6-8,15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**589.03 Sport and Leisure Studies U 6-15**

Prereq: Open only to students admitted to a major in PAES with senior standing who have completed 289.03 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**H599 Honors Course U 3-5**

A program of accelerated study for students with special aptitudes.

Arr cl. Prereq: Enrollment in the honors achievement program and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**601 Teaching Sport, Leisure, and Exercise U 3**

To introduce teaching and management skills associated with student learning, design of instructional materials and techniques for implementation, and strategies to teach diverse learners in various sport, leisure, and exercise settings.

Open only to students admitted to a major in PAES or permission of the instructor. Taken concurrently with 489.09. Student must receive a B- or higher to be prepared for subsequent courses.

**605 Health Counseling U G 3**

To provide educators and counselors opportunity to develop skills and knowledge to advise students and clients confronted with personal health concerns.

Prereq: 5 hrs of psych; admission to EDU.

**607 Legal Aspects of Sport and Physical Activity U 4**

Development of a responsible and management skills associated with student learning, design of instructional materials and techniques for implementation, and strategies to teach diverse learners in various sport, leisure, and exercise settings.

Open only to students admitted to a major in PAES or permission of the instructor. Taken concurrently with 489.09. Student must receive a B- or higher to be prepared for subsequent courses.

**610\* Women's Sport History U G 4**

Examines women's sporting experiences from primitive cultures to contemporary societies; investigates influence of class, economics, power relationships, education, and views of the body.

Not open to students with credit for Edu P&L 610.

**611 History of Physical Education and Sports from Ancient Times to 19th-Century Europe U G 3**

A history of physical education and sports which includes primitive societies, Greek and Roman civilizations, the medieval period, and European countries in the 18th and 19th centuries.

Not open to students with credit for Edu P&L 622.

**612 Alcohol and Drug Education U G 3**

The study and development of techniques and programs to prevent or reduce psycho-social problems associated with drug misuse.

**614 Sexuality and Sport U G 5**

Course uses an interdisciplinary lens to examine how conceptions of sexuality shape and are shaped by US sport.

**615 Sport and Social Values U 3**

Explores the role social values play in sport, examines (1) sport and civic virtue; (2) relationship between sports and fair play/social justice; (3) violence/abuses in sport.

**620 Coaching of Athletic Sports**

Study in the theory, strategy, and mechanics of coaching various interscholastic; intercollegiate athletic sports.

Prereq: Advanced skill level in the elected sport, jr standing and permission of instructor.

**620.01 Baseball U G 3****620.02 Basketball U G 3****620.04 Football U G 3****620.08 Soccer U G 3****620.12 Wrestling U G 2****620.14 Volleyball U G 2****622 Business Technology Education I U G 3**

The relationship of business technology to business education subjects is discussed; foundational understanding and skill/application development in business education subjects.

**623 Business Technology Education II U G 3**

Advanced applications of business technology to business education subjects.

**624 Foundations of Workforce Development and Education U G 4**

Study of an integrated approach to workforce development and education programs and issues.

**625 History of Physical Education and Sports in the United States U G 3**

The development of physical education and sports in the United States from colonial times to the present and the factors which have affected their growth.

**626 Sport and Popular Culture Series**

A variety of themes present in selected popular cultural forms dealing with a variety of sports such as football, basketball, baseball, and track and field.

**626.01 Sport and Popular Culture Overview U G 3****626.02 Sport and Popular Culture - Race and Gender U G 3****626.03 Sport and Popular Culture - Baseball U G 3**

Focus on baseball as it has appeared in film and literature of and about the early 1900's to the present day.

**628 Clinical Internship**

20 hrs minimum equal 1 cr hr.

Prereq: EDP students with a CPHR of 2.50 or above, or grad students in good standing.

**628.01 Classroom Observations U G 3-15**

Observation of career and technical education classroom instruction in field-based educational setting.

Repeatable to a maximum of 15 cr hrs.

**628.02 Experience in Business U G 3-6**

Practical vestibule experience in a private sector setting to gain knowledge of an industry and to develop new skills and knowledge.

Repeatable to a maximum of 9 cr hrs.

**628.03 Teacher Aide U G 4-8**

Practical experience as a professor's aide in a summer teacher licensure training clinic or workshop.

Repeatable to a maximum of 8 cr hrs.

**630 Problems in Intramural Sports U G 2**

A critical analysis of intramural sports programs; problems of policy and administration of programs on the elementary, secondary, and college levels will be studied.

**631 Advanced Skill Techniques**

Advanced techniques of performance and a specialized and intense study of appropriate technical literature.

Prereq: Advanced skill level, jr standing and permission of instructor.

**631.02 Basketball U G 2**

This course will assist students in acquiring advanced performance skills and strategies in basketball.

Prereq: 144.

**631.04 Football U G 2**

This course will assist students in acquiring advanced performance skills and strategies in flag/touch football.

Prereq: 156.03 or equiv.

**631.05 Gymnastics U G 2****631.06 Golf U G 2****631.08 Soccer U G 2**

This course will assist students in acquiring advanced performance skills and strategies in soccer.

Prereq: 174.

**631.10 Tennis U G 2****631.14 Volleyball U G 2****631.15 Softball U G 2**

Prereq: 175 or equiv.

**631.20 Special Offerings U G 2**

Repeatable to a maximum of 10 or hrs.

**632 Software Applications for Business/Industry Teachers and Trainers U G 3**

Business/industry-oriented foundation to microcomputer applications frequently used by trainers and career and technical education teachers.

1 2.5-hr cl.

**633 Instructional Strategies for Career Based Intervention Programs U G 3**

Preparation and delivery of lessons, placement, and follow-up of students on-the-job.

Prereq: Edu major.

**634 Health and Physical Education for the Young Child U G 4**

Methods and materials dealing with instruction and evaluation of health and physical education for the young child.

This is a service course for the proposed Early Childhood Program in the School of Teaching and Learning, College of Education.

**635 School Health Services U G 3**

Consideration of healthful school living and health services, including health appraisal, counseling, educational adjustments, communicable diseases, and emergency programs.

Prereq: 200 or equiv. For majors and minors in health sciences and health education.

**636 Teaching of Health U G 3**

Principles, methods, materials, and resources involved in teaching health; direct, correlated, and integrated curriculum patterns; individual teaching experience.

**637 Health Agencies U G 3**

Health agencies: purposes, location, affiliations, sources of funding, staff responsibilities, volunteer opportunities, services, educational materials, and media, with emphasis on writing materials.

Addresses concerns affecting Allied Med professions. GEC course.

**643 Coaching Effectiveness U G 4**

Introduction to the teaching/learning process with emphasis on pedagogical skills necessary for coaching effectiveness.

Prereq: Major in Edu PAES, coaching education minor or 262 if in SLS program or permission of instructor.

**646 Coordination of Cooperative Career and Technical Education Programs U G 3**

Designed to develop the knowledge, attitudes, and competencies to effectively operate a cooperative career-technical education program.

**648 Adult Literacy Education U G 3**

Historical/social context of current adult basic education issues and practices related to participation, instructional processes, program planning, evaluation, and research needs.

**649 General Methods in Adult Education U G 3**

Selection, integration, and evaluation of methods, techniques, and devices to facilitate the learning of adults.

**650 Introduction to Exceptional Children U G 3**

An overview of the education of exceptional learners including a discussion of their characteristics and a review of historical approaches to their education and of contemporary educational practices.

Not open to students with credit for Psych 570.

**651 Health Program Planning U G 3**

Competency development in formulating and implementing health programs; includes understanding community organization and the health care system, administration, and sustaining programs.

**652 Health Promotion in the Workplace U G 3**

Theoretical and pragmatic aspects of conducting health promotion programs

in the workplace; discussion of rationale and relative effectiveness of various health components.

Prereq: Sr standing or above.

**655 Class and Laboratory Organization and Management in Career and Technical Education U G 3**

Designed to help career and technical education teachers to plan, organize, and manage career and technical education classrooms and laboratories used in various educational settings.

**657 Sport and Disability U G 3**

Overview of sport for individuals with disabilities with special emphasis given to physiological, psychological, and socio-cultural perspectives.

Prereq: Acceptance into the Sport and Exercise Studies graduate program or undergrad major in Edu PAES or coaching education minor or permission of instructor.

**660 Laboratories in Exercise Physiology**

Selected laboratory experiences in the field of exercise science.

Subdivisions are not repeatable.

**660.01 Introductory Labs in Exercise Physiology U G 1**

Selected laboratory experiences to include cardiovascular and muscle function testing. To be taken concurrently with 685.

**660.02 Intermediate Laboratories in Exercise Physiology U G 1**

Selected laboratory experiences to include cardiovascular and muscle function testing.

Prereq: 660.01 or equiv.

**660.03 Advanced Laboratories in Exercise Physiology U G 1**

Selected laboratory experiences to include cardiovascular and muscle function testing.

Prereq: 660.02 or equiv.

**662 Determining Instructional Content of Technical-Skill Training Programs U G 3**

Systematic investigation of data collection and analysis procedures used to determine the content of technical skill jobs.

**663 Organizing Technical-Skill Training Programs U G 3**

Investigation of processes used to prepare objectives, evaluate items and budgets, and select and sequence appropriate strategies.

**665 Making Effective Technical-Skill Presentations U G 4**

Delivery strategies used to present technical and skill information to groups of learners.

**667 Essentials of Career and Technical Education Curriculum and Instruction U G 3**

Study of literature on curriculum and instruction used to prepare future employees, upgrade current employees, and prepare for changes in technology.

**668 Career and Technical Education Teacher Licensure Clinics**

Prereq: Employment as a career and technical education teacher.

**668.01 Clinic 1 U G 6**

Development of basic cognitive and performance skills required to earn a two-year career and technical education teacher.

5 6-hr cl for 3 weeks. This course is graded S/U.

**668.02 Clinic 2 G 2**

Supervised clinical work while teaching in a career and technical education program.

**668.03 Clinic 3 G 2**

Continuation of 668.02.

Prereq: 668.02.

**668.04 Clinic 4 G 2**

Continuation of 668.03.

Prereq: 668.03.

**668.05 Clinic 5 G 4**

Refinement of curriculum development skills and the development of leadership and human relations skills required by employed, two-year licensed career and technical education teachers.

5 8-hr cl for two wks.

**668.06 Clinic 6 G 1**

Development and refinement of basic curriculum design and development skills required of a second-year career and technical education teacher.

**669 Teaching Students with Disabilities in Inclusive Settings U G 3**

Emphasizes practical, low-cost, empirically supported, and classroom tested approaches to teach students with disabilities effectively in general education classrooms.

Prereq: Permission of instructor.

**672 Adult Learning in Society U G 3**

Nature, extent, and significance of adult learning in society. History, forms, methodologies, theoretical issues, and philosophies.

Prereq: 4th yr standing, EDU majors.

**675 Measuring Student Outcomes in Career and Technical Education U G 3**

Provides career/technical education teachers and training/development professionals with information relative to testing and assessment of students/trainees and the education/training programs in which they are enrolled.

**676 Programming for Severe Physical Impairments U G 3**

Background information and survey of programmatic considerations related to physical, motor, and fitness training of the severely handicapped.

**677 The Parent/Professional Partnership U G 3**

Knowledge and skills necessary for educators to assist parents in facilitating the development, education, and socialization of children and youth and handicaps.

Prereq: Permission of instructor. Open only to special education majors; others by permission of instructor.

**678 Career Based Intervention Clinic U G 3**

The initial course for adding the Career Based Intervention Endorsement to an existing teaching license.

Su Qtr. 5.6-hr cl (1 week). Open only to students pursuing a teaching endorsement in Career Based Intervention.

**685 Adult Exercise Program - Implementation U G 3**

Introduction to adult exercise training and evaluation methods; emphasis on the implementation of programs for the normal healthy adult.

Prereq: 380 or 414/415. To be taken concurrently with 660.01.

**686 Exercise Training for Fitness and Cardiac Rehabilitation U G 3**

Continuation of 685; exercise testing for special populations; cardiac rehabilitation procedures; preventive exercise training programs.

Prereq: 685.

**689 Field Experience in Physical Education**

Observation, participation and teaching in physical education.

Prereq: Admission into SLS undergraduate teacher education program or permission of instructor.

**689.01 Field Experience in Elementary Physical Education U G 3**

Observation, participation and teaching to small groups and classes in elementary physical education.

Prereq: Cumulative GPA 2.75; 520; taken concurrently with 740.

**689.02 Field Experience in Secondary Physical Education U G 3**

Observation, participation and teaching to small groups and classes in secondary physical education.

Prereq: Cumulative GPA 2.75; 740; taken concurrently with 709 and 741.

**690 Cultural Theories of Sport U G 3**

This course will focus on the cultural significance of sport, and examine theories of culture in terms of their implications for the study of sport.

**692 Workshops**

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.

Cl hrs arr. Prereq: Written permission of workshop director. Repeatable with not more than 4 workshops to a maximum of 12 cr hrs.

**692.10 Special Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.20 Sport and Exercise Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.21 Sport and Exercise Humanities U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.22 Sport and Exercise Management U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.23 Sport and Exercise Science U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.25 Rehabilitation Services U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.34 Counselor Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.40 Workforce Development and Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.63 School Psychology U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**693 Individual Studies**

Prereq: Permission of instructor. A total of not more than 30 cr hrs of any 693 will apply toward graduation for undergrad students. For plan A, not more than 15 cr hrs of any 693 and/or 893 will apply toward the master's degree; for Plan

B, not more than 20 cr hrs will apply. Not more than 30 cr hrs will apply toward the doctoral degree.

**693.10 Special Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.20 Sport and Exercise Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.21 Sport and Exercise Humanities U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.22 Sport and Exercise Management U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.23 Sport and Exercise Science U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.25 Rehabilitation Services U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.34 Counselor Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.40 Workforce Development and Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.63 School Psychology U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies**

Group studies on special problems in education.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs, including cr hrs in Ed T&L 694.

**694.10 Special Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.20 Sport and Exercise Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.21 Sport and Exercise Humanities U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.22 Sport and Exercise Management U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.23 Sport and Exercise Science U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.25 Rehabilitation Services U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.34 Counselor Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.40 Workforce Development and Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.63 School Psychology U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**H695 Workforce Development Programs and Training Strategies for Low Skilled Workers U G 3**

Focuses on the programs and training strategies needed to serve workers with low skills, such as high school drop outs and workers in need of skills upgrading.

**696 International Perspectives on Workforce Development and Education U G 3**

Explores international workforce development strategies to strengthen human capital of developing and developed countries.

**697 Foreign Study U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that experience.

Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 12 cr hrs. This is a Progress course. Repeatable not more than 4 workshops. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**700 Interprofessional Education**

Focus on ethical issues, changing professional/consumer rights, and interprofessional cooperation.

Limited to students enrolled in allied medical professions, education, law, medicine, nursing, social work and theology. Cross-listed in Ed Policy & Leadership, Ed-Teaching & Learning.

**700.01 Seminar of Interprofessional Care U G 3**

Treatment of the whole person through the analysis of the interrelated problems of actual cases.

**700.02 Changing Societal Values U G 3**

Identification and clarification of values considerations as they relate to professional problems in dealing with consumers/clients/patients.

**700.03 Seminar on Ethical Issues Common to the Helping Professions U G 3**

Ethical issues of concern to the professions and arising out of advanced technology; euthanasia, enforced treatment, privacy and confidentiality, malpractice, and the social responsibility of the professions.

**700.04 Interprofessional Practicum in Clinical Settings U G 3,5**

Interprofessional teamwork in clinical settings.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**700.05 Interprofessional Seminar in Policy Analysis U G 3**

Explores interprofessionally to history, formation, and implementation of public policy issues of significance to seven helping professions.

Prereq: Permission of instructor.

**700.06 Care of Chemically Dependent Families U G 3**

Interprofessionally explores issues in the identification and treatment of chemical dependency within the family context.

**700.07 Interprofessional Approaches to Child Abuse and Neglect G 3**

Interprofessionally explores issues in the identification, treatment, and prevention of child abuse and neglect.

Prereq: Permission of instructor. Limited to 12 students each in allied medicine, education, law, medicine, nursing, psychology, social work, and theology through Columbus Cluster.

**701 Fundamentals of Teaching Adults Online U G 3**

The course focuses on developing, delivering, and facilitating online learning experiences to adults in formal and non-formal learning environments.

Su Qtr. Distance Learning Course (Web taught).

**702 Health After 60 U G 3**

Designed to develop an awareness of the health concerns of the elderly and a willingness to help improve their quality of life.

Prereq: 4th yr standing in a health science or behavioral science area or permission of instructor.

**703 Health Behavior Change in Adulthood and Later Years U G 3**

Review of research on changing health behavior; includes smoking cessation, weight control, hypertension, stress, health promotion programs, and changing health behavior after 65.

**704 Evaluation in Health Education U G 3**

Identification and application of various techniques for evaluating learning processes and programs in health education.

**705 Introduction to Gifted Education G 3**

An examination of historical trends, educational, psychological, and philosophical factors in the education of gifted persons.

**708 Analysis of Teaching and Learning Processes G 3**

Techniques for defining, observing, and assessing teaching/learning processes with emphasis on verifying relationships between teaching strategies and student outcomes.

Prereq: Admission to M.Ed. program. Not open to students with credit for 871.

**709 Curriculum and Instructional Design U G 3**

Systematic planning and design of the curriculum and its implementation using principles of instructional design and evaluation.

Prereq: Admission to SLS teacher certification program strand or permission of instructor; taken concurrently with 689.02 and 741. Student must receive a B- or higher to be prepared for subsequent courses.

**711 American Sport History U G 5**

Examines intersection of sport and society in America. Investigates influence of city, modernization, race, class, gender, consumer society, media on sporting structures, attitudes, and meaning.

2 2-hr cl, 1 hr arr. Not open to students with credit for Edu P&L 704.

**713 Foundations of Physical Activity Behavior U G 3**

Introduction to physical activity behavior: population distributions and relationship to health.

E-mail; internet access.

**714 Responses and Adaptations to Exercise U G 5**

Study of responses and adaptations to the stress of exercise in humans and animals.

Prereq: 10 cr hrs physiol or 10 cr hrs chem or 10 cr hrs biology, or equiv.

**716 Assistive Technologies for Individuals with Disabilities U G 3**

The purpose of this course is to prepare students to assist persons with disabilities in the selection and use of adaptive and assistive technology.

Prereq: Admission to the special education teacher preparation program or graduate student status. Not open to students with credit for Alli Med 802. Cross-listed with Alli Med 802.

**717 Nisonger Center Courses in Mental Retardation and Developmental Disabilities**

Focus on interdisciplinary topics in mental retardation and developmental disabilities.

Prereq: Permission of instructor. Cross-listed in Allied Medicine, Human Development and Family Science, Human Nutrition, Nursing, Psychology, Social Work, and Speech and Hearing Science.

**717.01 Family Systems: An Interdisciplinary Approach to Families of Handicapped Children U G 3**

Qualitative and quantitative approaches for resource and problem identification with families of handicapped children, effective parenting skills, strategies to follow at-risk families, and family intervention models.

Not open to students with credit in 717.01 in any cross-listed areas.

**717.02 The Interdisciplinary Team: Clinical and Administrative Issues U G 3**

Investigation and critical examination of function of interdisciplinary clinical and administrative teams in mental retardation and developmental disabilities.

Not open to students with credit in 717.02 in any cross-listed areas.

**717.03 Developmental Disabilities G 3**

Focus on the most pertinent scientific and societal issues of developmental disabilities.

Not open to students with credit for 717.03 in any cross-listed areas.

**719 Early Intervention Interdisciplinary Team Dynamics G 3**

Interdisciplinary team-taught course with a focus on early intervention/early education services for children birth to three and their families.

Prereq: Permission of instructor. Not open to students with credit for Alli Med 719, HDFS 719, Nursing 719, or Sph/Hrng 719. Cross-listed in Human Development and Family Science, Nursing, and Speech and Hearing Science.

**720 Measurement of Physical Activity U G 3**

Examination of the theory and application of techniques used to assess physical activity behavior and its mediators.

1 2.5-hr cl. Prereq: 713. Email; internet access.

**721 Classroom Management for Children with Special Needs U G 3**

Principles and application of classroom management techniques appropriate for exceptional children and youth. Methods for positive behavior supports with an emphasis on developing class-wide management systems.

Prereq: Admission to the Special Education Teacher Preparation Program or graduate student status; 742. To be taken concurrently with 289.10.

**722 Communication Skills for Children with Moderate/Intensive Needs U G 3**

Examines current principles in the development of alternative communication programs for individuals with moderate/intensive disabilities who do not spontaneously use speech.

Prereq: Admission to the Special Education Teacher Preparation Program or graduate student status.

**723 Physical Education for Young Children U G 2**

Methods and materials of school physical education dealing with the selection, instruction, and evaluation of activities for young children.

Prereq: Admission into the Early-middle Childhood Education M.Ed. program.

**724 Elementary School Health Education G 3**

Health appraisal of the school aged child and teaching methods dealing with instruction and evaluation of Health Education.

Prereq: Grad standing or permission of instructor. Acceptance to the Early-middle Childhood Education M. Ed. program.

**726 Changing Physical Activity Behavior G 3**

Introduction to the theoretical foundations, research base, and intervention strategies for enhancing exercise participation in fitness and recreational settings.

**727 Special Topics in Education**

Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.

Prereq: Grad standing or registration in one of the professional schools.

**727.10 Special Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.20 Sport and Exercise Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.21 Sport and Exercise Humanities G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.22 Sport and Exercise Management G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.23 Sport and Exercise Science G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.25 Rehabilitation Services G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.30 Wellness and Human Services G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.34 Counselor Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.40 Workforce Development and Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.63 School Psychology G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**728 Cultural Diversity: Developing a Multicultural Perspective G 3**

Students will have the opportunity to develop a multicultural awareness as they explore the impact of an increasingly diverse society in the United States.

Prereq: Grad level status and permission of instructor.

**729 Urban Issues in Education G 3**

Focus is on gaining a better understanding of the dynamics of urban schools and the relationship between minority status, poverty, academic achievement and resiliency.

**730 Philosophical Perspectives of Sport and Leisure U G 5**

Examination of philosophical sport and leisure scholarship with emphasis on contemporary theoretical literature and issues.

Not open to students with credit for Edu P&L 730.

**732 Current Topics in Sport and Exercise Management G 2**

Examines the areas of specialization within sport management and current issues relative to the field.

Prereq: Permission of instructor or enrollment in sport and exercise sciences.

**733 Financing Sport Operations G 3**

This course examines the application of basic concepts of public and private sector financing to collegiate and professional sport organizations.

Prereq: Sport Management major or permission of instructor.

**734 Methods of Instruction I for Students with Mild/Moderate Disabilities U G 3**

Designed to teach pre-service teachers effective instructional strategies for elementary learners with mild disabilities.

Prereq: Admission to the Special Education Teacher Preparation Program or graduate student status. To be taken concurrently with 289.10.

**735 Methods of Instruction II for Students with Mild/Moderate Disabilities: Middle and Upper Grades U G 3**

Designed to provide advanced training in methods for middle and secondary students with mild disabilities.

Prereq: Admission to the Special Education Teacher Preparation Program or graduate student status; 734. To be taken concurrently with 289.10.

**736 Methods of Instruction I for Students with Moderate/Intensive Disabilities: Planning for and Developing Instructional Programs U G 3**

Provides an introduction to designing and developing instructional programs for individuals with moderate/intensive disabilities.

Prereq: Admission to the Special Education Teacher Preparation Program or graduate student status; 722; 743. To be taken concurrently with 289.10.

**737 Methods of Instruction II for Students with Moderate/Intensive Disabilities: Implementing and Evaluating Programs U G 3**

Provides students with an introduction to implementing and evaluating instructional programs for students with moderate to intensive disabilities.

Prereq: Admission to the Special Education Teacher Preparation Program or graduate student status; 736. To be taken concurrently with 289.10.

**738 Reading Instruction for Children with Disabilities and Severe Reading Deficits U G 5**

Prepares special educators to use empirically validated reading pedagogy when teaching children with disabilities who have severe reading problems.

Au, Wi Qtrs. 2.5-hr cl, 1.5-hr lab. Prereq: 742 and 650, 251 or equiv. Open only to special education majors. Repeatable to a maximum of 10 cr hrs. Format of the course is an on-campus lecture with an off-campus tutoring experience. Course will count toward special education licensure.

**740 Teaching Physical Education in the Elementary School U G 3**

Effective strategies for teaching physical education in the elementary school.

3 hrs daily for first 10 days of the qtr. Prereq: 520; taken concurrently with 689.01. Student must receive a B- or higher to be prepared for subsequent courses.

**741 Teaching Physical Education in Middle and High School U G 3**

Teaching and curricular issues as they relate to middle and high school physical education programming.

3 hrs daily for first 10 days of qtr. Prereq: 740; taken concurrently with 689.02 and 709. Student must receive a B- or higher to be prepared for subsequent courses.

**742 Applied Behavior Analysis for Teachers U G 3**

Study of principles of behavior for the development and maintenance of academic and social behaviors.

**743 Educational Assessment of Exceptional Learners U G 3**

Examination of issues and procedures associated with planning, conducting, scoring, and interpreting educational assessments.

Prereq: 251 and 650 or equiv. Open only to special education majors; others by permission of instructor.

**744 Sexuality and Education G 4**

Explores rights and duties of educators with respect to sexuality and considers how to make classrooms inductive to educational experience for all students.

Prereq: Grad standing. Not open to students with credit for Edu T&L 744. Cross-listed in Education: Teaching and Learning.

**746 Behavioral Consultation in School, Clinic, and Home Settings U G 3**

Focuses on providing behavioral consultation to regular and special education teachers, administrators, students, and parents; analyses the development, implementation, and evaluation of consultation programs in school, clinics, and home settings.

Open only to special education majors; others by permission of instructor.

**747 Transition from School to Adult Life U G 3**

Programming to promote successful transition of students with special needs from school to adult life. Encompasses employment, post-secondary education, residential, and community supports.

Prereq: Admission to the special education teacher preparation program or graduate student status.

**750 Teaching Social Behavior to Students with Disabilities U G 3**

Nature of social skills, importance of social skills planning in the curriculum, and the special social-skill needs of learners with disabilities.

Prereq: Permission of instructor. Open only to special education majors; others by permission of instructor.

**754 Physical Growth and Motor Development U G 3**

Study of growth in phylogenetic and ontogenetic sequence; motor development; critical analysis of research in motor ability, fitness, and athletics, as related to growth and development.

Prereq: Grad standing, or permission of instructor.

**755 Inclusion in Sport and Exercise Education G 3**

Designed to familiarize teachers and other professionals with inclusion/integration in Sport and Exercise Education.

Prereq: 544 or equiv. Required for grad students in Sport and Exercise Education.

**757 Aspects of Human Resource Development in Workforce Education G 3**

Frameworks and practices related to human resource development in workforce education.

**760 Educational Assessment in Early Childhood Special Education U G 3**

Study of the assessment of infants and preschoolers and young children with special needs with particular emphasis placed on measurement for screening and instructional program planning.

3 cl, 3 field. Prereq: Admission to the special education teacher preparation program or graduate student status. Open only to special education majors, others by permission of instructor. Assessments to be completed in early intervention and early childhood settings.

**761 Educational Intervention for Young Children with Disabilities U G 3**

Study of instructional programming for language, communication, sensorimotor, cognitive, and social development in early childhood environments.

Prereq: Admission to the special education teacher preparation program or graduate student status.

**762 Motor and Physical Assessment of Children with Handicapping Conditions U G 3**

Survey of validity data on the most used assessment tools and practices in collecting motor and physical performance data on children with handicapping conditions.

Prereq: 650 and 662.

**763 Inclusion in Early Childhood Special Education U G 3**

Study of the diverse factors influencing the inclusion of young children with disabilities in community settings.

Prereq: Admission to the special education teacher preparation program or graduate student status.

**765 Grant Writing G 3**

Analysis of how applications for external funding in the School of PAES are developed and submitted.

Prereq: Permission of instructor.

**767 Assessment in Counseling: Instrumentation U G 3**

An introduction to the concepts and techniques in the appraisal of the individual with an emphasis on basic statistical concepts, and an overview of the instrumentation; designed for counselors who will be working in school, mental health, and rehabilitation settings.

Prereq: 773 or permission of instructor.

**768 Assessment in Counseling: Interpretation U G 3**

A continuation of 767 involving a more advanced study of concepts and techniques in the appraisal of the individual with an emphasis on the development of case studies, and interpretation of standardized and non-standardized assessment instruments; designed for counselors who will be working in school, mental health, and rehabilitation settings.

Prereq: 767.

**769 Delivering Effective Services to Enhance the Inclusion of Students with Special Needs U G 3**

Designed to prepare special education teachers to work with administrators, general education teachers, parents and paraprofessionals to deliver instruction in inclusive settings.

Prereq: Admission to the Special Education Teacher Preparation Program or graduate student status.

**773 Counseling Services and Techniques U G 3**

Counseling services and techniques used to help individuals live and work effectively in a complex society.

**774 Introduction to Counseling U G 3**

Introduction to counseling theories with emphasis on theoretical bases and applications in selected school and community settings.

Prereq: 773.

**775 Group Counseling U G 3**

An overview of theories, issues, and trends of group counseling.

Prereq: Permission of instructor.

**776 Counseling Children U G 3**

An overview of child behavior theories and concerns with emphasis on counseling theory as applied to children and general treatment modalities.

**779 Educational and Career Counseling U G 5**

Theories, instruments, and resources for educational and career counseling of individuals and groups.

Prereq: 768 and written permission of instructor.

**780 Seminar for Student Teaching U G 3**

Seminar designed to connect students' school-based internship experiences with pedagogical content knowledge through discussions and reflections about teaching physical education.

Prereq: Cumulative GPA 2.75; 741; taken concurrently with 786 and 787. Designed to facilitate growth as a prospective teacher, facilitate understanding of roles and responsibilities of teachers, and provide opportunities to discuss and reflect on pedagogy in schools.

**784 Student Teaching in Technical Education and Training U G 12**

Provides career/technical education teachers with a culminating field experience with the guidance of a cooperating teacher and a university supervisor in a school setting.

Prereq: 628, 655, 667.

**785 Management in Leisure Programs U G 3**

An analysis of contemporary approaches to management in the leisure field.

Prereq: 245, 545; Edu PAES major or permission of instructor. Jr standing or above.

**786 Internship in Physical Education at the Elementary School U G 8**

Observation, participation, and responsible teaching in an elementary school setting.

3-6 hrs daily over 40 days. Prereq: Cumulative GPA 2.75; 741; taken concurrently with 780 and 787.

**787 Internship in Secondary Physical Education U G 7**

Observation, analysis, and teaching in a public secondary school; dual and three-way conferences with supervisor and cooperating teacher.

3-6 hrs daily over 40 days. Prereq: Cumulative GPA 2.75; 741; taken concurrently with 780 and 786.

**788 Practicum for School Nurses U G 3-15**

A supervised opportunity is provided to practice the school nursing specialty in a public school health services setting.

1 conf per wk; hrs of field exp varies with cr hrs. Prereq: Written permission

of area advisor. Limited to student nurses and RN's with courses required for school nurse certification. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**789 Practicum in Health Education U G 2-15**

Opportunity is provided for putting educational research and theory into practice by teaching, administration, and agency experience under supervision in university, school, and agency situations.

1 arr conf and arr field exp. Prereq: Written permission of instructor and departmental adviser based upon submitted evidence of appropriate knowledge and skill in the selected course. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**790 Principles and Practices of Rehabilitation Counseling U G 3**

Orientation to the vocational rehabilitation process; a survey of principles, history, philosophies, legislation, and techniques.

Prereq: Permission of instructor.

**791 Orientation to Disabling Conditions U G 3**

An overview of major disabling conditions focusing on: etiology, treatment, and prognosis; physical restoration; the vocational and functional limitations created by the conditions.

Prereq: Permission of instructor.

**792 Job Placement and Job Development for Persons with Disabilities U G 3**

An analysis of the theories and techniques involved in vocational counseling, job restructuring, and job development with the disabled worker; an introduction to models of interagency linkage and cooperation.

Prereq: 790 or permission of instructor

**795 Socio-Cultural Issues in Physical Education U G 3**

Designed for students to develop a multicultural perspective in understanding the teaching-learning process; especially in sport and physical activity classes.

Prereq: 520. Recommended for all new GTA's in Sport and Exercise Sciences.

**796 Designing Accessible Internet Content for Persons with Disabilities U G 3**

Teaches the design of World Wide Web content that is accessible to persons with disabilities and complies with applicable accessibility standards.

General computer knowledge required and some knowledge of HTML is highly desirable.

**798 Supervised Teaching in Special Education**

Student teaching for qualified students in the area of special education.

1 2-hr cl; 300 field contact hrs/qr. Prereq: Written permission of instructor.

**798.11 Mild Moderate Intervention Specialist U G 12**

Arr. This course is graded S/U.

**798.12 Moderate Intensive Intervention Specialist U G 12**

Arr. This course is graded S/U.

**798.13 Early Childhood Intervention Specialist U G 12**

Arr. This course is graded S/U.

**800 Counseling: Practica in Basic Helping Skills**

Provides the experiential component of 774: Introduction to Counseling and 775: Group Process.

**800.01 Individual Counseling G 2**

Intensive training in basic interviewing and counseling skills with a focus on self-assessment, and on increasing one's understanding of the complexities of interpersonal processes.

Prereq: 774 or equiv and/or permission of instructor. This course is graded S/U.

**800.02 Group Counseling G 2**

An opportunity to experience the group process from a member's perspective, and to observe the role and function of a group facilitator.

Prereq: 775 or equiv and/or permission of instructor. This course is graded S/U.

**801 Multiculturalism and Counseling**

Explores cultural-specific issues and their impact on counseling.

**801.01 Multicultural Issues in Counseling G 3**

An exploration of multicultural concerns related to the knowledge, belief/attitudes, and skills of counselors.

Prereq: 774 or permission of instructor.

**801.02 Multicultural Research in Counseling G 3**

An examination of multicultural research design and methodology, and the impact these findings have on counseling.

Prereq: ED P&L785 and/or ED P&L 786 or their equivalents and 801.01 or equiv.

**802 Exercise Physiology****802.01\* Introduction to Exercise Physiology G 4**

Introduction to the field of exercise physiology with emphasis on energy liberation factors affecting performance, health, and fitness and physical training.

Prereq: PhysioCB 602 or equiv.

**802.02 Exercise Physiology: Metabolism, Temperature, Water, and Electrolyte Balances G 4**

Continuation of 802.01; discussion of metabolism, temperature, water, and electrolyte balances during exercise and of the effects of physical training.

Prereq: 802.01 and permission of instructor.

**802.03\* Exercise Physiology: Cardio-respiratory System, Physical Training, and Muscular Strength Training G 4**

Continuation of 802.02; discussion of cardio-respiratory system during exercise and effects of physical training.

Prereq: 802.02 and permission of instructor.

**802.04\* Muscle Structure and Function: Overload and Disuse G 4**

Muscle structure and function as related to normal physiology, overload, disuse, and exercise.

Prereq: 802.01; PhysioCB 602 or permission of instructor. Limited to 10 students.

**803 Improvement of Instruction in Basic Business Subjects G 3**

A study of objectives, methods, materials, and methods of evaluation for courses such as general business, consumer education, and business law.

**805 Teaching the Gifted: Instructional and Curricular Adaptions G 4**

Information and skills for modifying curriculum for gifted presented in a workshop format.

Prereq: 705. Open only to special education majors; others by permission of instructor.

**806 Sport Management and Administration G 3**

The various aspects of athletic, intramural, and recreation administration.

Prereq: At least 2 qtrs in sports administration program or phys ed PhD candidate with minor area of athletic administration.

**807 Legal Issues Affecting Sport G 3**

A study of legal issues affecting the delivery of sport services; focus on liability in sport activities.

**808 Effective Management of Sport Delivery Systems G 3**

Application of contemporary management techniques used in the design and operation of sport delivery systems.

Prereq: 3 hrs of management sci, 806, or permission of instructor.

**809 Sport Marketing G 3**

Examination and utilization of basic marketing principles in the areas of sport (collegiate and professional) recreation.

Prereq: Bus-Mktg 650.

**811 Occupational Analysis G 3**

Development and utilization of procedures used in analyzing a technical occupation for teaching content.

3 cl. arr field experience.

**817 Developing Instruction for Business and Industry G 3**

The systematic development of instructional programs for business and industry; role of the instructional developer in business and industry will also be examined.

Prereq: permission of instructor.

**818 Designing Individualized Training Systems G 3**

The design of individualized training and performance systems for business and industry.

**824 Underachieving Gifted Students G 3**

Focuses on characteristics and needs of gifted students who underachieve.

Credit counts toward Gifted Education licensure and MA.

**825 Principles and Programming for Persons Who are Severely or Multiply Disabled G 3**

Includes transdisciplinary focus, community-based curriculum, integration with nondisabled peers, and nonvocal communication.

Prereq: A course in educational programming for children with low-incidence disabilities, and a course in language development and permission of instructor. Open only to special education majors; others by permission of instructor.

**827 Structured Learning in the Work Setting G 3**

Examines and applies theories and practices related to structured learning in the work setting; will be an elective in the Workforce Development and Education section.

**828 Administrative Practices in Career and Technical Education G 3**

A study of the concepts of career and technical education program administration, including management skills, policy development, staff management, finance, and program evaluation.

Not open to students with credit for Agr Educ 811 or 821. Cross-listed in Agr Educ 821.

**829 Advanced Educational Procedures for Students with Mild/Moderate Disabilities G 3**

Advanced study of individualized methods of instruction for students with mild/moderate disabilities; emphasis on assessment and design of appropriate instructional programs.

To be taken concurrently with 3 cr hrs of 884.10. Open only to special education majors; others by permission of instructor.

**830 Strategies for Effective Individual Instruction G 3**

Advanced study of precision teaching as a methodology for the systematic evaluation of learning and use in all instructional tactics and curricula.

Prereq: Permission of instructor. Open only to special education majors; others by permission of instructor.

**831 Strategies for Effective Group Instruction G 3**

Study of theory, research, and literature on strategies and tactics of group instruction.

Prereq: 742. Open only to special education majors; others by permission of instructor.

**832 Planning and Implementing Instruction for Generalized Outcomes G 3**

Guiding principles, general strategies, and specific tactics for designing instruction that promotes the generality of newly learned skills over time, settings, and response classes.

Prereq: 831. Open only to special education majors; others by permission of instructor.

**833 Advanced Studies in the Education and Management of Students with Severe Behavior Disorders G 3**

Study of most recent research and literature on the education, management, and programming of students with severe behavior disorders.

Prereq: Permission of instructor. Open only to special education majors; others by permission of instructor.

**835 Problems in Interscholastic and Intercollegiate (duplicate) Athletics G 3**

The relation of athletics to education; problems of athletic organization; eligibility; finance, current trends, and developments in management and purpose; public relations.

**836 Structures and Processes of Sport Organizations/Associations G 3**

Examines the organizational structures and processes of amateur, intercollegiate, and professional sport organizations/associations.

**837 Event and Facility Management for Sport Managers G 3**

Examines the principles and practices of planning and managing sport events and facilities.

**839 Professional Sport in 20th-Century America G 3**

Examination of the development of professional sport; its economic structure and relationship to mass media; the nature and problems of professional athletes.

Not open to students with credit for Edu P&L 819.

**840 Instructional Design for Teacher Educators in Physical Education G 3**

Classification and analysis of learner outcomes in activity settings; emphasis on empirical methods for analyzing outcomes and alternatives for achieving outcomes in teacher education programs in physical education.

**844 Vocational Evaluation and Development G 3**

A study of vocational evaluation, development, and work adjustment materials and practices utilized in educational and rehabilitation settings.

Prereq: 790 or permission of instructor.

**848 Management and Administration of Programs for Exceptional Children G 4**

A review of technology, trends, and issues basic to the management and operation of a special education program with the intention of preparing leadership personnel.

Prereq: 650 and grad standing in special education; or written permission of instructor.

**850 The Role of Sports in Society G 5**

Significance of sport to individuals and groups in society.

Not open to students with credit for Edu P&L 855.



**851 Motor Learning G 3**

Critical consideration of research and theory in the acquisition of skill; special attention is given to major trends in the field.

Prereq: Psych 600, or permission of instructor.

**852 Sport Ethics G 3**

Examination of ethical issues central to contemporary sport that address how we ought to treat human beings and other sentient beings in sport settings.

**855 Contemporary Issues in Recreational Sports Administration G 3**

A study of current issues, management techniques, and programming concepts associated with the administration of campus recreation programs.

Prereq: 630 or equiv.

**856 Roles and Functions of School Psychologists G 3**

Provides an overview of the legal, ethical, and current issues in school psychology, as well as the history of the profession.

**857 Assessment of Cognitive Ability I G 3**

Designed to teach students about various methods for assessing cognitive ability.

**858 Assessment of Cognitive Ability II G 3**

An advanced course in the assessment of cognitive functioning. Advanced methods of assessment are taught and applied.

Prereq: 857.

**859 Assessment of Academic Achievement in the Schools G 3**

Designed to teach students about various methods for assessing academic achievement in the schools.

**860 Linking Assessment to Intervention G 3**

Students will gain skills in assessing academic skills, targeting interventions, and conducting continuous progress monitoring.

**861 Focus on Behavior Analysis in Education G 3**

Theory and practice of applied behavior analysis as it applies to educational issues.

Prereq: MA or PhD; permission of instructor. Open only to special education majors; others by permission of instructor.

**862 Rehabilitation Case Management G 3**

An in-depth analysis of the vocational rehabilitation topics of case management, agency functioning, and the adaptation of counseling models and techniques for use with persons with disabilities.

Prereq: 774 and 790.

**863 Teaching Health and Fitness Courses at the College Level G 3**

Covers teaching methods, learning theories, course development and student evaluations in sport, fitness, and health courses.

Au Qtr. Required for new teaching assistants in the sports, fitness and health program.

**864 Reactions and Adjustment to Disability G 3**

A study of individual reactions to various disabling conditions, the adjustment process, cultural norms and expectations, and responses to the rehabilitation process.

**865 Naturalistic Inquiry in Physical Education G 4**

Consideration of design and methods of inquiry for naturalistic field studies in physical education, sport, play, health, and dance; review of research results.

Prereq: A grad course in research methods.

**867 Biochemical Methods for the Assessment of Human Performance G 4**

Development of laboratory procedures used to evaluate physiological responses and adaptations of blood and muscle to exercise.

**868 Research on Teaching in Physical Education G 3**

Focuses on major issues, methodologies, and significant findings of research on teaching in physical education for the past two decades.

**869 Research on Teacher Education in Physical Education G 3**

Analysis of the literature on teacher education research and physical education literature in particular.

Prereq: 868 or permission of instructor.

**870 Research on Effective Teaching and Schooling G 3**

Review of research on effective teaching and schooling with emphasis on using knowledge to reflect on ones own teaching.

**871 Behavioral Research Methods in Applied Settings G 3**

Methods of single subject research in educational, clinical, homes, and other applied settings; focus on developing observational design, analysis and interpretation skills.

Prereq: 10 hrs of applied behavior analysis, behavior modification or equivs

with written permission of instructor. Open only to special education majors; others by permission of instructor.

**872 Advanced Studies in Adapted Physical Education G 3**

Examination and assessment of developmental aspects as they relate to physical and motor performance behavior of children with developmental disabilities, mental retardation, and learning disabilities.

**873 Behavioral Research in Education: Strategies and Tactics G 3**

This course presents advanced graduate students with knowledge of strategies and tactics for scientific and technological experimentation with human behavior.

Prereq: 871. Open only to special education majors; others by permission of instructor.

**874 Behavioral Research in Education: Critical Analysis and Thematic Extensions G 3**

Completes the 3-course series on behavioral research in education. Recent methodological advances, development of thematic lines of research, and research ethics are key topics.

Prereq: 871 and 873. Open only to special education majors; others by permission of instructor.

**876 Organization and Administration of Guidance Services G 3**

The selection, organization, and presentation of guidance materials, including analysis of types of organization, methods of initiating a guidance program, and types of in-service programs.

Prereq: 773 or equiv.

**877 Mental Health Issues in the Schools G 3**

Overview of the current mental health issues evident in the school setting with a focus on prevention and intervention.

**878 Social-Emotional Assessment of Children and Adolescents G 3**

Focuses on assessing mental health factors for children and adolescents for use in school settings.

**880 Supervision for Teacher Education in Physical Education G 3**

Examines collection models for supervision in physical education with emphasis on data collection techniques to provide feedback to teaching interns.

Prereq: 870.

**882 School-Based Consultation I: Theories and Process G 3**

The consultation process, models, roles, skills, and outcomes for school based personnel will be addressed; emphasis is placed on extending theoretical and practical knowledge.

**883 School-Based Consultation II: Implementing Behavioral Interventions G 3**

Focuses on using the consultation model as the foundation for the implementation of behavioral interventions both individual and group.

Prereq: 882.

**884 Planned Field Experience**

Planned counseling, supervisory, assessment, or teaching experience in a public school or other human service setting under supervision.

Prereq: Written permission of area adviser. Repeatable to a maximum of 15 cr hrs.

**884.02 Foreign G 3-15**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**884.10 Special Education G 3-15**

Repeatable to a maximum of 15 cr hrs.

**884.20 Sport and Exercise Education G 3-15**

Repeatable to a maximum of 15 cr hrs.

**884.21 Sport and Exercise Humanities G 3-15**

Repeatable to a maximum of 15 cr hrs.

**884.22 Sport and Exercise Management G 3-15**

Repeatable to a maximum of 15 cr hrs.

**884.23 Sport and Exercise Science G 3-15**

Repeatable to a maximum of 15 cr hrs.

**884.25 Rehabilitation Services G 3-15**

Repeatable to a maximum of 15 cr hrs.

**884.34 Counselor Education G 3-15**

Repeatable to a maximum of 15 cr hrs.

**884.40 Workforce Development and Education G 3-15**

Repeatable to a maximum of 15 cr hrs.

**884.63 School Psychology G 3-15**

Repeatable to a maximum of 15 cr hrs.

**885 Supervised Teaching in Special Education**

Student teaching for qualified students in the area of special education.

300 field contact hrs/qr. Prereq: Written permission of instructor.

**885.66 Gifted G 3-15**

Repeatable to a maximum of 30 cr hrs.

**886 Colloquium in Exercise Science G 1**

Discussion of current research in exercise science.

1 cl. Prereq: Grad standing in HPER or permission of instructor. Required every qtr for registered grad students in exercise science. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**888 Professional Writing/Publishing in Special Education G 3**

Focus on procedures for conceptualizing, preparing, and submitting manuscripts to educational journals and textbook publishers.

1 3-hr cl. Prereq: Full-time PhD students; permission of instructor. Open only to special education majors; others by permission of instructor.

**889 Practicum G 2-15**

Opportunity to put professional theory and research into practice under supervision in University, school and agency settings.

Arr conferences and field experience. Prereq: Permission of instructor and departmental advisor based upon submitted evidence of appropriate knowledge and skill in the selected course. Repeatable to a maximum of 12 cr hrs. Repeatable with not more than 4 workshops. This course is graded S/U.

**890 Contemporary Issues in Special Education G 3**

Weekly teleconference seminars discussing current issues and research in special education with prominent scholars from other universities and research centers.

Prereq: PhD student in special education or permission of instructor.

**893 Advanced Individual Studies**

Plan A: not more than 15 cr hrs of any 693 and/or 893 will apply toward the master's degree; Plan B: not more than 20 cr hrs will apply. Not more than 30 cr hrs will apply toward the doctoral degree.

Arr.

**893.10 Special Education G 1-4**

Open only to special education majors; others by permission of instructor. Repeatable. This course is graded S/U.

**893.20 Sport and Exercise Education G 1-4**

Repeatable. This course is graded S/U.

**893.21 Sport and Exercise Humanities G 1-4**

Repeatable. This course is graded S/U.

**893.22 Sport and Exercise Management G 1-4**

Repeatable. This course is graded S/U.

**893.23 Sport and Exercise Science G 1-4**

Repeatable. This course is graded S/U.

**893.25 Rehabilitation Services G 1-4**

Repeatable. This course is graded S/U.

**893.34 Counselor Education G 1-4**

Repeatable. This course is graded S/U.

**893.40 Workforce Development and Education G 1-4**

Repeatable. This course is graded S/U.

**893.63 School Psychology G 1-4**

Repeatable. This course is graded S/U.

**894 Advanced Group Studies**

Advanced group studies on special problems in education.

Prereq: Written permission of instructor.

**894.10 Special Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.20 Sport and Exercise Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.21 Sport and Exercise Humanities G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.22 Sport and Exercise Management G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.23 Sport and Exercise Science G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.25 Rehabilitation Services G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.34 Counselor Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.40 Workforce Development and Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.63 School Psychology G 1-5**

Repeatable to a maximum of 20 cr hrs.

**895 Urban Gifted Education G 3**

Focuses on issues in gifted education that are specific to urban settings.

Only open to students enrolled in a graduate program in Education or with permission of instructor.

**896 Social and Emotional Needs of Gifted Students G 3**

Focuses on the social and emotional needs and development of gifted students.

Only open to students enrolled in a graduate program in Education or with permission of instructor.

**897 Psychological Services for Early Childhood Populations G 3**

Focus is on the provision of comprehensive services to infants, toddlers, and pre-school children and their families.

**906 Understanding Sport Consumers: Theoretical Perspectives G 3**

The purpose of this class is to acquaint students with issues related to sport consumers' behaviors by discussing pertinent theories and implications to sport consumer behavior. The course is targeted toward doctoral students in sport management.

Prereq: PAES student or permission of instructor.

**911 Theories of Workforce Development and Education G 3**

A study of the theories and perspectives that support workforce development and education.

Prereq: Enrollment as a doctoral student. Part of the required core for the PhD program in Workforce Development and Education.

**912 Scholarly Perspectives of Workforce Development and Education G 3**

Introduces doctoral students to the scholarly process and helps them develop their own area of scholarly focus in workforce development and education.

Prereq: Admission to WDE PhD program or permission of instructor.

**913 Knowledge Generation in Workforce Development and Education G 3**

Explores knowledge generation and dissemination within the field of Workforce Development and Education.

**914 Seminars in WDE Research**

Offers advanced research seminars for doctoral level training in a specific WDE area.

Au, Wi, Sp Qtrs.

**914.01 Data Analysis and Evaluation of Workforce Development Policy G 3**

Offers advanced research seminars for doctoral level training in Workforce Policy.

Repeatable to a maximum of 18 cr hrs.

**914.02 Issues in Adult Distance Education and Learning G 3**

Offers advanced research seminars for doctoral level training in Adult Distance Education Teaching and Learning.

Repeatable to a maximum of 18 cr hrs.

**915 Behaviorism I: Contingencies of Reinforcement G 3**

Examines the philosophy of behaviorism and its implications for theory, research, and practice in special education.

Au Qtr. 3-hr cl. Prereq: PhD student in special education, MA student in ABA program, or permission of instructor.

**916 Behaviorism II: Applications to Special Education G 3**

Continued study of behaviorism and its applicability to social problems, particularly to the design of effective education for students with disabilities.

Wi Qtr. 3-hr cl. Prereq: PhD student in special education, MA student in ABA program, or permission of instructor.

**917 Behaviorism III - Analysis of Verbal Behavior: Implications for Children with Disabilities G 3**

Examines the analysis of verbal behavior from a Skinnerian perspective and its implications for theory, research, and teaching functional communication skills to children with developmental disabilities.

Sp Qtr. 3-hr cl. Prereq: PhD student in special education, MA student in ABA program, or permission of instructor.

**925 Seminar**

Prereq: Permission of instructor. Students with permission of advisers may register for more than one section of 925 or for the same section two or more times. Research problems in:

**925.10 Special Education G 2-5**

Open only to special education majors; others by permission of instructor. Repeatable.

**925.20 Sport and Exercise Education G 2-5**

Repeatable.

**925.21 Sport and Exercise Humanities G 2-5**

Repeatable.

**925.22 Sport and Exercise Management G 2-5**

Repeatable.

**925.23 Sport and Exercise Science G 2-5**

Repeatable.

**925.25 Rehabilitation Services G 2-5**

Repeatable.

**925.34 Counselor Education G 2-5**

Repeatable.

**925.40 Workforce Development and Education G 2-5**

Repeatable.

**925.63 School Psychology G 2-5**

Repeatable.

**926 Doctoral-level Professional Seminars in Counselor Education**

Doctoral-level professional seminars covering a range of topics in professional counseling with emphasis on new developments in the theory, practice, and research of counseling.

**926.01 Advanced Interventions I: Diagnosis and Intervention in Counseling G 3**

An in-depth exploration of analytical, cognitive, behavioral, and humanistic approaches to the diagnosis and treatment of five major mental and emotional disorders: organic, psychotic, affective, dissociative, and somatoform.

**926.02 Advanced Interventions II: Brief Approaches to Counseling G 3**

An exploration of brief psychodynamic approaches to the diagnosis and treatment of five major mental and emotional disorders: personality, impulse control, anxiety, substance induced and substance use, and psychosexual.

Prereq: 926.01; Psych 860 or equiv.

**926.03 Advanced Interventions III: Contemporary Systems of Counseling G 3**

An extensive exploration of the theories and applications of classical and contemporary approaches to counseling; emphasis is placed on the use of hypnosis and sensory imagery approaches to behavioral change.

Prereq: 926.02; Psych 860 or equiv.

**926.04 Critical Research Issues in Counselor Education, Supervision, and Practice G 3**

An exploration of critical issues in the principles of research as they apply to school, mental health, and rehabilitation counseling.

**926.05 Helping Strategies in Career Counseling G 3**

An examination of the skills necessary for individual and group career counseling.

Prereq: Psych 884.01, PhD standing or permission of instructor.

**926.06 Legal, Professional, and Ethical Issues in Counseling G 3**

An examination of current legal, professional, and ethical issues in counseling.

Prereq: PhD standing or permission of instructor.

**926.07 Theories of Counselor Supervision G 3**

Knowledge and skills required for counselor supervision with emphasis on generic models, the supervisory relationship, and major theories.

Prereq: PhD standing or permission of instructor.

**926.08 Leadership Roles in Professional Counseling G 3**

An exploration of leadership strategies as applied to human service delivery systems in which counselors function.

Prereq: PhD standing or permission of instructor.

**926.09 Advanced Theory and Intervention of Group Counseling G 3**

Major group counseling theories, the group counseling relationship, and therapeutic factors; professional and ethical issues as well as current research will be covered.

Prereq: 774, 775, 800.01, 800.02, 974, 975, or equivalents, and permission of instructor.

**927 Family Counseling G 3**

Introduction to basic approaches, concepts, and techniques of family counseling; the relationship between individual, group, and family counseling will be considered.

Prereq: Permission of instructor.

**928 Substance Use and Abuse Counseling G 3**

Techniques of substance use and abuse counseling emphasizing strengthening of individual and group counseling skills; drugs and their effects on individuals and families will also be covered.

Prereq: Permission of instructor.

**931 Theory and Practice of Discussion in Adult Education G 3**

Perspectives of adult learning via discussion; analysis of research on group discussion; principles of discussion oriented adult learning; application of group discussion to problem solving.

**932 Adult Characteristics and Learning Theory G 3**

Examination of significant learning theories and their applicability to adult learning experiences.

Prereq: 672 or permission of instructor.

**934 Organization and Administration of Adult Education Programs G 3**

The administrative functions within adult education agencies: decision making, staff development, financing, evaluating, and improving adult education

programs.

Prereq: 672 and written permission of instructor.

**935 Program Planning in Adult Education G 3**

Prepares educators to implement components in planning educational programs for adults: assessing needs, setting objectives, selecting and training staff, choosing instructional strategies, promotion, and evaluation.

Prereq: 672 or equiv.

**951 Organization and Management Theory in Sport and Exercise Management G 3**

Organization and management theory applied to sport organizations.

Prereq: Grad standing. Only open to students enrolled in sport and exercise management program.

**952 Selected Topics in Organizational Behavior G 3**

Organizational behavior in sport organizations.

Prereq: Grad standing. Only open to students enrolled in sport management program.

**953 Current Research in Sport and Exercise Management G 3**

Current research in sport and exercise management.

Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs.

**961 Comparative Workforce Development and Education Policies G 3**

Provides detailed overview of national WFD policies across the world.

**974 Supervised Practice in Individual Counseling: Children G 3**

Counseling techniques unique to elementary age children including play media and conceptualizing the environmental press on the child.

Minimum 30 contact hrs. Prereq: 773 and written permission of instructor. Repeatable to a maximum of 9 cr hrs.

**975 Supervised Practice in Group Counseling: Children G 3**

Supervision of each enrollee who counsels with a group of children of elementary age in a school or other institutional setting.

Minimum 30 contact hrs. Prereq: 773 and written permission of instructor. Repeatable to a maximum of 9 cr hrs.

**976 Supervised Practicum in Individual Counseling: Adolescent, Youth, and Adult G 3**

Supervised practice in counseling individual clients of adolescent to adult age; emphasis on developing counseling skills, including: counseling relationship; conceptualizing clients; self-understanding.

Minimum 30 contact hrs. Prereq: 773 and written permission of instructor. Repeatable to a maximum of 9 cr hrs.

**977 Supervised Practice in Group Counseling: Adolescent, Youth, and Adult G 3**

Supervision of each enrollee who counsels with a group of adolescents, youths or adults in a school or other institutional setting.

Minimum 30 contact hrs. Prereq: 773 and written permission of instructor. Repeatable to a maximum of 9 cr hrs.

**978 Supervised Field Experience G 3**

Supervised practice in guidance and counseling activities in the work setting; emphasis on the range of activities performed by guidance workers in school and related settings.

Rehabilitation Services-100 field contact hrs; Counselor Education-minimum 20-40 field contact hrs. Prereq: 773 and written permission of instructor. Repeatable to a maximum of 9 cr hrs.

**979 Supervised Practicum in Rehabilitation Services G 3**

Faculty-supervised rehabilitation counseling services within an approved rehabilitation agency.

10 hrs supervised field experience during the qtr. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**989 Internship in Sport Management G 9**

Full-time professional development experience at an approved sport worksite setting. Opportunity to apply theory and skills learned in class under direction of on-site supervisor. Internship--350 to 400 hrs. Reading/research/assignments--20hrs.

Prereq: 889 and permission of instructor. This course is graded S/U.

**992 Internship in School Psychology G 3,6,9,12**

Professional experiences planned by the student, staff member, and local school supervisor.

1,200 clock hrs for 3-qr sequence. Prereq: Permission of instructor. Limited to select PhD and post-master's students specializing in school psychology. Repeatable to a maximum of 36 cr hrs.

# Education: Physical Activity and Educational Services

## 995 Doctoral-level Internship in Counseling G 3-15

Supervised internship in professional counseling for doctoral-level students in educational, mental health, or related settings.

Arr. Prereq: PhD standing or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

## 999 Research

Research for thesis or dissertation purposes only.

### 999.10 Special Education G 1-18

Repeatable. This course is graded S/U.

### 999.20 Sport and Exercise Education G 1-18

Repeatable. This course is graded S/U.

### 999.21 Sport and Exercise Humanities G 1-18

Repeatable. This course is graded S/U.

### 999.22 Sport and Exercise Management G 1-18

Repeatable. This course is graded S/U.

### 999.23 Sport and Exercise Science G 1-18

Repeatable. This course is graded S/U.

### 999.25 Rehabilitation Services G 1-18

Repeatable. This course is graded S/U.

### 999.34 Counselor Education G 1-18

Repeatable. This course is graded S/U.

### 999.40 Workforce Development and Education G 1-18

Repeatable. This course is graded S/U.

### 999.63 School Psychology G 1-18

Repeatable. This course is graded S/U.

## Education: Teaching and Learning

Office of Academic Services, 292-2332

333 Arps Hall, 1945 North High Street

The areas of specialization and the courses in the School of Teaching and Learning comprising these areas of specialization are listed below:

### Integrated Teaching and Learning

289.02, 289.10, 294.10, 294.52, 294.55, 294.58, 294.70, 460,467, 489.10, 489.70, 501, 511, H599, 607, 660, 674, 685, 690, 692.10, 692.50, 692.52, 692.55, 692.58, 692.70, 693.10, 693.50, 693.52, 693.55, 693.58, 693.70, 694.10, 694.50, 694.52, 694.55, 694.58, 694.70, 701, 702, 704, 705, 706, 708, 709, 728, 729, 731, 736, 737, 738, 747, 754, 766, 809, 811, 812, 813, 814, 815, 818, 819, 820, 821, 822, 823, 824, 825, 826, 829, 830, 831, 832, 833, 835, 838, 839, 842, 848, 849, 852, 866, 869, 870, 871, 872, 874, 884.10, 884.50, 884.52, 884.55, 884.58, 884.70, 885.52, 885.55, 885.58, 893.10, 893.50, 893.52, 893.55, 893.58, 893.70, 894.10, 894.50, 894.52, 894.55, 894.58, 894.70, 920, 925.10, 925.50, 925.52, 925.55, 925.58, 925.70, 973, 974, 975, 976, 999.10, 999.50, 999.52, 999.55, 999.58, 999.70.

### Language, Literacy and Culture

294.28, 294.45, 412, 589, 606, 612, 615, 616, 617, 618, 619.11, 619.12, 624, 633, 634, 638, 639, 640, 642, 643, 645, 646, 647, 648, 656, 665, 670, 671, 697, 698.01, 698.02, 692.25, 692.28, 692.45, 692.56, 693.25, 693.28, 693.45, 693.56, 694.25, 694.28, 694.45, 694.56, 703, 710, 722, 725, 739, 740, 741, 800, 801.01, 801.02, 801.03, 803, 804, 805, 806, 807, 808, 816, 817, 827, 828, 840, 841, 843, 853, 854, 855, 856, 860, 861, 862, 864, 865, 868, 873, 878, 881, 882, 884.25, 884.28, 884.45, 884.56, 893.25, 893.28, 893.45, 893.56, 894.25, 894.28, 894.45, 894.56, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 921, 922, 923, 924, 925.25, 925.28, 928.45, 928.56, 930, 960, 962, 963, 970, 971, 985, 999.25, 999.28, 999.45, 999.56.

### Mathematics, Science and Technology

120, 220, 221, 222, 224, 225, 227, 228, 231, 232, 235, 236, 243, 250, 255, 310, 355, 489.01, 489.02, 489.03, 489.04, 489.05, 525, 532, 533, 534, 610, 611, 613, 614, 621, 636, 689.01, 689.02, 692.21, 692.23, 692.26, 692.27, 693.21, 692.23, 693.26, 693.27, 694.21, 694.23, 694.26, 694.27, 711.01, 711.02, 711.03, 711.04, 712.01, 712.02, 712.03, 721.01, 721.02, 730, 732, 733, 735, 742, 748, 749, 750, 751, 752, 772, 802.01, 802.02, 802.03, 802.04, 802.05, 802.06, 834, 836, 837, 844, 845, 846, 850, 858, 859, 884.21, 884.23, 884.26, 884.27, 893.21, 893.23, 893.26, 893.27, 894.21, 894.23, 894.26, 894.27, 899, 925.21, 925.23, 925.26, 925.27, 999.21, 999.23, 999.26, 999.27.

### ESL (English as a Second Language)

020, 021, 022, 023, 104, 105, 106(106G), 107(107G), 108.

## 020 Beginning Intensive English as a Second Language U 0

Intensive instruction in English as a second language for students at a beginning level of proficiency; listening, speaking, structure, reading, and writing.

Su, Au, Wi, Sp Qtrs. 5 5-hr cl. Prereq: Admission to American Language Program and approval of ALP director. Repeatable for 2 qtrs. Repeatable. This is a Progress course. This course is graded S/U.

## 021 Elementary Intensive English as a Second Language U 0

Intensive instruction in English as a second language for students at an elementary level of proficiency; listening, speaking, structure, reading, and

writing.

Su, Au, Wi, Sp Qtrs. 5 5-hr cl. Prereq: Admission to American Language Program and approval of ALP director. Repeatable for 2 qtrs. Repeatable. This is a Progress course. This course is graded S/U.

## 022 Intermediate Intensive English as a Second Language U 0

Intensive instruction in English as a second language for students at an intermediate level of proficiency; listening, speaking, structure, reading, and writing.

Su, Au, Wi, Sp Qtrs. 5 5-hr cl. Prereq: Admission to American Language Program, approval of ALP director, and completion of 021 or equiv. Repeatable for 2 qtrs. Repeatable. This is a Progress course. This course is graded S/U.

## 023 Advanced Intensive English as a Second Language U 0

Intensive instruction in English as a second language for students with advanced proficiency; listening, speaking, structure, reading, and writing, with emphasis on English for academic purposes.

Su, Au, Wi, Sp Qtrs. 5 5-hr cl. Prereq: Admission to American Language Program, approval of ALP director and completion of 022 or equiv. Repeatable for 2 qtrs. Repeatable. This is a Progress course. This course is graded S/U.

## 101 American Sign Language I U 5

Speaking and listening skills in American Sign Language. Developed at an informal conversational level; instruction occurs primarily in ASL without speech.

Not open to students with credit for English 101. This course is available for EM credit. Credit counts toward Foreign Language Sequence for GEC's. GEC for lang course.

## 104 Basic Spoken English for International Graduate Teaching Associates U 5

Practice of basic oral and aural English language skills for non-native speakers.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Placement test or recommendation of director. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

## 105 Classroom English for International Graduate Teaching Associates U 5

Practice of spoken and pedagogical skills for effective classroom teaching by non-native speaking graduate teaching associates.

Su, Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: Successful completion of 104 and/or Sph/Hrng 035; or placement test; or recommendation of director. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

## 106 General English as a Second Language U 5

Review of English structure for non-native speakers of English; major emphasis is on writing, with attention also to development of oral-aural skills.

Su, Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: Placement test or recommendation of director. Not open to students having earned a D or above in 071, 072, or 073. This is a Progress course.

## 107 Advanced English as a Second Language U 5

Reviews advanced English patterns with emphasis on their use in writing essays.

Prereq: Placement test or grade of D or above in 106. Not open to students having earned a D or above in 072 or 073. This is a Progress course.

## 108 Academic Writing in English as a Second Language

Attention given to various practices involving reading and source-based writing. Rhetorical and linguistic issues addressed.

Su, Au, Wi, Sp Qtrs. Prereq: Placement test or grade of D or above in 107. Not open to students having earned D or above in 073.

### 108.01 Undergraduates U 5

Synthesis and argumentative writing in response to literary and nonliterary texts. Intended for undergraduates.

5 cl. This is a Progress course.

### 108.02 Graduates U 5

Writing about and presenting research findings in specific disciplines. Intended for graduates.

5 cl; tutorial time arranged. This is a Progress course.

## 110 Learning and Teaching Life Science U 2

Contemporary and research-based pedagogical methods for designing, constructing and assessing safe and effective science instruction.

Su, Au, Wi Qtrs. 2 cl. Repeatable to a maximum of 6 cr hrs.

## 113 American Sign Language III U 5

Continued building of receptive and expressive skills in ASL, exposure to topics related to deafness and education.

Au Qtr. 2 2.5-hr cl. Prereq: English 102 or equiv. Not open to students with credit for English 103 or Sph/Hrng 103. GEC for lang course.

## 114 American Sign Language IV U 5

Attention to topics related to deafness and education; equity and diversity; historical and emerging perspective on the condition of deafness.

Au Qtr. 2 2.5-hr cl. Prereq: 113 or English 103 or Sph/Hrng 103. Not open to students with credit for English 104 or Sph/Hrng 104. GEC for lang course.

**120 Technology Education Practices and the School U 4**

Studies in technology education; introduction to tools, materials, and processes; study of past, present, and future technology education programs; observation and participation in local schools.

**220 Design of Constructed and Manufactured Goods U 3**

A study of historical and contemporary design technology as it is applied in the construction and manufacturing industries.

Prereq: En Graph 121.

**221 Manufacturing Practices I U 4**

A study of basic concepts of manufacturing technology through experiences in forming, separating, combining, and assembling materials used in the production of manufactured goods.

Prereq: 120 or 220.

**222 Manufacturing Practices II U 5**

A study of manufacturing management technology, manufacturing production technology, and manufacturing personnel technology through experiences in planning, engineering and production of selected manufactured goods.

Prereq: 221.

**224 Mechanical Systems and Servicing U 4**

Study of energy sources converted to power and techniques necessary for the application of mechanical power systems to servicing mechanical power systems.

Prereq: 120.

**225 Transmitting and Utilizing Mechanical Power U 4**

Study of the selection, installation, operation, and maintenance of mechanical power transmission systems for technological and transportation activities.

Prereq: 224.

**227 Electrical Systems and Servicing U 4**

Study of techniques necessary for the application of electricity to practices used in fabricating and servicing of electrical systems.

Prereq: 120.

**228 Electronic Systems and Servicing U 4**

Study of techniques necessary for the application of electronics to practices used in fabricating and servicing electronic systems.

Prereq: 227.

**231 Construction Practices I U 5**

A study of basic concepts of construction technology through experiences in forming, separating, and combining materials used in the production of residential structures.

Prereq: 120 or 220.

**232 Construction Practices II U 5**

A study of construction management, production, and personnel technologies through real and simulated experiences in the production of constructed goods.

Prereq: 231.

**235 Graphic Reproduction Practices U 4**

An examination of graphic reproduction processes, manipulative skills necessary to teach graphic reproduction processes, and administrative procedures required to operate a graphic arts program.

Prereq: 120; 220.

**236 Printing and Publishing Practices U 4**

An examination of the managed production system utilized in the printing and publishing industry.

Prereq: 235.

**250 Work Experience in Industry U 3-6**

Firsthand study of working conditions, methods, and processes of industry, and their implication for the teaching of technology education.

Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**255 Handicrafts U 4**

Designed to develop skills and knowledge in the use of the common areas of handicrafts such as leather, metals, plastics, wood, and the graphic arts.

Open only to occ ther and sport and leisure studies majors. Repeatable to a maximum of 12 cr hrs.

**260 Introduction to Early Childhood Education U 3**

Explores the history of and issues surrounding the field of early childhood education. Topics of program administration and health and safety issues are covered.

Wi Qtr. 1 2.5-hr cl.

**261 Cultural Diversity and the Young Child U 3**

Explores the concepts of cultural diversity and multicultural education and their impact on the young child.

Wi Qtr. 1 2.5-hr cl.

**262 Literacy Development and the Prekindergarten Child U 5**

Explores the issues and theories surrounding literacy development in the prekindergarten child. Development of practical application of theory is addressed.

Sp Qtr. 2 2-hr cl, 3-4 hrs of field work.

**263 Curriculum Development in Prekindergarten Programs U 5**

Examines the integrated approaches to curriculum planning for young children in prekindergarten programs.

Wi Qtr. 2 2-hr cl, 3-4 hrs of field work.

**289 Field Experience**

Professional service with children or youth in a school or community agency.

Prereq: Permission of instructor.

**289.10 Elementary Education U 2-5**

Planned elementary education field experience under supervision.

Su Qtr. Prereq: Permission of instructor. Repeatable hrs including 289.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**289.21 Technology Education U 2-5**

Experience in technology education classrooms, emphasis on observation and assisting in the preparation and delivery of learning activities. Includes a seminar to discuss experiences.

Must have at least 40 hrs of technology content coursework required. Repeatable to a maximum of 20 cr hrs. 5 3-hr field experiences.

**294 Group Studies**

Group studies for students in specialized programs.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**294.10 Elementary Education U 1-5**

Repeatable to a maximum of 15 cr hrs.

**294.28 Social Studies U 1-5**

Repeatable to a maximum of 15 cr hrs.

**294.45 Foreign and Second Language Education U 1-5**

Repeatable to a maximum of 15 cr hrs.

**294.52 Visual Disabilities U 1-5**

Repeatable to a maximum of 15 cr hrs.

**294.55 Hearing Disabilities U 1-5**

Repeatable to a maximum of 15 cr hrs.

**294.70 Early Childhood Education U 1-5**

Repeatable to a maximum of 15 cr hrs.

**333 Special Studies in English as a Second Language U 1-5**

Specialized study of English as a second language leading to improved language proficiency. Skills covered include listening, speaking, reading, and composition.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**355 Custom Production of Manufactured Goods U 4**

Study of custom production planning and processing of industrial goods through experiences in the custom production of selected manufactured goods.

Prereq: 3rd yr standing in major. Not open to students with credit for 255.

**415 Discourse Techniques in Narratives in American Sign Language U 5**

To assist students in establishing the basic building blocks of a successful signed narrative with various elements including mapping a mental model.

Prereq: English 101, 102; Edu T&L 113, 114; or Sph/Hrng 103, 104 (ASL 1-4). Taught in American Sign Language.

**460 Elementary Education: Child Guidance U 4**

Designed to develop an understanding of child growth and development principles in relation to instruction.

**467 Introduction to Children's Literature U 3**

Study of literature for children with emphasis on standards for selecting materials with reference to the interests, needs, and abilities at different age levels.

**488 Introductory Methods for Prospective Teachers in Middle Childhood Education**

Introduction to pedagogical principles for prospective middle childhood teachers.

Prereq: Admission to appropriate pre-education program.

**488.01 Mathematics Methods for Middle Childhood Teachers U 3**

**488.04 Science Methods for Middle Childhood Teachers U 3**

**488.06 Social Studies Methods for Middle Childhood Teachers U 3**

**488.07 Language Arts Methods for Middle Childhood Teachers U 3**

## 152 Education: Teaching and Learning

### 489 Advanced Field Experience

Directed field experience emphasizing appropriate teaching strategies for different school age children and school settings.

Prereq: Admission to appropriate teacher education program.

#### 489.01 Middle Childhood Mathematics Education U 2-5

2.5 hrs arranged/credit. Prereq: Admission to an appropriate pre-education program. Repeatable to a maximum of 15 cr hrs. Students will be placed in a middle childhood mathematics classroom.

#### 489.02 Science Education Elementary School Program U 3-5

Repeatable to a maximum of 15 cr hrs.

#### 489.03 Secondary School Mathematics Education U 3-5

Repeatable to a maximum of 15 cr hrs.

#### 489.04 Middle Childhood Science Education U 2-5

2.5 hrs arranged/credit. Prereq: Admission to an appropriate pre-education program. Repeatable to a maximum of 15 cr hrs. Students will be placed in a middle childhood science classroom.

#### 489.05 Science Education Secondary School Science Classes and Laboratories U 3-5

Repeatable to a maximum of 15 cr hrs.

#### 489.06 Middle Childhood Social Studies Education U 2-5

2.5 hrs arranged/credit. Prereq: Admission to an appropriate pre-education program. Repeatable to a maximum of 15 cr hrs. Students will be placed in a middle childhood social studies classroom.

#### 489.07 Middle Childhood Reading and Language Arts Education U 2-5

2.5 hrs arranged/credit. Prereq: Admission to an appropriate pre-education program. Repeatable to a maximum of 15 cr hrs. Students will be placed in a middle childhood Reading and Language Arts classroom.

#### 489.10 Elementary Education U 3-5

Repeatable to a maximum of 15 cr hrs.

#### 489.21 Technology Education U 3-5

Experience in technology education classrooms with emphasis on taking on full teacher duties for one class. Includes a seminar to discuss experiences.

Prereq: 289.21. Repeatable to a maximum of 15 cr hrs. 5 3-hr field experiences.

#### 489.70 Early Childhood Education. U 3-5

Repeatable to a maximum of 15 cr hrs.

### 501 Kindergarten and Preschool Teaching U 3

Recent development in the education of young children and its influence on the selection and guidance of appropriate activities.

### 511 Elementary Education: Science U 4

The role of science in childhood education; study of content, methods, materials, and equipment.

### 525 Automation of Production Systems for Technology Educators U 5

An introduction to robotics and automation, their applications to manufacturing, construction, communication, energy-power, systems, and methods of teaching about them; includes laboratory experiences.

Prereq: 222 and 227.

### 589 Field Experience for Integrated Language Arts and English U 3

Course will provide students with an opportunity to explore middle and secondary English language arts teaching through readings, group discussion, and field experience.

20 hours of observation in a local school. This course is a prerequisite for the Integrated Language Arts licensure and Masters of Education (M.Ed.) program.

### H599 Honors Course U 3-5

A program of accelerated study for students with special aptitudes.

Prereq: Enrollment in the Honors Achievement Program and permission of instructor. Graduate non-degree students may need permission for many graduate courses.

### 601 Foundations of Middle Childhood Education: Theory, Philosophy, and Organization

Examination of the history, rationale, philosophy, organization, and distinctive components fundamental to middle childhood education.

#### 601.07 General Student Body U G 3

#### 601.20 Middle Childhood Education U G 3

### 603 Interdisciplinary Teaching and Learning for Middle Childhood

Focus on the interrelatedness of the disciplines and the design, implementation, and assessment of curriculum and pedagogy for middle childhood learners.

#### 603.07 General Student Body U G 3

#### 603.20 Middle Childhood Education U G 3

### 605 Writing for International and Second Language Graduate Students

Provide international graduate students guidance and practice with writing in various genres essential to an academic career.

2-2-hr cl. Prereq: Edu T&L 108.02 or 'qualified' status. Enrollment by permission of instructor. Tutorial time arranged.

#### 605.01 Writing for Coursework for International and 2nd Language Graduate Students G 3

Guidance and practice in writing for graduate level coursework for learners of English.

Wi Qtr. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

#### 605.02 Writing Up Research for International and 2nd Language Graduate Students G 3

Designed to help international graduate students in preparing a conference paper and in preparing a manuscript for publication.

Su Qtr. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

#### 605.03 Thesis Proposal and Dissertation Writing for International and 2nd Language Graduate Students G 3

Preparation of thesis and dissertation proposals and thesis and dissertation chapters.

Sp Qtr. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

### 606 Language Arts in the Bilingual/Multicultural Classroom U G 3

Research and theories of first and second language acquisition as related to methods of teaching, listening, speaking, reading, and writing in bilingual/multicultural classroom.

Prereq: written permission of instructor.

### 607 Writing Course in Early and Middle Childhood Education U 5

Designed to help students reflect critically, both orally and in writing, on the social, political, and cultural contexts that influence education in today's society.

### 608 Education in the Community U G 5

Students will understand how the community impacts education by connecting academic content with service in local agencies. Diversity, partnerships, mentoring and other areas are included, two hours of service/week required.

Wi Qtr. 3 hrs class, 2 hrs service. Offered as an elective, counts toward BS/BA.

### 610 History of Practical Arts and Vocational Education U G 3

History of those vocational and non-vocational phases of agriculture, business, industry, and homemaking which concern education.

### 611 Great Lakes Education Workshop U G 1-4

Techniques and curricula for presenting interdisciplinary aspects of the oceans and Great Lakes in formal and informal education settings.

10 hrs cl per cr, 1.5days per cr, 10 4-hr cl. Prereq: Teaching certificate or sr standing. Not open to students with credit for Nat Res 691 or 611 or Educ 727-Sea Grant. Repeatable to a maximum of 5 cr hrs.

### 612 Linguistic Materials for Teachers U G 3

Study of linguistic systems, language acquisition, and sociolinguistics as they bear on the work of classroom teachers.

### 613 Methods for Conservation Education U G 3

Experience centered course for conservation/natural resources education including objectives, instructional, and evaluative procedures appropriate to formal and non-formal settings.

Prereq: Sr or grad standing. Not open to students with credit for Nat Res 613.

### 614 Marine and Aquatic Education U G 3

Overview of oceanic and Great Lakes resources, their functions in history, climate, commerce, and culture, and the school curriculum.

Prereq: 20 cr hrs of social, physical, and/or biological sciences or teacher licensure, and permission of instructor. Not open to students with credit for Nat Res 614. Travel and subsistence costs for field trips must be borne by students.

### 615 Teaching of Modern Foreign Language I U G 4

Theory and practice of teaching foreign language in beginning classes; use and preparation of instructional materials based on research studies.

Open only to M Ed students. Course meets concurrently with 616.

### 616 Teaching of Modern Foreign Language II U G 4

Study of the use of new instructional materials for intermediate and advanced foreign language classes; teaching of reading, writing, literature, and culture; evaluation.

Open only to M Ed students. Course meets concurrently with 615.

### 617 Teaching of Foreign Languages in the Elementary School U G 4

Skill development in teaching of spoken and written foreign languages on the elementary school level; construction and use of suitable materials; discussion of issues and problems, evaluation.

Prereq: 15 cr hrs of educ and written permission of instructor.

**618 Teaching of Latin U G 4**

Values, teachers' equipment, objectives, and methods; classroom procedures; lectures and assigned readings.

3 cl. lab arr. Prereq or concur: Latin 201 and 202, and an additional 6 cr hrs in Latin.

**620 Issues of Theory and Practice in the Inclusive Classroom**

This course explores issues related to inclusion of children with disabilities in schools, including collaborative models, content and instruction modification and differentiated education.

**620.20 Issues of Theory and Practice in the Inclusive Classroom U G 3**

Issues of theory, philosophy and practice related to the inclusion of special needs students within the inclusive general education classroom. Course devoted to issues for general educators who will work in inclusive classrooms.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Admission to the MCE M Ed program or permission of instructor.

**621 Teaching Mathematics in Secondary Schools U G 3**

Selected problems in curriculum; evaluation, materials of instruction, and the teaching of specific topics in arithmetic, algebra, and geometry.

Prereq: Admission to M.Ed. or permission of instructor.

**624 Social Education U G 3**

Analyses of social structures and processes in classroom grouping arrangements; teacher social roles, school traditions, ceremonies, clubs, and athletics.

Prereq: Permission of instructor or teaching experience.

**633 Teaching and Learning with Drama: Introduction U G 3**

Introduction to the use of drama and imagination in education.

Prereq: Experienced teacher or jr/sr standing with some field experience. Repeatable to a maximum of 6 cr hrs.

**636 Practicum in Science for Teachers**

Use and design of apparatus, demonstrations, and experiments for general science, chemistry, biology, and physics, with special emphasis on modern secondary school instructional materials in the sciences.

Prereq: Permission of instructor.

**636.01 Methods in Teaching Secondary Science G 3**

Instructional methods for science, with a focus on pedagogy, national reform, and inquiry to ensure transfer of teaching strategies to classroom practice.

Su Qtr. 2.5-hr cl. Prereq: Admission to MSAT M Ed or permission of instructor.

**636.02 Advanced Methods in Teaching Secondary Science G 3**

Instructional methods for science, with an emphasis on teaching through inquiry.

Wi Qtr. 2.5-hr cl. Prereq: Admission to MSAT M Ed or permission of instructor. Students are expected to be concurrently enrolled in a school-based practicum.

**638 Teaching of Secondary Social Studies I U G 4**

Designed to help future social studies teachers conceptualize social studies and develop understanding of methods and materials for classroom instruction.

**639 Teaching of Secondary Social Studies II U G 4**

Trends, problems, issues, and instructional strategies in secondary social studies with emphasis on simulations, case studies, the media, role playing, controversial issues, and multicultural education.

**640 Methods and Techniques of Teaching English to Speakers of Other Languages U G 4**

Study of the use of new instructional materials for intermediate and advanced TESOL classes; teaching of reading, writing, literature, and culture; evaluation.

Prereq: Permission of instructor.

**641 Journalism in the Secondary School U G 3**

A course designed for pre-service teachers who plan to teach school newspaper, yearbook, broadcast and news media in middle school or high school (grades 7-12).

Prereq: Admission to the masters of education (M.Ed.) program. This course is graded S/U.

**642 Teaching Reading Across the Curriculum**

Provides M Ed students with the knowledge and tools they need to support the developmental reading and literacy skills of middle and secondary students.

Prereq: Admitted into an M Ed program, Human Ecology major, or permission of instructor. Appropriate for students planning to obtain teacher licensure at the secondary level. Does not substitute for reading core in Early Childhood; Middle Childhood; or Intervention Specialist licensure.

**642.07 General Student Body U G 3**

**642.23 Math, Science and Technology U G 3**

**642.99 Language, Literacy and Culture U G 3**

**643 Social Education and Language, Literacy, and Culture**

The relationship of social structures, schooling, and educational issues examined in relationship to the use of language, civic literacy, and culture.

Prereq: Admission to LLC M Ed program.

**643.07 General Student Body G 3**

**643.99 Language, Literacy and Culture U G 3**

**644 Dramatizing Texts U G 3**

The use of drama for interpreting all genres of texts.

Repeatable to a maximum of 6 cr hrs.

**645 Teaching Writing in the Secondary School G 4**

Designed to assist students to understand writing development to develop process-oriented approaches to writing instruction.

Prereq: Admission to LLC M Ed program. Field experiences required. Requirement for M Ed students in LLC with a specialization in English Education.

**646 Teaching Literature in the Secondary School G 4**

Focus on leading discussions of literature, teaching literature-writing assignments, and using writing to foster literary understanding.

Prereq: Admission to LLC M Ed program. Field experiences required. Required for M Ed students in LLC with a specialization in English Education.

**647 The Arts and Early Childhood Education G 3**

Students will learn how the arts are integral to early childhood education and how to create integrated contexts for teaching and learning.

**656 Literature for Adolescents U G 3**

Literature for individual, group, and whole-class reading in junior and senior high schools; interest factors, readability, and literary value as criteria for selection; bibliographic aids.

**660 Language Competence of Children and Youth with Disabilities U G 3**

Familiarization of students with the impact of disabling conditions on children and youth's development of language.

**665 Applied Linguistics for Teachers of Reading/Language Arts U G 3**

Structure of language, language acquisition, and language variation applied to language arts/reading principles, methods, and materials.

**668 Reading Foundations**

Introduction to basic concepts about the reading process, learning to read, social/cultural factors affecting literacy development and effective instruction.

Prereq: Jr standing or above.

**668.07 General Student Body U G 4**

**668.20 Middle Childhood Education U G 4**

**668.70 Early Childhood Education U G 4**

**669 Understanding Phonics and Its Role in Reading Instruction**

Detailed examination of how English maps spellings to pronunciations, the role of phonics knowledge in learning to read, and effective assessment and instruction.

Prereq: 668 or 668.07 and 467 or 817; jr standing or above.

**669.07 General Student Body U G 5**

**669.20 Middle Childhood Education U G 5**

**669.70 Early Childhood Education U G 5**

**670 Remedial and Clinical Reading Instruction U G 4**

An overview of theory and practice, including causes, diagnostic procedures, remediation, and instructional materials.

Prereq: 668 and 669 or permission of instructor.

**671 Clinical Practice in Treating Reading Disabilities U G 5**

Use of test materials in the diagnosis of reading disabilities; practice with remedial procedures.

Prereq: 670 and permission of instructor.

**674 Family Participation in Early Childhood School Programs**

The purposes and importance of family involvement in early childhood school programs, types of programs, resources, methods, and curricula.

**674.07 General Student Body U G 3**

**674.70 Early Childhood Education U G 3**

**684 Field Experience**

Planned professional teaching experience under supervision in a public school or other educational agency.

Prereq: Permission of instructor.

**684.21 Technology Education U G 1-15**

Experience in technology education classrooms with emphasis on taking on full teacher duties. Includes a seminar to discuss experiences.

1 2-hr seminar plus field supervision. Prereq: 489.21. Repeatable to a maximum of 24 cr hrs. 5 7-hr field experiences.

**684.28 Secondary Social Studies U G 1-15**

Experiences in appropriate middle and high school social studies classrooms with an emphasis on acquiring skills to work with students and preparing, conducting and evaluating learning activities.

Must have 80 hrs in a combination of history, geography, economics, political science and sociology courses required for secondary social studies licensure. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**685 Orientation and Mobility for Teachers of Students with Visual Disabilities U G 3**

Readiness activities, assessment procedures, instructional strategies, and direct experience with selected travel techniques for persons with visual disabilities.

**690 Practicum in Problems of Public Education U G 3**

Group review of specific problems in public education. 3 cl. Open to experienced teachers and administrators. Request to offer practicum must be received by dept in time to allow for planning.

Repeatable to a maximum of 9 cr hrs, including cr hrs in Ed-P&L 690. Repeatable to a maximum of 9 cr hrs. Cross-listed in Educational Policy and Leadership. This course is graded S/U.

**692 Workshops**

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.

Prereq: Teaching experience and written permission of workshop director. Repeatable with not more than 4 workshops to a maximum of 12 cr hrs.

**692.10 Elementary Education U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.20 Middle Childhood Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.21 Technology Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.23 Mathematics, Science and Technology Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.25 English Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.26 Mathematics Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.27 Science Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.28 Social Studies Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.45 Foreign and Second Language Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.46 TESOL U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.50 Integrated Teaching and Learning U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.52 Visual Disabilities U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.55 Hearing Disabilities U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.56 Drama, Language Arts, Literature and Reading Education U G 1-8**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**692.70 Early Childhood Education U G 1-8**

Repeatable to a maximum of 12 cr hrs.

**692.99 Language, Literacy and Culture U G 1-18**

Repeatable to a maximum of 12 cr hrs.

**693 Individual Studies**

Prereq: Permission of instructor. A total of not more than 30 cr hrs of individual study (any 693) will apply toward graduation for undergrad students, or 15 cr hrs for the master's degree and 30 cr hrs for the doctoral degree.

**693.10 Elementary Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.20 Middle Childhood Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.21 Technology Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.23 Mathematics, Science and Technology Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.25 English Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.26 Mathematics Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.27 Science Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.28 Social Studies Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.45 Foreign and Second Language Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.46 TESOL U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.50 Integrated Teaching and Learning U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.52 Visual Disabilities U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.55 Hearing Disabilities U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.56 Drama, Language Arts, Literature and Reading Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.70 Early Childhood Education U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.99 Language, Literacy and Culture U G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies**

Group studies on special problems in education.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs, including cr hrs.

**694.10 Elementary Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.20 Middle Childhood Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.21 Technology Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.23 Mathematics, Science and Technology Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.25 English Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.26 Mathematics Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.27 Science Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.28 Social Studies Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.45 Foreign and Second Language Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.46 TESOL U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.50 Integrated Teaching and Learning U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.52 Visual Disabilities U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.55 Hearing Disabilities U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.56 Language Arts, Literature and Reading Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.70 Early Childhood Education U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**694.99 Language, Literacy and Culture U G 1-5**

Repeatable to a maximum of 20 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable to different titled study tours only.

**698.01 Domestic U G 1-5**

Repeatable.

**698.02 Foreign U G 1-5**

Repeatable.



**700 Interprofessional Education**

Focus on ethical issues, changing professional/consumer rights, and interprofessional cooperation. Limited to students enrolled in allied medical professions, education, law, medicine, nursing, social work, and theology. Repeatable to a maximum of 9 cr hrs; subdivisions are not repeatable, except 700.04 which is repeatable to a maximum of 10 cr hrs. Cross-listed in Edu-P&L and Edu-PAES

**700.01 Seminar on Interprofessional Care U G 3**

Treatment of the whole person through the analysis of the interrelated problems of actual cases. Repeatable to a maximum of 9 cr hrs.

**700.02 Changing Societal Values U G 3**

Identification and clarification of values considerations as they relate to professional problems in dealing with consumers/clients/patients. Repeatable to a maximum of 9 cr hrs.

**700.03 Seminar on Ethical Issues Common to the Helping Professions U G 3**

Ethical issues of concern to the professions and arising out of advanced technology; euthanasia, enforced treatment, privacy and confidentiality, malpractice, and the social responsibility of the professions. Repeatable to a maximum of 9 cr hrs.

**700.04 Interprofessional Practicum in Clinical Settings U G 3,5**

Interprofessional teamwork in clinical settings. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**700.05 Interprofessional Seminar in Policy Analysis U G 3**

Explores interprofessionally the history, formation, and implementation of public policy issues of significance to seven helping professions. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**700.06 Care of Chemically Dependent Families U G 3**

Interprofessionally explores issues in the identification and treatment of chemical dependency within the family context. Repeatable to a maximum of 9 cr hrs.

**700.07 Interprofessional Approaches to Child Abuse and Neglect G 3**

Interprofessionally explores issues in the identification, treatment, and prevention of child abuse and neglect. Prereq: Permission of instructor. Limited to 12 students each in allied medicine, education, law, medicine, nursing, psychology, social work, and theology through Columbus Cluster. Repeatable to a maximum of 9 cr hrs.

**701 A Survey of Current Research and Trends in Early and Middle Childhood Education**

Designed to emphasize the appraisal of recent research and its application to teaching practice and educational policy in the area of early and middle childhood education.

**701.07 General Student Body U G 3**

**701.20 Middle Childhood Education U G 3**

**701.70 Early Childhood Education U G 3**

**702 Language Arts for Children Ages 3 to 9**

Examination of children's oral and written language development and related theoretical understandings instrumental for teaching language arts.

Prereq: Admission to Early Childhood M Ed program.

**702.07 General Student Body G 3**

**702.70 Early Childhood Education G 3**

**703 Studies in TESOL and Bilingual Education**

Studies of the theories underlying the teaching and learning of English as a second language and bilingual education: analyses of curricular designs and innovative programs.

**703.07 General Student Body U G 3**

Prereq: Jr standing.

**703.08 M. A. Students Only G 3**

**703.09 Ph D. Students Only G 3**

**704 Integration of Child Development and Learning Theories**

Focus on how children's behavior and learning develop in education contexts ranging from early childhood through the adolescent years.

Prereq: Admission into approved program in College of Education.

**704.07 General Student Body G 3**

**704.20 Middle Childhood Education G 3**

**704.70 Early Childhood Education G 3**

**705 Reading Methods for Early Childhood**

Focus on the acquisition and development of reading skills in early childhood. (Pre-K-3rd grade).

Prereq: New Phonics and Reading Foundations Courses.

**705.07 General Student Body G 3**

**705.70 Early Childhood Development G 3**

**706 Teaching and Learning Language Arts for Middle Childhood**

Focus on principles and practices for facilitating the effective development and use of oral and written language by children in grades 4-9.

**706.07 General Student Body G 3**

**706.20 Middle Childhood Education G 3**

**708 Teaching and Learning of Mathematics in Grades PreK-3, Part I**

Examination of instructional strategies that facilitate the teaching and learning of mathematics in grades Pre K-3.

Prereq: 702 or 702.07 or 702.70 and 704 or 704.07 or 704.20 or 704.70.

**708.07 General Student Body G 3**

**708.70 Early Childhood Development G 3**

**709 Teaching and Learning of Mathematics for Middle Childhood**

Examination of instructional strategies that facilitate the teaching and learning of mathematics for middle childhood.

Prereq: 702 or 702.07 or 702.70, 704 or 704.07 or 704.20 or 704.70, and 708 or 708.07 or 708.70.

**709.07 General Student Body G 3**

**709.20 Middle Childhood Education G 3**

**710 Selecting and Developing Second Language Instructional Materials U G 3**

Selection and development of second language instructional materials including theoretical considerations and practical applications; evaluation of instructional materials, creating materials, and adapting materials to student needs.

Prereq: 615 or permission of instructor.

**711 Concepts of School Mathematics**

Organizing concepts of school mathematics, their development through the mathematics curriculum, and their role on the learning of mathematics.

Prereq: A course in foundations of math or concur Math 645, grad standing in math educ or math or permission of instructor. Subdivisions intended to be taken in sequence. Subdivisions not repeatable.

**711.01 Functions G 3**

Prereq: Permission of instructor.

**711.02 Equivalence G 3**

Prereq: 711.01 or permission of instructor.

**711.03 Measurement, Geometry and Probability G 3**

Examination of instructional strategies and connected mathematical processes of measurement, geometry and probability.

1 2.5 hr cl. Prereq: Grad studies in Math Ed, admission to PreK-6 math endorsement program or permission of instructor.

**711.04 Number, Algebra and Data Analysis G 3**

Examination of instructional strategies and connected mathematical process of number, algebra and data analysis.

1 2.5 hr cl. Prereq: Grad studies in Math Ed, admission to PreK-6 math endorsement program or permission of instructor.

**712 Methods of School Mathematics**

Examination of curriculum, instruction, and forces that influence curriculum and instruction in school mathematics, grades 7 through 12.

Prereq: Grad standing in math edu or permission of instructor.

**712.01 Introduction to Teaching of Secondary School Mathematics G 3**

**712.02 Classroom Procedures G 3**

**712.03 Providing Effective Instruction in Mathematics G 3**

**713 Teaching and Learning of Mathematics in Grades PreK-3, Part II**

This course is designed to improve pre-service teachers' understanding and capacity to use national and state standards, learning theories, research based instructional methods, formative and summative assessment.

Wi Qtr. 2.5 hr wk. Prereq: 708.07 or 708.70 and admission to ITL Early Childhood MEd or permission of instructor.

**713.07 General Student Body G 3**

**713.70 Early Childhood Development G 3**

**714 Providing Professional Development in Mathematics Education G 3**

Provides participating students with guidance and opportunity to create and implement quality mathematics professional development with a focus on reflection and application.

2 1.5-hr cl. Prereq: Admission to the preK-6 math specialist endorsement.

**715 Integration of Science and Mathematics Learning Using Real Data Sets U G 3**

Project-based learning that integrates science concepts, technology skills, and web-based resources to build mathematical models.

Not open to students with credit for C&R Plan 715. Cross-listed in City and Regional Planning.

**721 Logic, Psychology, Learning and Cognition in School Mathematics, Science, and Technology Education****721.01 Logic and Psychology in School Mathematics U G 3**

A study of the nature of psychological growth and the development of logical ability in children and the implications for teaching mathematics.

Prereq: Teaching experience or written permission of instructor.

**721.02 Logic and Psychology in School Science U G 3**

A study of the nature of psychological growth and the development of logical ability in children and the implications for teaching science.

Prereq: Teaching experience or written permission of instructor.

**721.03 Learning and Cognition in Mathematics, Science, and Technology Education U G 3**

The learning of mathematics, science, and technology education as influenced by cognitive development and the implications of teaching in the middle grades and high school.

**722 Literature Across the Curriculum U G 3**

Non-fiction for ages 4-12 as it contributes to social studies, the sciences, language arts, and the creative arts; emphasis on identifying quality selections and planning related to learning experiences.

**723 Early Childhood Pedagogy I**

Examines teaching and learning in pre-K through grade 3 with a focus on inclusive and diverse pre-K and kindergarten settings.

Open to Early Childhood MEd students and others by permission. Pedagogy I and II are sequenced and required in the Early Childhood Teacher Education Program.

**723.07 General Student Body G 3****723.70 Early Childhood Education G 3****724 Early Childhood Pedagogy II**

Examines teaching and learning in pre-K through grade 3 with a focus on inclusive and diverse first through third grade settings.

Prereq: 723 or 723.07 or 723.70. Open to Early Childhood MEd students and others by permission. Pedagogy I and II are sequenced and required in the Early Childhood Teacher Education Program.

**724.07 General Student Body G 3****724.70 Early Childhood Education G 3****725 Teaching Advanced Foreign Language Courses U G 3**

The teaching of language skills and aesthetic appreciation in advanced foreign language classes; emphasis on teaching interdisciplinary studies: literature, history, fine arts, music, and architecture.

Prereq: At least one French or Spanish course at the 600 level.

**727 Special Topics in Education**

Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.

Prereq: Grad standing or registration in one of the professional schools. Repeatable to a maximum of 20 cr hrs.

**727.10 Elementary Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.20 Middle Childhood Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.21 Technology Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.23 Mathematics, Science and Technology Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.25 English Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.26 Mathematics Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.27 Science Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.28 Social Studies Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.45 Foreign and Second Language Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.46 TESOL G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.50 Integrated Teaching and Learning G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.52 Visual Disabilities G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.55 Hearing Disabilities G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.56 Drama, Language Arts, Literature and Reading Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.70 Early Childhood Education G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**727.99 Special Topics: Language, Literacy and Culture G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**728 Analysis of Teaching Young Children U G 3**

Current education and human development theories as they relate to the teaching-learning phenomenon.

Prereq: Basic course in child development. Designed for grad students/in-service teachers.

**729 Teaching and Learning of Science in Grades Pre K-3 Part I**

Exploration of contemporary alternatives in elementary science education and the development of knowledge and skills for teaching and learning in grades Pre K-3.

Prereq: 702 or 702.07 or 702.70 and 704 or 704.07 or 704.20 or 704.70.

**729.07 General Student Body G 3****729.70 Early Childhood Education G 3****730 Technological Activities for Teachers of Exceptional Children U G 4**

The application of technological practices in developing instructional materials and activities useful in diagnostic and remediation procedures for exceptional learners.

Prereq: ED PAES 650 or 718 or equiv with written permission of instructor. Repeatable to a maximum of 8 cr hrs.

**731 Teaching and Learning of Science for Middle Childhood**

Science methods course required for preservice teachers seeking certification to teach at the middle childhood level.

Prereq: Admission to Middle Childhood M Ed program.

**731.07 General Student Body G 3****731.20 Middle Childhood Education G 3****732 Teaching Technology Education I U G 3**

Development of units of study for technology education programs and a review of exemplars in curriculum, instruction, and evaluation.

**733 Teaching of Technology Education II U G 3**

Study of learning theory and research as applied to effective teaching of technology education.

**734 Teaching of Technology Education III U G 3**

Study of how to serve special needs and culturally diverse populations in technology education.

**735 Organization and Administration U G 3**

International and historic background curriculum resources and development, physical organization, administrative organization, supervisory operation, and professional policies.

**737 Teaching and Learning of Social Studies in Grades Pre K-3**

Exploration of current theories in the teaching and learning of social studies in grades Pre K-3.

Prereq: 702 or 702.07 or 702.70 and 704 or 704.07 or 704.20 or 704.70.

**737.07 General Student Body G 3****737.70 Early Childhood Education G 3****738 Teaching and Learning of Social Studies in Middle Childhood**

Study of current theories in the teaching and learning of the historical, ethical, cultural, geographic, economic, and socio-political aspects of social studies in Middle Childhood.

Prereq: 702 or 702.07 or 702.70, 704 or 704.07 or 704.20 or 704.70 and 737 or 737.07 or 737.70.

**738.07 General Student Body G 3****738.20 Middle Childhood Education G 3****739 Evaluation and Instructional Decision-Making in Literacy**

Evaluation processes and instructional materials useful to elementary and secondary teachers are explored as individual and small group needs.

Prereq: 665. Not open to students with credit for ED-T&P 732.

**739.07 General Student Body U G 3****739.20 Middle Childhood Education U G 3****739.70 Early Childhood Education U G 3****740 Evaluation Processes and Literacy Learning U G 3**

Designed to examine formal and informal measures, theoretical assumptions, and test construction practices. Course will explore impact of language and cultural diversity on student performance.

Not open to students with credit for ED-T&P 734.

**741 Teacher Decision-Making in Language, Literacy, and Culture: Issues Related to Diversity G 3**

Examines the analysis of literacy learning with culturally and linguistically diverse populations.

**742 Supervision of School Science Programs U G 4**

For those concerned with supervision of teacher education programs in science; objectives, curricula, recent trends, classroom management, evaluation of teaching, and professional literature.

Prereq: Teaching experience or permission of instructor.

**743 Teaching and Learning of Science in Grades PreK-3 Part II**

This course will facilitate an understanding of pedagogies, research, and inquiry approaches to further meet state and national standards.

Wi Qtr. 2.5-hr cl. Prereq: 729.07 or 729.70 and admission to ITL Early Childhood MED or permission of instructor.

**743.07 General Student Body G 3****743.70 Early Childhood Education G 3****744 Sexuality and Education G 4**

Explores rights and duties of educators with respect to sexuality and considers how to make classrooms inductive to educational experience for all students.

Prereq: Grad standing. Not open to students with credit for Edu PAES 744. Cross-listed in Education: Physical Activity and Educational Services.

**747 Curriculum and Instructional Strategies for Students with Physical, Sensory, and Multiple Disabilities U G 3**

Development and adaptation of curriculum, materials, and instructional procedures for teaching students with physical, sensory, and multiple disabilities.

Prereq: Permission of instructor.

**748 Teaching Mathematics, Science, and Technology**

Educational theory and its relationship to practice in mathematics, science, and technology education.

Prereq: Admission to the M Ed program or permission of instructor.

**748.01 Introduction to Teaching Mathematics, Science, and Technology G 3**

Study of educational theory and its relationship to practice with a focus on the philosophy, history, and issues in mathematics, science, and technology education.

**748.02 Methods of Integrating Mathematics, Science, and Technology G 3**

Designed for middle and secondary school teachers to increase understanding of issues and trends related to middle and secondary school mathematics, science, and technology education.

**748.03 Reaching All Students in Mathematics, Science, and Technology G 3**

Investigates issues of diversity, equity, management, and assessment in the teaching of integrated Mathematics, Science, and Technology Education.

**749 Fundamental Ideas of School Mathematics**

Development and significance of concepts and processes in school mathematics and their relationship to ideas in other disciplines.

**749.01 Fundamental Ideas of School Mathematics I G 3**

Designed to increase intern pedagogical content knowledge of patterns, functions and algebra as appropriate for grades 7-12.

Au Qtr. 1 3-hr cl. Prereq: Admission to M Ed or permission of instructor.

**749.02 Fundamental Ideas of School Mathematics II G 3**

Designed to increase intern pedagogical content knowledge of geometry and measurement as appropriate for grades 7-12.

Wi Qtr. 1 3-hr cl. Prereq: Admission to M Ed or permission of instructor.

**750 Fundamental Ideas of School Technology G 3**

Development and significance of concepts and processes in school technology and their relationship to ideas in other disciplines.

Prereq: Admission to MSAT M Ed or permission of instructor.

**751 Fundamental Ideas of School Science G 3**

Development and significance of concepts and processes in school science and their relationship to ideas in other disciplines.

Prereq: Admission to MSAT M Ed or permission of instructor.

**752 Science in the School Curriculum U G 4**

Foundations for science curriculum; current development, planning, and evaluation procedures, research.

Prereq: Teaching experience or permission of instructor.

**754 Introduction to American Sign Language U G 3**

Introduction to the use of signs and finger spelling in American Sign Language.

Prereq: Written permission of instructor. Not open to students with credit for Ed-S&R 738.

**760 Educators and the Arts**

A series of courses for educators emphasizing professional development and aesthetic literacy through encounters with artists and the arts.

Open to jr and sr undergrad students by permission of instructor. Does not substitute for Art Educ 600. Repeatable to a maximum of 15 cr hrs, each subdivision repeatable to 9 cr hrs. Classes meet at various schools and educational sites with arranged visits to art galleries, museums, and artists

studios, except for 760.04 (Summer Qtr) which meets at the Wexner Center.

**760.01^ The Visual Arts U G 3**

Experiencing the visual arts through encounters with a variety of it's art forms and through dialogue with visual artists, readings, lectures and discussions.

Not open to students with credit for Edu P&L 750.01. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**760.02 The Literary Arts U G 3**

Experiencing the literary arts through encounters with a variety of it's art forms and through dialogue with literary artists, readings, lectures and discussions.

Not open to students with credit for Edu P&L 750.02. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**760.03 The Performing Arts U G 3**

Experiencing performances in dance, music, theatre, and encounters and dialogue with performing artists, composers, choreographers, and directors.

Not open to students with credit for Edu P&L 750.03. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**760.04^ Professional Development and the Arts U G 3**

Exploration of a selected theme linking teaching, learning, and the arts.

1 week intensive 8-hr cl each day. Not open to students with credit for Edu P&L 750.04. Repeatable to a maximum of 9 cr hrs. Five-day intensive class (between Spring and Summer Qtrs) meeting at the Wexner Center. This course is graded S/U.

**761 Somatic Studies**

A series of courses focusing on mind/body integration issues and the meaning of the movement experience in education and the culture at large.

**761.01 Experiencing the Somatic through Movement Theory and Practice U G 3**

Considerations of the moving person through elementary description, analysis, posture, style, and technique.

Not open to students with credit for Edu P&L 706.01.

**761.02\* Movement, Observation, Description and Somatic Awareness U G 3**

The use of the effort/space vocabulary and its relationship to movement observation, description and somatic awareness.

Prereq: 230 or equiv. Not open to students with credit for Edu P&L 706.02.

**761.03 Conceptions of the Body in Western Culture U G 5**

Traditional concepts of the body, which have influenced contemporary educational theory and practice.

Not open to students with credit for Edu P&L 706.03.

**761.04 Human Movement Theory G 3**

Study of several theoretical considerations of human movement and their implications for eastern and western cultural movement forms.

Not open to students with credit for Edu P&L 706.04.

**761.05\* Eastern Movement Forms: Cross Cultural Implications U G 3**

Examination of the theoretical foundations upon which Eastern movement and martial art forms are based. Practice opportunities in one or more of these forms are scheduled.

Not open to students with credit for Edu P&L 706.05.

**766 Trends, Issues, and Technological Developments in Teaching Visually Handicapped Students U G 3**

Study of technological research and vocational implications for visually handicapped students; development of basic skills for teaching use of audio, visual, and tactual aids.

**772 Teaching Science in College U G 4**

An examination of college Bachelor's degree, teacher's certificate, and teaching science curricula; teaching methods; student and course evaluation techniques; objectives and rationale for teaching science in general education and teacher education programs.

Prereq: Teaching experience or permission of instructor.

**777 Teaching and Learning Social Studies with Imagination G 3**

Using social imagination in social studies education.

Repeatable to a maximum of 6 cr hrs.

**800 Issues in Language, Literacy, and Culture**

Introduces M Ed students in Language, Literacy, and Culture to key issues underlying their fields of study.

Prereq: Admission to LLC M Ed program.

**800.07 General Student Body G 3****800.99 Language, Literacy and Culture G 3****802 Processes of School Mathematics**

Processes of school mathematics, their development through the mathematics curriculum, and their role in the teaching and learning of mathematics. Prereq: Grad standing in math ed or math, or permission of instructor.

**802.01 Representations G 2-5****802.02 Examples and Nonexamples G 2-5**

**802.03 Axiomatics G 2-5****802.04 Problem Solving G 2-5****802.05 Experimentation G 2-5****802.06 Exposition G 2-5****803 Language and Society G 3**

Focus on the history, sociology, and the politics of national policies involving second language throughout the world.

**804 Trends and Issues in Language, Literacy, and Culture G 3**

Current issues such as national standards, multiple literacies, and phonics vs whole language.

Prereq: Grad standing. Required core course for LLC MA program of studies.

**805 Global Education: Social Economic Perspectives G 3**

Emphasizes the economic education aspects of global education in global issues, instruction, curriculum, and materials, and the contribution of economic perspectives to global education.

Prereq: Grad standing.

**806 Curriculum Evaluation K-12 Reading Programs G 3**

Application of research, diagnostic, and program and curriculum development in field settings. School-wide evaluation of reading/language arts curricula.

Prereq: Grad standing.

**807 Teaching About Africans and African Perspectives in K-12 Classrooms G 3**

Methods and materials for teaching about African cultures, history and contemporary life through African perspectives and cross-cultural experiential learning.

**808\* Research in Multicultural & Global Education G 3**

Review of research literature in multicultural and global education.

Prereq: 881and 878.

**809 Inclusion: Philosophical, Social and Practice Issues**

Philosophical, social, and practice issues related to the inclusion of students with special needs in the P-12 general education classroom.

Prereq: Grad standing.

**809.07 General Student Body G 3****809.20 Middle Childhood Education G 3****809.70 Early Childhood Education G 3****809.99 Language, Literacy and Culture G 3****810 Classroom Communities and Issues of Guidance**

A classroom as communities framework to support teaching and learning and issues of guidance.

Required in Early Childhood MEd and open by permission to other students.

**810.07 General Student Body G 3****810.70 Early Childhood Education G 3****811 Science in Elementary Education G 3**

Problems of elementary school science instruction with emphasis on pertinent literature and classroom implementation of current developments in science curriculum and methodology.

**812 Mathematics in Elementary Schools G 3**

Applications of research and theory to improve children's competence and problem solving; organization of instructional programs and contemporary instructional questions.

**814 Social Studies in the Elementary School G 3**

The educational values of social studies, reasons for and ways and means of integrating the social sciences with emphasis upon program innovations and research.

**815 Teachers and Teaching: The Changing Context in Equity, Diversity, and Exceptionality**

Examination of how attitudes, assumptions, and expectations within socially diverse classrooms influence the behaviors of educators, parents, and pupils. Case method: Analyzing experiences of teachers.

Prereq: Permission of instructor.

**815.07 General Student Body G 3****815.20 Middle Childhood Education G 3****815.70 Early Childhood Education G 3****815.99 Language, Literacy and Culture G 3****816 Language Arts in the Elementary School G 3**

Problems, research, and current methods of teaching the four major areas of the language arts in the elementary school; listening, speaking, reading, and writing.

**817 Advanced Course in Children's Literature G 3**

An evaluation of the changing role and increased importance of literature in the education of children and youth.

**818 Foundations of Education**

Study of phenomena that undergird or bear on practice in education; topics include the family, learners, teachers and teaching, and schooling.

**818.07 General Student Body G 3****818.20 Middle Childhood Education G 3****818.70 Early Childhood Education G 3****819 The Changing American Elementary School G 3**

Investigation of objectives, issues, and curriculum organization of the modern elementary school program.

**820 Developing Early Communication of Children with Physical, Sensory, and Multiple Disabilities G 3**

Knowledge and techniques about functional communication and language acquisition for young children and youth with severe language problems.

Prereq: Permission of instructor. Not open to students with credit for ED S&R 821.

**821 School Issues Related to Growth, Development and Learning**

Advanced study based upon research in education and related fields that aid the teacher in guiding developmental activities in P-12 classrooms.

**821.07 General Student Body G 3****821.45 Foreign Language Education G 3****821.99 Language, Literacy and Culture G 3****822 Developing Language Competence of Students with Hearing Disabilities G 3**

Study of language competence of children with hearing disabilities.

Prereq: 660 or equiv or permission of instructor.

**823 Creative Experiences in the Elementary School Curriculum G 3**

Study of the nature of creativity and aesthetics as related to the elementary school curriculum.

**824 Designing School Programs for Children Age Two to Six G 3**

A study of the characteristics and needs of children two to six years of age as they relate to the development of educational programs.

**825 Methods of Developing Language and Cognition in Early Childhood G 3**

Curriculum methods and materials in developing language and cognition in school programs for children ages three to eight, based upon research findings.

**826 Visual Process and Educational Implications of Visual Disabilities G 3**

Components of vision, anatomy, and physiology of the eye; causes of impaired vision, educational implications of eye disorders, and interpretation of eye specialists' reports.

**827 Advanced Study in the Teaching of Developmental Reading G 3**

Designed to provide experienced teachers the opportunity to extend and update their knowledge of the reading process and the principles underlying effective reading instruction.

Prereq: 665.

**828 Trends and Issues in Teaching Reading in the Elementary School G 3**

Designed for experienced teachers and curriculum workers; current developments, trends, and issues critically analyzed according to available research evidence.

**829 Problems in Elementary School Curriculum and Supervision G 3**

An analysis of the programs and practices involved in facing major curriculum problems in the elementary schools; synthesis of supervision and curriculum.

**830 Early Childhood Education: Multi-Cultural Influences G 3**

A study of early childhood curriculum content and teaching methods as influenced by multi-cultural factors.

**831 Reading for Students with Hearing Disabilities G 3**

Examination of reading theories, research, and implications for students with hearing disabilities.

1 3-hr cl. Prereq: 822, or its equiv, or permission of instructor.

**832 Advanced Studies in Deafness G 3**

Cognitive and psychosocial theories, research, and implications for students with hearing disabilities.

Prereq: 754 or equiv, or written permission of instructor. Not open to students with credit for ED S&R 824.

**833 Reading and Writing Skills for Teachers of Low Vision and Blind Children G 3**

Modes of written communication for low vision and blind children, focusing on mastery of Grade 2 literary braille for initial reading instruction.

Prereq: 670 or equiv, and permission of instructor. Not open to students with credit for ED S&R 827.

**835 Modes of Communication and Instructional Materials for Students with Visual Disabilities G 3**

Continuation of modes of communication with focus on mastery of Nemeth Code for science and math notation.

Prereq: 833. Not open to students with credit for ED S&R 828.

**837 Research in Technology Education G 3**

Identification of research problems and needs; review of research exemplars with critical analysis of research design and procedures.

Prereq: Edu- P&L 785 or 786, or permission of instructor.

**838 Learning Styles G 3**

Education dimensions of learning styles in children and adults related to developmental, neurological, social, and environmental substrates of learning.

Prereq: Previous teaching experience or permission of instructor. Open to grad students in any field of specialization in education.

**839 Evaluation in Elementary Schools G 3**

Appraisal of materials and methods in terms of educational aims and research findings; consideration of instruments and procedures for comparing achievements with established objectives.

**840 Writing in the Elementary School G 3**

Study of the implications from recent research and theory in language learning and use in respect to writing, spelling, handwriting, and grammar.

**841 Poetry for Children G 3**

An in-depth study of poetry for children including children's interest in poetry, forms of poetry, and representative poets, classroom approaches for encouraging children's involvement and appreciation of poetry.

**842 Research in Early Childhood Education G 3**

Exploration of research methods and techniques related to early childhood school programs; review of research in the field; in-depth investigation of interest area.

Not open to students with credit for ED T&P 826.

**843 Literature for Middle Childhood G 3**

Analysis and study of fiction for children ages 8-12; emphasis on literary quality, strategies for classroom use, and relevant issues.

**844 Vocational Evaluation and Development G 3**

A study of vocational evaluation, development, and work adjustment materials and practices utilized in educational and rehabilitation settings.

Prereq: Edu-PAES 790 or permission of instructor. Not open to students with credit for 828 or Edu-PAES 844.

**845 Work Adjustment and Development G 3**

A study of the principles and procedures of work adjustment and development techniques, methods, and resources utilized in educational and rehabilitation settings.

Prereq: 730 or permission of instructor. Not open to students with credit for Edu-PAES 845.

**846 Development of Technology Education Vocational Education Programs for Special Needs and Culturally Diverse Students G 3**

Analysis of educational needs of special needs and culturally diverse learners with emphasis on designing, conducting, and evaluating technology education, vocational, and prevocational programs.

**847 Linguistic Structure of ASL and Its Application to ASL Instruction I G 3**

To develop a basic understanding of the linguistic structure of ASL and how this understanding can be applied to ASL teaching.

Au Qtr. 1 2.5-hr cl. Taught in American Sign Language.

**848 Understanding Preschool Play G 3**

A study of relevant theories, developmental stages, and research as they relate to developing programs for young children.

Prereq: Fm&Hu Dv 332 or 662, or permission of instructor.

**849 Observing and Facilitating Preschool Play G 3**

Continuation of 848; extensive analysis of experiences in facilitating preschool play and clinical experience regarding the play of young children.

1 3-hr cl or field experience. Prereq: 848 or equiv with written permission of instructor.

**850 Experiences in Integrated Content in Mathematics, Science,****and Technology Education G 3**

Content, ideas, skills, and applications of mathematics, science, and technology education emphasizing themes and concepts common to two or more of the disciplines.

Repeatable to a maximum of 9 cr hrs.

**851 Language Use in the Deaf Community G 3**

To understand how the language is used in the deaf community. To understand bilingualism, language variation and attitude.

Au Qtr. 1 2.5-hr cl. Taught in American Sign Language.

**852 Science and Early Childhood Education G 3**

The nature, scope, and role of science experiences in the learning and development of young children; integration and application of current developments; theory and research in science with early childhood education.

**853 Critical Reading in the Content Fields**

Exploration of the problems of developing critical reading ability in a variety of curricular fields.

**853.07 General Student Body G 3****853.20 Middle Childhood Education G 3****853.70 Early Childhood Education G 3****854 Reading in Its Social Setting**

The influence of culture on the nature, quality, and quantity of reading development; the relationship of reading to language development and mass media.

**854.07 General Student Body G 3****854.20 Middle Childhood Education G 3****854.70 Early Childhood Education G 3****856 Advanced Literature for Adolescents G 3**

An evaluation of literature for adolescents and the role it plays in the education of youth.

Prereq: Teaching experience.

**857 Inclusive Education Research G 3**

Examination of current research and theory on inclusive education efforts to effectively educate students with and without disabilities in general education settings.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: Admission to graduate school.

**858 Technology Education in the Elementary School G 3**

Selection, development, and evaluation of typical experience units in both classrooms and practical arts laboratory situations at all levels of the elementary schools.

Prereq: 243 or equiv.

**859 Technology Education Curriculum Planning G 3**

Analysis of curriculum research; analysis of instructional materials; application of technology education principles to general education.

**860 Language Arts in the Early Childhood Program G 3**

The process of children's language acquisition leading towards development of reading skills; practical applications from theory and research on language processing.

Prereq: Experience in working with young children or introductory level child development course.

**861 Literature in Early Childhood Education G 3**

Study of literature for children ages two through seven; emphasis on the importance of early exposure to literature for language acquisition and for cognitive and affective development.

Prereq: 817.

**862 Roots of Fantasy for Children G 3**

A study of selected works of fantasy for children (grades 4-9) along with their sources in traditional literature; works based on Arthurian legends, the Welsh Mabinogion, and other folklore from the British Isles.

1 2.5-hr cl. Prereq: 817.

**864 Multicultural Literature for Children G 3**

Values and uses of literature by and about Blacks, Asians, Hispanics, Native Americans, and other U.S. ethnic groups: theoretical perspectives, trends, issues, and controversies.

Prereq: 817 or equiv.

**865 Reflective Inquiry on Pedagogy with Prospective Teachers**

Prepares prospective teachers to bring an inquiry orientation to their practice and to see reflective inquiry as part of teaching.

Limited to students enrolled in LLC M Ed program. Enables preservice teachers to engage in discipline-specific teacher research as a means for reflecting on practice.

**865.07 General Student Body G 3****865.20 Middle Childhood Education G 3**

- 865.21 Technology Education G 3**  
**865.23 Mathematics, Science and Technology Education G 3**  
**865.25 English Education G 3**  
**865.26 Mathematics Education G 3**  
**865.27 Science Education G 3**  
**865.28 Social Studies and Global Education G 3**  
**865.45 Foreign Language Education G 3**  
**865.52 Visual Disabilities G 3**  
**865.55 Hearing Disabilities G 3**  
**865.56 Drama, Language Arts, Literature and Reading Ed. G 3**  
**865.70 Early Childhood Education G 3**

**868 Developing Syllabi for Second-Language Programs G 3**

Focus on various models currently available to second language teachers for syllabus design, development, and evaluation.

**869 Children's Social Development and the Social World of the Classroom G 3**

Exploration of social growth and social experiences of children, with educational emphasis on the social dimensions of learning and classroom practice.

Prereq: Grad standing.

**870 Graduate Studies in Integrated Teaching and Learning G 3**

Designed to introduce the study of integrated teaching and learning, familiarize students with scholars in this field and assist students in planning their masters program.

Prereq: Admission into MA program in ITL.

**871 Children's Cognition and the Early and Middle Childhood Classroom G 3**

Emphasis on intellectual development, preschool through adolescence, focusing on educational implications and classroom practice.

Prereq: Grad standing.

**872 Approaches to Integrated Curriculum in Pre K-12 Classrooms G 3**

Critical review and application of theories, research, and practices related to integrated curriculum approaches in early childhood, elementary and middle school classrooms.

Prereq: 870.

**873 Popular Culture and the Teaching of English G 3**

Analysis of the role of mass media/popular culture in our society; values and themes in popular culture; development of critical skills to analyze popular culture.

**874 Classroom Based Inquiry in Integrated Teaching and Learning G 3**

Classroom based inquiry strategies considering the literature on classroom based research, models, historical perspectives, ethical questions, and implications for teaching practice.

**875 Teaching Evolution in Schools G 3**

Evolution education, issues, court decisions, instructional guidelines and responding to public assistance.

**876 Science, Mathematics, Technology and the Educated Mind G 3**

Scientific literacy, numeracy, technological literacy, societal issues and implications for education.

**877 The Nature of Science and Implications for Teaching G 3**

History, sociology and epistemology of science and implications for teaching science.

**878 Infusing Global Perspectives in Education G 3**

Rationales, conceptualizations, and strategies for infusing global perspectives in education.

**879 Teaching for Diversity and Social Justice G 3**

An exploration into economic, political, technological and ecological components of multicultural education as it relates to diversity and social justice.

**880 A Proficiency Experience at the Zoo G 3**

Utilizes a wealth of resources at the zoo to increase content teaching strategies for teachings in the area of science education. Includes inquiry and hands-on activities.

**881 Theory and Practice in Multicultural Education G 3**

Sensitizes students to cultural diversity, and provides insights and instructional tools for dealing with cultural pluralism in the classroom.

**882 Materials and Methods in the Social Studies G 3**

Study of recent innovations in teaching methodology in the social studies; review and evaluation of recently published teaching materials.

**883 Teaching World Cultures and Global Issues in P-12 Classrooms G 3**

Prepares teachers to use online and other resources to teach world cultures and global issues from multiple perspectives.

Taught online. This online course requires access to the Internet, an e-mail program and skills in using e-mail and the WWW. This is a distance learning course.

**884 Planned Field Experience**

Planned field experience under supervision in a P-12 classroom.

Prereq: Written permission of area adviser.

**884.02 Foreign G 1-20**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**884.10 Elementary Education G 1-20**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**884.20 Middle Childhood Education G 1-20**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**884.21 Technology Education G 1-20**

Repeatable to a maximum of 25 cr hrs.

**884.23 Mathematics, Science and Technology Education G 1-20**

Repeatable to a maximum of 25 cr hrs.

**884.25 English Education G 1-20**

Not open to non-M Ed students. Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**884.26 Mathematics Education G 1-20**

Repeatable to a maximum of 25 cr hrs.

**884.27 Science Education G 1-20**

Repeatable to a maximum of 25 cr hrs.

**884.28 Social Studies and Global Education G 1-20**

Repeatable to a maximum of 25 cr hrs.

**884.44 Elementary Foreign Language Education G 1-20**

Repeatable to a maximum of 25 cr hrs.

**884.45 Secondary Foreign Language Education G 1-20**

Repeatable to a maximum of 25 cr hrs.

**884.46 TESOL G 1-20**

Repeatable to a maximum of 25 cr hrs.

**884.52 Visual Disabilities G 1-20**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**884.55 Hearing Disabilities G 1-20**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**884.56 Drama, Language Arts, Literature and Reading Education G 1-20**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**884.70 Early Childhood Education G 1-20**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**884.99 Language, Literacy & Culture G 1-20**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**885 Supervised Student Teaching Internship**

Student teaching internship in a P-12 classroom where students assume major teaching responsibilities under the guidance of a cooperating teacher and university supervisor.

300 field contact hrs/qr. Prereq: Written permission of instructor.

**885.20 Middle Childhood Education G 5-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**885.21 Technology Education G 5-15**

Repeatable to a maximum of 30 cr hrs.

**885.23 Mathematics, Science and Technology Education G 5-15**

Repeatable to a maximum of 30 cr hrs.

**885.25 English Education G 5-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**885.26 Mathematics Education G 5-15**

Repeatable to a maximum of 30 cr hrs.

**885.27 Science Education G 5-15**

Repeatable to a maximum of 30 cr hrs.

**885.28 Social Studies and Global Education G 5-15**

Repeatable to a maximum of 30 cr hrs.

**885.45 Foreign and Second Language Education G 5-15**

Repeatable to a maximum of 30 cr hrs.

**885.52 Visual Disabilities G 5-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**885.55 Hearing Disabilities G 5-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**885.56 Drama Education G 5-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**885.70 Early Childhood Education G 5-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**886 Reflective Seminar**

Seminar held in conjunction with field experience or student teaching internship. The goals are to process, reflect upon and enhance benefits of the school experiences.

Prereq: Open to M. Ed Students only.

**886.20 Middle Childhood Education G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**886.21 Technology Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**886.23 Mathematics, Science and Technology Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**886.25 English Education G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**886.26 Mathematics Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**886.27 Science Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**886.28 Social Studies and Global Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**886.45 Secondary Foreign Language Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**886.52 Visual Disabilities G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**886.55 Hearing Disabilities G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**886.56 Drama, Language Arts, Literature and Reading G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**886.70 Early Childhood Education G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**887 Advanced Field Experience**

Field or research experience in a P-12 school, higher education or other educational setting, agency, or cross-cultural settings.

**887.10 Elementary Education G 1-15**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**887.20 Middle Childhood Education G 1-15**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**887.21 Technology Education G 1-15**

Repeatable to a maximum of 25 cr hrs.

**887.23 Mathematics, Science and Technology Education G 1-15**

Repeatable to a maximum of 25 cr hrs.

**887.25 English Education G 1-15**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**887.26 Mathematics Education G 1-15**

Repeatable to a maximum of 25 cr hrs.

**887.27 Science Education G 1-15**

Repeatable to a maximum of 25 cr hrs.

**887.28 Social Studies and Global Education G 1-15**

Repeatable to a maximum of 25 cr hrs.

**887.44 Elementary Foreign Language Education G 1-15**

Repeatable to a maximum of 25 cr hrs.

**887.45 Foreign and Second Language Education G 1-15**

Repeatable to a maximum of 25 cr hrs.

**887.46 TESOL G 1-15**

Repeatable to a maximum of 25 cr hrs.

**887.50 Integrated Teaching and Learning G 1-15**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**887.52 Visual Disabilities G 1-15**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**887.55 Hearing Disabilities G 1-15**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**887.56 Drama, Language Arts, Literature and Reading G 1-15**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**887.70 Early Childhood Education G 1-15**

Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**888 Advanced Studies in Teaching and Learning with Drama G 3**

Advanced drama education theoretical principles, activities, and strategies.

Prereq: 777. Repeatable to a maximum of 6 cr hrs.

**893 Advanced Individual Studies**

Prereq: Permission of instructor. For thesis option, not more than 15 cr hrs of any 693 and/or 893 will apply toward the master's degree. For non-thesis option, not more than 20 cr hrs will apply. Not more than 30 cr hrs will apply toward the doctoral degree. This course is graded S/U.

**893.10 Elementary Education G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.20 Middle Childhood Education G 1-4**

Repeatable. This course is graded S/U.

**893.21 Technology Education G 1-4**

Repeatable. This course is graded S/U.

**893.23 Mathematics, Science and Technology Education G 1-4**

Repeatable. This course is graded S/U.

**893.25 English Education G 1-4**

Repeatable. This course is graded S/U.

**893.26 Mathematics Education G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.27 Science Education G 1-4**

Repeatable. This course is graded S/U.

**893.28 Social Studies Education G 1-4**

Repeatable. This course is graded S/U.

**893.45 Foreign and Second Language Education G 1-4**

Repeatable. This course is graded S/U.

**893.46 TESOL G 1-4**

Repeatable. This course is graded S/U.

**893.50 Integrated Teaching and Learning G 1-4**

Repeatable. This course is graded S/U.

**893.52 Visual disabilities G 1-4**

Repeatable. This course is graded S/U.

**893.55 Hearing disabilities G 1-4**

Repeatable. This course is graded S/U.

**893.56 Drama, Language Arts, Literature and Reading Education G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.70 Early Childhood Education G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**893.99 Language, Literacy and Culture G 1-4**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**894 Advanced Group Studies**

Advanced group studies on special problems in education.

Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**894.10 Elementary Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.20 Middle Childhood Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.21 Technology Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.23 Mathematics, Science and Technology Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.25 English Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.26 Mathematics Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.27 Science Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.28 Social Studies Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.45 Foreign and Second Language Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.46 TESOL G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.50 Integrated Teaching and Learning G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.52 Visual disabilities G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.55 Hearing disabilities G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.56 Drama, Language Arts, Literature and Reading Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.70 Early Childhood Education G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.99 Language, Literacy and Culture G 1-5**

Repeatable to a maximum of 20 cr hrs.

**896 Self-Regulation of Academic Learning: Implications for Content Areas G 3**

Explores theoretical perspectives and research in the field of self-regulated learning. Issues of developing self-regulation in the content areas will be highlighted.

Limited to advanced MA or PhD students.

**899 Interdepartmental Seminar in Teaching College Mathematics G 2-4**

Discussion of problems raised by courses for liberal or general education, service courses, or special education courses commonly offered in college mathematics; given cooperatively by Math and Ed-T&L.

Prereq: Permission of instructor.

**901 Changing Perspectives in Language, Literacy, and Culture G 3**

Introductory seminar highlights interdisciplinary nature of studies in language, literacy, and culture and provides historical perspective for theoretical shifts that influence research and teaching.

Prereq: Admission to LLC PhD program.

**902 Multiple Literacies, Technology, and Communities of Learning G 5**

Applies various theoretical perspectives and research tools to explore multiple literacy and technology uses in relationship to community development in different settings.

Prereq: 901. Limited to doctoral students. Active e-mail account required.

**903 Teaching/Learning in Language, Literacy, and Culture G 3**

Examines constructivist and sociocultural theories and approaches to teaching and learning. Epistemological roots, historical perspectives and approaches underlying these theories will be examined.

Prereq: 901.

**904 Alternative Paradigms for Global Education G 3**

Analysis of the educational implications of basic concepts and propositions about the world derived from alternative approaches to the study of international relations.

Prereq: Grad standing.

**905 Research Methodologies in Language, Literacy, and Culture G 3**

Examines recent research in the areas of language, literacy, and culture through a variety of lenses--epistemological, cultural, conceptual and ethical.

Prereq: Edu P&L 785 and 800, and admission to LLC PhD program.

**906 Language Learning Across Cultures G 3**

Sociocultural research and theories of first and second language learners; learning of language and literacy across cultures.

Prereq: 901, 902, 903. One in a number of general section courses in LLC PhD that provides generic frameworks for courses within the PhD program.

**907 History of Children's and Adolescent Literature G 3**

A seminar focusing on the history of English and American children's and young adult's literature from earliest times to the present century.

Prereq: 817; grad standing.

**908 The Development of Literary Understanding G 3**

Provides background knowledge of the seminal research on children's literary understanding and the theories and perspectives that inform that research.

Prereq: Admission to LLC PhD program or by permission.

**909 History of Theory and Practice in Literacy G 3**

Explores the historical bases of current literacy practices and theoretical perspectives. Examines cultural and political ideologies that have influenced theory, research and instructional practice.

**910 Creating Effective Contexts for Literacy Learning and Teaching G 3**

Designed to examine the role of social context in cognitive development and theories of learning/teaching and relate them to literacy development in preschool-grade 12.

**911 Research in Emergent Literacy G 3**

Focus on interpreting new research studies in emergent literacy in light of current research.

Limited to Advanced MA or PhD students in LLC.

**912 Research in Writing Development and Instruction for Children G 3**

Examination and critical analysis of research on children's writing development and on writing instruction in schools.

Limited to Advanced MA or PhD students in LLC.

**913 Research and Theory in Written Composition G 3**

Explores the development of composition as an academic field and how research and theory might shape teaching.

Prereq: Admission to grad program in LLC.

**914 Writing and Learning Across the Curriculum G 3**

Explores research and theory that explains when, why, and how writing can shape thinking and reasoning in the content areas.

Prereq: Admission to grad program in LLC.

**915 Drama in Language, Literacy, and Culture G 3**

Current educational assumptions about language, literacy, and culture are examined and critiqued through the lens of drama education pedagogy.

**916 Classroom-Oriented Second Language Research G 3**

Classroom research investigates the processes of teaching and learning as they occur in language classrooms.

Prereq: 703.

**917 Issues in Communicative Language Teaching G 3**

Lecture and discussion course focused on current issues related to second language acquisition research.

Prereq: 703, 868.

**920 Advanced Concepts in Elementary School Science Education G 3**

Emphasis on functions of leadership personnel in developing and improving elementary school science programs and on evaluation of current developments and research.

Prereq: 811 or permission of instructor.

**921 A Guided Survey of Research in Reading G 3**

Designed to provide acquaintance with scientific studies relating to reading, methods used, results attained, including implications and limitations, and the problems meriting further investigation.

Prereq: 6 cr hrs in grad reading courses. Repeatable to a maximum of 6 cr hrs.

**922 Writing Research Proposals in Language, Literacy, and Culture G 3**

Designed to acquaint PhD students with the practical and conceptual skills needed to design and write research proposals.

Prereq: Edu P&L 785 or 786. Repeatable to a maximum of 6 cr hrs.

**923 Literary Theory and Adolescent Literature G 3**

Explores the use of young adult literature for in-depth literary study in secondary classrooms.

Prereq: Admission to LLC PhD program. Designed for students in Language, Literacy, and Culture, particularly those with a focus on English Education or children's literature.

**924 Foreign and Second Language Teacher Education G 3**

Foreign and second language teachers will develop a theoretical framework and study critical issues that impact the life-long development of pre- and in-service teachers.

**925 Seminars**

Prereq: Permission of instructor. Students with permission of advisers may register for more than one section of 925 or for the same section two or more times. Research problems:

**925.10 Elementary Education G 2-5**

Repeatable.

**925.20 Middle Childhood Education G 2-5**

Repeatable.

**925.21 Technology Education G 2-5**

Repeatable.

**925.23 Mathematics, Science and Technology Education G 2-5**

Repeatable.

**925.25 English Education G 2-5**

Repeatable.

**925.26 Mathematics Education G 2-5**

Repeatable.

**925.27 Science Education G 2-5**

Repeatable.

**925.28 Social Studies Education G 2-5**

Repeatable.

**925.45 Foreign and Second Language Education G 2-5**

Repeatable.

**925.46 TESOL G 2-5**

Repeatable.

**925.50 Integrated Teaching and Learning G 2-5**

Repeatable to a maximum of 20 cr hrs.

**925.52 Visual disabilities G 2-5**

Repeatable.

**925.55 Hearing disabilities G 2-5**

Repeatable.

**925.56 Drama, Language Arts, Literature and Reading Education G 2-5**

Repeatable.

**925.70 Early Childhood Education G 2-5**

Repeatable.



**926 M.Ed Capstone Seminar**

Seminar to prepare M.Ed. students for the comprehensive written examination or approved alternative.

Prereq: Open to M.Ed. students only.

- 926.20 Middle Childhood Education G 3**
- 926.21 Technology Education G 3**
- 926.23 Mathematics, Science and Technology Education G 3**
- 926.25 English Education G 3**  
This course is graded S/U.
- 926.26 Mathematics Education G 3**
- 926.27 Science Education G 3**
- 926.28 Social Studies and Global Education G 3**
- 926.45 Foreign and Second Language Education G 3**
- 926.52 Visual Disabilities G 3**
- 926.55 Hearing Disabilities G 3**
- 926.56 Drama, Language Arts, Literature and Reading G 3**
- 926.70 Early Childhood Education G 3**  
Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**927 First Year M.A. Seminar**

Seminars examine programmatic themes and research approaches. Topics vary.

- 927.21 Technology Education G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.23 Mathematics, Science and Technology Education G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.25 English Education G 3**  
Repeatable to a maximum of 15 cr hrs. This course is graded S/U.
- 927.26 Mathematics Education G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.27 Science Education G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.28 Social Studies and Global Education G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.45 Foreign and Second Language Education G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.50 Intergrated Teaching and Learning G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.52 Visual Disabilities G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.55 Hearing Disabilities G 3**  
Repeatable to a maximum of 15 cr hrs.
- 927.56 Drama, Language Arts, Literature and Reading G 3**  
Repeatable to a maximum of 15 cr hrs.

**928 M.A. Capstone Seminar**

Provides guidance for M.A. students working on final action research projects (or other approved projects), writing thesis proposals or preparing for the comprehensive examination.

- 928.23 Mathematics, Science and Technology Education G 3**
- 928.25 English Education G 3**  
This course is graded S/U.
- 928.28 Social Studies and Global Education G 3**
- 928.45 Foreign and Second Language Education G 3**
- 928.50 Integrated Teaching and Learning G 3**
- 928.52 Visual Disabilities G 3**
- 928.55 Hearing Disabilities G 3**
- 928.56 Drama, Language Arts, Literature and Reading G 3**

**930 Literacy Research and Issues of Diversity in the Classroom G 3**

Examines literacy research and diversity issues (language and cultural factors) that influence classroom and school evaluations, instruments and instructional practices.

**937 First Year Doctoral Seminar**

Students will focus on scholarly discourse communities, contemporary research priorities, programmatic themes and research approaches.

- 937.21 Technology Education G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 937.23 Mathematics, Science and Technology Education G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 937.25 English Education G 1-5**  
Repeatable to a maximum of 15 cr hrs. This course is graded S/U.
- 937.26 Mathematics Education G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 937.27 Science Education G 1-5**  
Repeatable to a maximum of 15 cr hrs.
- 937.28 Social Studies and Global Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**937.45 Foreign and Second Language Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**937.50 Integrated Teaching and Learning G 1-5**

Repeatable to a maximum of 15 cr hrs.

**937.52 Visual Disabilities G 1-5**

Repeatable to a maximum of 15 cr hrs.

**937.55 Hearing Disabilities G 1-5**

Repeatable to a maximum of 15 cr hrs.

**937.56 Drama, Language Arts, Literature and Reading G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938 Advanced Doctoral Seminar**

Designed to meet the needs of students focusing on dissertation research design and writing. Topics vary.

**938.21 Technology Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.23 Mathematics, Science and Technology Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.25 English Education G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**938.26 Mathematics Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.27 Science Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.28 Social Studies and Global Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.45 Foreign and Second Language Education G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.50 Integrated Teaching and Learning G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.52 Visual Disabilities G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.55 Hearing Disabilities G 1-5**

Repeatable to a maximum of 15 cr hrs.

**938.56 Drama, Language Arts, Literature and Reading G 1-5**

Repeatable to a maximum of 15 cr hrs.

**960 Analysis of the Reading Process in a Second Language G 5**

Focus on the theoretical and data-based processes of comprehending natural written second language discourse.

2 2-hr cl, 1 hr lab.

**962 Seminar in Foreign Language Education G 4**

Analysis of major research studies and projects; evaluation and implications of findings; research considerations unique to foreign language education.

Prereq: Written permission of instructor. Not open to students with credit for Ed-T&P 962.

**963 Foreign Language Testing**

Theory and practice of foreign language test construction including item writing, item analysis, reliability, validity, scoring, and interpretation.

Prereq: Permission of instructor.

**963.07 General Student Body G 4**

**963.08 M.A. Students Only G 4**

**963.09 Ph.D. Students Only G 4**

**970 English Curriculum Language and Composition G 3**

An evaluation of current trends and developments in linguistics and composition instruction and their relevance for the English curriculum.

**971 English Curriculum: Literature G 3**

Critical examination of trends in the secondary school literature program.

**973 Doctoral Proseminar: Integrated Teaching and Learning G 3**

Examines programmatic themes, faculty research interests, and research approaches in Integrated Teaching and Learning. Introduces students to doctoral study.

Prereq: Admission to PhD program.

**974 Sociocultural Aspects of Teaching and Learning in Early and Middle Childhood Education G 3**

Exploration and application of sociocultural perspectives to teaching and learning, curriculum, and classroom life in early and middle childhood education.

Prereq: Admission to PhD program.

**975 Theoretical Perspectives on Learning, Teaching and Social Contexts G 4**

Examination of current research and theories of learning and teaching across multiple contexts; including the individual, social groups, families and community contexts.

3cl, 1 off campus field. Prereq: Admission to PhD program.

**976 Diversity and Equity Issues in Teaching and Learning G 3**

Perspectives on how children develop a sense of identity with groups within school and society. Theories used to define diversity in teaching and learning.

1 2.5-hr cl. Prereq: Admission to PhD program.

**977 Theoretical Perspectives on Learning and Teaching as Change Processes G 4**

Examines a variety of theoretical perspectives on how learning and teaching promote change in individuals and in social contexts.

3 cl, 1 off campus field. Prereq: 975, admission to doctoral program.

**985 Theories of Secondary Social Studies Education G 3**

Basic theories of secondary social studies education; discussion of subject-centered, emergent needs, citizenship, reflective, and discipline-oriented approaches.

Prereq: Certification in secondary social studies. Admission to doctoral program in secondary social studies.

**989 Research Apprenticeship in Teaching and Learning G 3-10**

The process of researching teaching and learning are explored through working with a faculty member on an established research project.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor, advisor and phd. Coordinator required. Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**999 Research**

Research for thesis or dissertation purposes only.

**999.10 Elementary Education G 1-18**

Repeatable. This course is graded S/U.

**999.21 Technology Education G 1-18**

Repeatable. This course is graded S/U.

**999.23 Mathematics, Science and Technology Education G 1-18**

Repeatable. This course is graded S/U.

**999.25 English Education G 1-18**

Repeatable. This course is graded S/U.

**999.26 Mathematics Education G 1-18**

Repeatable. This course is graded S/U.

**999.27 Science Education G 1-18**

Repeatable. This course is graded S/U.

**999.28 Social Studies Education G 1-18**

Repeatable. This course is graded S/U.

**999.45 Foreign and Second Language Education G 1-18**

Repeatable. This course is graded S/U.

**999.50 Integrated Teaching and Learning G 1-18**

Repeatable. This course is graded S/U.

**999.52 Visual disabilities G 1-18**

Repeatable. This course is graded S/U.

**999.55 Hearing disabilities G 1-18**

Repeatable. This course is graded S/U. This course is graded S/U.

**999.56 Drama, Language Arts, Literature and Reading Education G 1-18**

Repeatable. This course is graded S/U.

**999.70 Early Childhood Education G 1-18**

Repeatable. This course is graded S/U.

**999.99 Language, Literacy and Culture G 1-18**

Repeatable. This course is graded S/U.

**Electrical and Computer Engineering**

205 Dreese Lab, 2015 Neil Ave, 292-2572

**205 Circuit Analysis U 3**

Applications of electrical and computer engineering; circuit fundamentals and analysis; operational amplifiers; phasor analysis; sinusoidal frequency response.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Physics 133, En Graph 167 or CS&E 221 or CS&E 202, prereq or concur: Math 415; minimum CPHR of 2.00; and acceptance in Elec & Cptr Eng major or Cptr Science & Eng major or Eng Physics major.

**206 Switching Circuits Laboratory U 1**

NAND, NOR, XOR gates; combinational circuits; adders; code converters; flip flops; sequential circuits; shift registers; counters.

Su, Au, Wi, Sp Qtrs. 1 3-hr lab. Prereq: 261, and acceptance in Elec & Cptr Eng major or Cptr Science & Eng major or Eng Physics major.

**209 Circuits and Electronics Laboratory U 2**

Circuits and electronics lab covering basic electronics and principles of electrical measurements, signal conditioning, and instrumentation.

Au, Wi, Sp Qtrs. 1 4-hr lab. Prereq: 205, Math 415, prereq or concur: 301, and acceptance in Elec & Cptr Eng major or Eng Physics major.

**261 Introduction to Logic Design U 3**

Introduction to combinational switching theory, Boolean algebra, and clocked sequential networks.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Math 152, Physics 132, En Graph 167 or CS&E 202 or 221, and a minimum CPHR of 2.00.

**265 Introduction to Microprocessor-Based Systems U 3**

Hardware and software organization of a typical microprocessor; machine language programming, interfacing peripheral devices, and input-output programming; real time computer applications, self-paced laboratory included.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 261, and En Graph 167 or CS&E 221 or CS&E 202, and prereq or concur 206, and acceptance in Elec & Cptr Eng major or Cptr Science & Eng major or Eng Physics major.

**293 Individual Studies in Electrical and Computer Engineering U 1-15**

Individual Studies in Electrical and Computer Engineering.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**300 Electrical Circuits U 3**

Introduction to circuit analysis; circuit analysis concepts and their extension to mechanical and thermal systems by analogy; electrical instruments and measurements.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Physics 132, Math 254, minimum CPHR of 2.00, and in Eng college. Not open to Elec & Cptr Eng majors.

**301 Analysis and Design in Circuits and Electronics U 3**

AC power, frequency response and transient analysis; transfer functions and Bode plots; overview of electronics in terms of signals, analog and digital amplifiers; design.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 205, Math 415, and acceptance in Elec & Cptr Eng major or Eng Physics major.

**309 Electrical Circuits Laboratory U 1**

Accompanies and complements 300 by demonstrating the physical principles discussed there; use of electrical instruments such as oscilloscopes, voltmeters, ammeters, etc., are also emphasized.

Au, Wi, Sp Qtrs. 1 3-hr lab. Prereq or concur: 300 and minimum CPHR of 2.00. Not open to Elec & Cptr Eng majors.

**311 Electromagnetics I U 3**

Waves and pulses on transmission lines including reflections, line impedance, and impedance matching. Static fields including dielectric and ferrite materials, and resistance, inductance and capacitance.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 205, Math 415, and acceptance as Elec and Cptr Eng major.

**312 Electromagnetics II U 3**

Introduction to time varying fields including Maxwell's Equations and plane wave propagation, reflection and transmission; applications to antennas, guided waves, and radar and communication systems.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 311.

**320 Electronic Devices and Controls U 3**

Theory and applications of electronic devices; study of control circuits, feedback, operational amplifiers, and instrumentation.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 300 or Mech Eng 482, minimum CPHR of 2.00, and in Eng college. Not open to Elec & Cptr Eng majors.

**323 Electronic Analysis, Design and Simulation U 3**

Electronic instrumentation; diode and transistor models for amplifiers and switches; electronics of digital circuits; multiple transistor circuit analysis.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 301, and acceptance in Elec & Cptr Eng major or Eng Physics major.

**327 Electronic Devices and Circuits Laboratory I U 2**

Transistor characteristics, large and small signal parameters, transistor bias and amplifier circuits, operational amplifiers, logic circuits, waveform generation.

Su, Au, Wi, Sp Qtrs. 1 cl, 1 3-hr lab. Prereq: 209; and prereq or concur: 323.

**331 Introduction to Materials for Electrical and Computer Engineering U 3**

Introduction to the interrelation of the structure, properties, and processing of materials, with emphasis on electronic properties.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Chem 121, Math 415, Physics 133, a minimum CPHR of 2.00, and in Eng college.

**341 Energy Conversion U 3**

Overview of energy conversion, with emphasis on the operation of AC and DC machines, and various alternative energy conversion processes.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 205.

**351 Systems I U 3**

Linear systems and models; time responses using convolution; Fourier series and transform; computer-aided analysis.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 205.

**352 Systems II U 3**

Laplace transform; frequency response and Bode plots; Z-transforms; state variables, state equations; computer-aided analysis.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 351 and 301.

**432 Physics of Semiconductor Devices U 3**

Principles of semiconductor devices; theory of excess carriers, photoelectric effects, and diffusion; application to P-N junction, Schottky barrier, bipolar transistor, and field effect transistors.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 331, and prereq or concur 323.

**447 Electrical Energy Conversion Laboratory I U 2**

Characteristics of transformers, direct current and alternating current electromechanical energy conversion devices; inspection of power system facilities.

Su, Au, Wi, Sp Qtrs. 1 cl, 1 3-hr lab. Prereq: 341.

**481 Ethics in Electrical and Computer Engineering U 1**

History and impact of electrical and computer engineering on society; IEEE code of ethics; professional responsibilities; engineering as social experimentation; safety and risk; case studies; whistle blowing; global awareness.

Au Qtr. 1 cl. Prereq: Must be ECE major. This course is graded S/U.

**489 Professional Practice in Industry U 2**

Preparation of a comprehensive report based on actual employment experience in a co-op job in industry. This course may not be used as a technical elective.

Su, Au, Wi, Sp Qtrs. Prereq: Admission to co-op program in Elec & Cptr Eng. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**501 Communication Theory U G 3**

An introductory course in communication theory including both analog and digital modulation concepts and introductory noise concepts.

Au, Wi Qtrs. 3 cl. Prereq: 352; Math 530 or Stat 427.

**508 Communication Laboratory U G 2**

Laboratory in the areas of communication theory and signal processing.

Au, Wi Qtrs. 1 cl, 1 3-hr lab. Prereq or concur: 501.

**517 Electromagnetics Laboratory U 2**

Transmission line parameters; attenuation, magnitude and phase of voltage and current on lines; reflected waves; waveguide characteristics and techniques; antenna patterns and impedances; optical devices.

Su, Wi, Sp Qtrs. 1 cl, 1 3-hr lab. Prereq: 312.

**551 Introduction to Feedback Control Systems U G 3**

Feedback systems; modeling; stability; Routh Criterion; root locus; Bode plots; lead/lag, PID controller design, and state feedback.

Au, Sp Qtrs. 3 cl. Prereq: 352.

**557 Control, Signals, and Systems Laboratory U G 2**

Laboratory study of signal processing, control systems and their components, computer-controlled instrumentation, sampled data systems, analog and digital control.

Su, Au, Wi Qtrs. 1 cl, 1 3-hr lab. Prereq or concur: 551.

**561 Digital Circuit Design U G 3**

An introduction to digital circuit design using integrated circuit components; gates, counters, latches, ALU, shift registers, multiplexers, memories, etc.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 206, 261, and prereq or concur 320 or 323.

**567 Microprocessor/Microcontroller Laboratory I U 2**

Laboratory in which the concept of a microprocessor/microcontroller is explored by designing and building simple systems using in-circuit development tools.

Su, Au, Wi, Sp Qtrs. 1 cl, 1 3-hr lab. Prereq: 206, 261, and 265 or CS&E 360.

**582 Electrical and Computer Engineering Design I U 3**

Presents fundamentals of engineering designing and leads to skills development of a specific design proposal. Technical communication skills, both written and oral, are employed throughout.

Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 323, a second writing course, and sr standing in Elec & Cmptr Eng. GEC course.

**600 Introduction to Digital Signal Processing U G 3**

Properties of discrete-time signal processing systems; filter structures; sampling; A/D and D/A conversion; digital filter design; discrete Fourier transform; applications.

Au, Wi Qtrs. 3 cl. Prereq: 352.

**609 Signal Processing Laboratory U G 2**

Real-time signal processing using DSP processors; architecture, instruction set, sampling, filtering, and other applications.

Sp Qtr. 1 cl, 1 3-hr lab. Prereq: 600.

**613 Antennas and Propagation for Wireless Systems U G 3**

Introduction to antennas; antenna design for wireless base stations and remote sites; statistical propagation of waves in urban and rural environments; applications to cellular and PCS.

Au Qtr. 3 cl. Prereq: 312.

**614 Introduction to Electromagnetic Compatibility U G 3**

Basic knowledge of electromagnetic compatibility (EMC) fundamentals including government EMC regulations, grounding, shielding, and crosstalk.

Sp Qtr. 3 cl. Prereq: 312.

**620 Introduction to RF Integrated Circuits U G 3**

Introduction to design of radio frequency integrated circuits (RFICs). Transceiver architectures, transistor models, passive component models, MOS and bipolar LNAs, Mixers, VCOs, PLLs, baseband circuits.

Sp Qtr. 3 cl. Prereq: 323.

**624 Power Electronic Devices and Circuits U G 3**

A study of general laws and constraints in power electronic circuits, switching characteristics, generic converter topologies and their operation principles, desirable switching trajectory, snubber circuits.

Au Qtr. 3 cl. Prereq: 323.

**628 Electronic Devices and Circuits Laboratory II U G 2**

A laboratory study of converter circuits, switching characteristics of power transistors and thyristors, and effects of circuit elements on the behavior of power converters.

Au Qtr. 1 cl, 1 3-hr lab. Prereq: 327; and prereq or concur 624.

**632 Introduction to Nanofabrication and Nanomanufacturing U G 3**

Novel nanomanufacturing techniques will be introduced with a focus on top down approaches and a brief introduction of bottom up approaches.

Au Qtr. 3 cl. Prereq: 331 or MatSc&En 205 or permission of instructor. Not open to students with credit for Biomed E 662 or ChBE 632 or Ind Eng 652.02. Cross-listed with Biomed E 662, ChBE 632, and Ind Eng 652.02.

**637 Solid State Microelectronics Laboratory I U G 4**

Introduction to laboratory techniques including oxidation, chemical processes, photolithography, diffusion, and metallization; fabrication and measurements of planar diodes and transistors.

Au Qtr. 2 cl, 1 4-hr lab. Prereq: 432.

**640 Industrial/Commercial Power Systems U G 3**

An introduction to power system design for commercial buildings and industrial plants; legal and economic considerations; equipment specifications and ratings; design practice; fault calculations, protection, and coordination; grounding; and illumination design.

Sp Qtr. 3 cl. Prereq: 341.

**643 Electric Machines U G 3**

Magnetic circuits, transformers, electromechanical energy conversion principles, concepts of rotating machines, direct current machines, synchronous machines, and induction machines; steady state and transient analysis.

Au Qtr. 3 cl. Prereq: 341.

**647 Digital Signal Processing Control of Electric Machines and Drives Laboratory U G 2**

Students program digital signal processors using assembly language to control electromechanical and power electronic systems.

Wi Qtr. 1 4-hr lab. Prereq: 265, 341.

**650 Introduction to Estimation U G 3**

Linear dynamic systems with random inputs, least squares estimation, mean-squared estimation, and Kalman filtering with applications in electrical and computer engineering.

Au Qtr. 3 cl. Prereq: 352, and Math 530 or Stat 427.

**662 Theory and Design of Digital Computers U G 3**

Design of general purpose digital computers including arithmetic and control units, input/output, memory subsystems, interrelation of hardware and software systems, and introduction to microprogramming.

Au, Sp Qtrs. 3 cl. Prereq: 265 or CS&E 360, and 561.

**667 Digital Logic Laboratory U G 3**

A self-paced laboratory involving the design of basic computer components such as registers, arithmetic logic units, counters, and the design of sequential machines.

Su, Au, Wi, Sp Qtrs. 2 cl, 1 3-hr lab. Prereq: 561.

**668 Applied Component-Based Programming for Engineers and Scientists U G 3**

Application of component-based software engineering technology to design and implementation of software systems in engineering and science.

Wi Qtr. 3 cl. Prereq: CS&E 502 or 560. Not open to students with credit for 768 or CS&E 768. Cross-listed in Computer Science and Engineering.

**675 Instrumentation, Signals, and Control in Transportation Applications U G 3**

An interdisciplinary course bringing together electrical engineering tools and transportation applications. Students gain valuable experience working in teams while learning traffic flow, surveillance and control.

Au Qtr. 2 1.5-hr cl. Prereq: 301 and Math 415; or Civil En 570; or grad standing in elec eng or civil en; or permission of instructor. Cross-listed in Civil Engineering.

**682 Organized Group Project for Electrical and Computer Engineering Design II U 3**

This design course integrates ECE specializations into a real design project with implementation. The department chooses topics and the teams meet during regular class classes.

Au, Wi, Sp Qtrs. 2 cl, 1 3-hr lab. Prereq: 582 and sr standing. Not open to students with credit for 683 or H683. Students should check departmental listings.

**683 Special Group Project for Electrical and Computer Engineering Design II U 3**

This design course integrates ECE specializations into a real design project with implementation. Individual faculty choose topics. Teams of 3 or more meet independently.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 582, sr standing, and permission of instructor. Not open to students with credit for 682 or H683. Students must check with individual faculty prior to registering. Offered summer quarter subject to faculty availability.

**H683 BS Honors Group Project for Electrical and Computer Engineering Design II U 3**

Culmination of multi-quarter thesis integrating various areas into a design project with implementation. Students document with a written thesis and final oral presentation.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 582, 3 credits of H783, sr standing, and permission of department. Not open to students with credit for 682 or 683. Before registering for the course, students must document design content, previous collaborative work on the project by noting collaborators, their roles, and how this project fits into a larger research effort. Students normally complete an undergraduate honors thesis by taking H783 followed by H683.

**693 Individual Studies in Electrical and Computer Engineering U G 1-18**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**694 Group Studies in Electrical and Computer Engineering U G 1-18**

Students should check department listings.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 18 cr hrs.

**699 Undergraduate Research in Electrical and Computer Engineering U 1-3**

Supervised undergraduate research in various topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**700 Digital Signal Processing U G 3**

Vector space methods for signals and systems; least squares design methodologies; design optimization; adaptive filtering; time-frequency techniques.

Wi Qtr. 3 cl. Prereq: 600 or equiv, or grad standing.

**701 Communication Networks U G 3**

Introduction to modern communication networks; data traffic, queuing models, multiaccess channels, and selected applications.

Sp Qtr. 3 cl. Prereq: Math 530 or Stat 427 or equiv or grad standing.

**702 Communications Systems U G 3**

A study of communications systems with emphasis on signal-to-noise characteristics of various modulation and coding techniques.

Sp Qtr. 3 cl. Prereq: 501.

**706 Medical Imaging U G 3**

Introduction to medical imaging techniques, including data collection and image processing for projection X-ray, computed tomography, ultrasonic, and magnetic resonance.

Au, Sp Qtrs. 3 cl. Prereq: 352, prereq or concur: 582; or grad standing in EE/ECE or BME. Not open to students with credit for Biomed E 706. Cross-listed in Biomedical Engineering.

**707 Digital Image Processing U G 3**

Fundamentals and research directions in image processing: Fourier transforms,

sampling, filtering and restoration, compression, edge detection and feature extraction.

Wi Qtr. 3 cl. Prereq: 600, Math 530 or Stat 427 or equiv; or grad standing.

**710 Microwave Circuits U G 4**

Theory of microwave passive devices, transformers, couplers, filters, resonators, and circulators; computer-aided design of microwave circuits; microstrip realization and testing with a network analyzer.

Au, Sp Qtrs. 3 cl, 1 3-hr lab. Prereq: 312 or equiv or grad standing.

**711 Radiation from Antennas U G 3**

Dipole, loop, aperture, reflector, lens, surface wave, and other antennas; array theory; radiation resistance, directivity, and input impedance.

Wi Qtr. 3 cl. Prereq: 312 or equiv or grad standing.

**713\* Elements of Radio Wave Propagation U G 3**

Practical methods for predicting tropospheric, groundwave, and ionospheric propagation, including refraction, reflection, and extinction effects.

Sp Qtr. 3 cl. Prereq: 312 or equiv or grad standing. Even years.

**714\* Radar Systems U G 3**

Study of radar systems and their applications; emphasis on measurement of target parameters by means of radar with applications to ranging, tracking, mapping, and navigation.

Wi Qtr. 3 cl. Prereq: 312 or grad standing. Even years.

**715 Introduction to Numerical Methods for Electromagnetics U G 3**

Provides an introduction to a set of numerical methods (integral equation, finite difference and finite element methods) used to solve electromagnetic-related problems.

Au Qtr. 3 cl. Prereq: 301, and Math 568 or 571; or grad standing. Not open to students with credit for 694Y.

**716\* Optics with Laser Light U G 3**

Wave equation, ray optics, optical matrices, near and far-field diffraction theory, diffraction integral with lenses, Fourier optics, optical computing, holography, polarization, birefringence, applications.

Au Qtr. 3 cl. Prereq: 352 and 312, or grad standing in engineering, chemistry or physics. Even years.

**719 Electromagnetic Field Theory I U G 3**

Maxwell's equations; constitutive relations; boundary conditions; wave equation; plane wave solutions in planar multilayered media; Doppler shift; vector potentials and fields of simple sources.

Au Qtr. 3 cl. Prereq: 312.

**720 Low-Power Mixed-Signal VLSI Design U G 3**

Low voltage low power analog design for mixed analog/digital VLSI systems in CMOS technologies, OpAmps and comparators, sample and hold, switched capacitor filters, Nyquist and oversampling converters, decimation filters, applications in baseband wireless communications, integrated sensors.

Wi Qtr. 3 cl. Prereq: 323 or grad standing.

**721 Digital VLSI Design U G 3**

Design and circuit analysis of basic VLSI structures such as adders and registers; custom macro-cell, bit slice, and re-use design concepts; physical layout design, layout parasitics extraction, use of VLSI layout design tools.

Sp Qtr. 3 cl. Prereq: 323 or grad standing.

**722 Introduction to Analog Integrated Circuits U G 3**

Introduction to bipolar and MOS analog integrated circuit (IC) analysis and design. DC biasing for ICs, current sources, sinks and active loads, bandgap references, input and output stages, OpAmp architectures, nonlinear analog ICs. Computer simulation of Analog ICs.

Au Qtr. 3 cl. Prereq: 323 or grad standing.

**723 Microwave Transistor Amplifiers and Oscillators and Laboratory U G 4**

Design principles of microwave transistor amplifiers and oscillators; low-noise, power, and broadband amplifiers; and computer-aided design, microstrip realizations, and testing in the laboratory.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 312 and 323; or grad standing.

**724 Power Electronic Devices and Circuits II U G 3**

General model, operational principles, and application of high-frequency switching power converters.

Wi Qtr. 3 cl. Prereq: 341 and 624.

**730 Fundamentals of Semiconductors for Microelectronics and Optoelectronics U G 3**

Crystal structure, semiconductor energy band structure, electron transport and carrier recombination, heterostructures, optical and dielectric properties, optical semiconductor devices.

Au Qtr. 3 cl. Prereq: 432 or equiv.

## 731 Fiber Optics U G 3

Waveguiding in optical fibers, fiber losses, coupling and power launching, detectors, sources, noise, receiver and transmitter design, link analysis, introduction to fiber sensors.

Sp Qtr. 3 cl. Prereq: 312 and 323; or grad standing.

## 732\* Quantum Electron Devices: Lasers U G 3

Atomic interaction with radiation, cavities with gain, pumping techniques, semiconductor lasers.

Au Qtr. 3 cl. Prereq: 432 and 312, or grad standing in engineering, chemistry, or physics. Odd years.

## 734\* Silicon VLSI Process Technology U G 3

Discrete and integrated circuit device design and silicon technologies, VLSI processing procedures, and device measurements for process development.

Sp Qtr. 3 cl. Prereq: 432. Odd years.

## 735\* Compound Semiconductor Process Technology U G 3

III-V compound semiconductor device fabrication technology; epitaxy, doping, bandgap engineering; GaAs and InP high speed devices and IC design approaches; testing and failure mechanisms.

Wi Qtr. 3 cl. Prereq: 432. Even years.

## 736\* Electronic Surfaces and Interfaces U G 3

Physical principles governing electronic, chemical, and structural properties of semiconductor interfaces and the techniques available to characterize them.

Wi Qtr. 3 cl. Prereq: 331 or equiv. Cross-listed in Physics (as special topics course). Odd years.

## 737\* Photonics Laboratory U G 4

Experiments in photonics from among: fiber optics, liquid crystals, quantum devices, optical sensing, acousto-optics, lasers, solar cells, holography, and optical computing. Supplemental lecture.

Wi Qtr. 2 cl, 1 4-hr lab. Prereq: 312, and prereq or concur 432; or grad standing. Odd years.

## 740 Electric Power System Analysis U G 3

A study of major components and steady state operation of electric power systems; network concepts, symmetrical components, asymmetrical systems, power flow, and system stability.

Au Qtr. 3 cl. Prereq: 341.

## 741 Electric Power System Protection U G 3

A study of methods and devices used in system protection; protection systems, relay types, pilot wire and carrier systems, relay response, protection of machines, transformers, buses, and lines; instrument transformers; and modern trends in protection.

Wi Qtr. 3 cl. Prereq: 740.

## 743 Electromechanical Motion Devices U G 3

Electromechanical energy conversion, dynamic models for control of electric machines, design and analysis of electromechanical motion devices.

Sp Qtr. 3 cl. Prereq: 351, and prereq or concur 341; or permission of instructor.

## 747 High Voltage Engineering and Laboratory I U G 4

Dielectric strength and breakdown of gases, liquids, and solids, electric field design problems in power system equipment, laboratory study of high voltage insulation.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: 341.

## 750 Linear System Theory U G 3

Canonical realization of transfer functions; state observability and controllability; state feedback and asymptotic observers; reduced order observers; direct transfer function design.

Au Qtr. 3 cl. Prereq: 352 and 551; or grad standing.

## 752 Feedback Control Systems U G 3

Principles of feedback control, robustness, sensitivity and performance objectives, classical controller design methods, introduction to loop shaping and parameterization of stabilizing controllers.

Sp Qtr. 3 cl. Prereq: 551 or grad standing.

## 753 Applications of Control

Modeling, analysis, and control design for important areas where control theory is applied.

Repeatable for different titled topics only.

### 753.01\* Powertrain Control U G 4

Classical and modern control methods applied to automotive powertrain systems; overview of production hardware; sensors and actuators; modeling for control.

Wi Qtr. 2 2-hr cl. Prereq: 551 or grad standing. Odd years.

### 753.02\* Autonomy in Vehicles U G 3

Autonomy in the context of modern vehicles; cruise control, anti-lock brake systems (ABS), steering control/lane keeping; introduction to automated highway systems (AHS).

Wi Qtr. 3 cl. Prereq: 551 or grad standing. Even years.

## 754 Nonlinear Systems U G 3

Analysis of nonlinear control systems; Lyapunov stability, numerical methods, phase-plane techniques, describing functions, and linearization via feedback.

Wi Qtr. 3 cl. Prereq: 551 or grad standing.

## 755 Digital Control Systems U G 3

Difference equations, z-transforms, digital filtering, sampling quantization, analog-digital conversion; block diagramming to model digital and hybrid control systems.

Wi Qtr. 3 cl. Prereq: 551 or grad standing.

## 757 Control Interfacing and Design Laboratory U G 3

Laboratory study of feedback control systems with experiments analyzing different types of plants, transducers, and control techniques; emphasis on real-time computer control.

Sp Qtr. 2 cl, 1 4-hr lab. Prereq: 265, and 755 or 557; or grad standing.

## 758\* Control System Implementation Laboratory U G 3

Laboratory study of advanced feedback control techniques as applied to nonlinear and multi-output systems under computer or microprocessor control.

Sp Qtr. 1 2-hr cl, 1 4-hr lab. Prereq: 557 or 755 or grad standing. Odd years.

## 759 Numerical Optimization for Electrical Engineers U G 3

Numerical optimization techniques as applied to selected electrical engineering application areas.

Au Qtr. 3 cl. Prereq: 352. Not open to students with credit for 694U.

## 761 Switching Circuit Theory U G 3

Minimization of multiple output combinational circuits, computer-aided design, state minimization, asynchronous sequential machines, state assignment, transient analysis.

Au Qtr. 3 cl. Prereq: 662 or CS&E 675.01.

## 762 Theory and Design of Digital Computers II U G 3

Detailed design of major components of modern computer architecture; design of controllers, ALUs, floating point units, caches, and memory management units using a hardware description language.

Sp Qtr. 3 cl. Prereq: 561 or equiv, and 662 or CS&E 675.01 or equiv.

## 763\* Introduction to Real-Time Robotics Systems U G 3

Components of a Robot System, types, electronic system components, and analog-digital conversion; error analysis; hardware and software.

Au Qtr. 3 cl. Prereq: 265, 352, 323; or grad standing. Odd years.

## 764 Functional Verification of Hardware Designs U G 3

Techniques for verification of hardware designs; writing testbenches; verification of increasingly complex computer circuit designs provided by industry using simulation environments used in industry.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 762.

## 765 Microcomputer Structures U G 3

An investigation of current microcomputer structures with emphasis on hardware implementation of I/O, direct memory access, interrupts, memory, and microprogramming.

Au Qtr. 3 cl. Prereq: 662.

## 766 Computer Interfacing and Protocols U G 3

A hardware oriented course dealing with the electrical principles of computer interfaces for digital communication including time domain effects, serial/parallel interfaces, modems, and associated protocols.

Wi Qtr. 3 cl. Prereq: 561.

## 767\* Applied Use-Case-Driven Object-Oriented Analysis and Design for Engineers and Scientists U G 3

Case study using incremental and iterative use-case-driven process of building object-oriented scientific and engineering software systems; analysis, design, UML modeling, design patterns.

Sp Qtr. 3 cl. Prereq: 668 or CS&E 668. Not open to students with credit for CS&E 767. Cross-listed in Computer Science and Engineering. Odd years.

## 769 Applied Enterprise Distributed Computing for Engineers and Scientists U G 3

Industry-standard technologies for enterprise distributed computing, especially in engineering and scientific contexts; Java-based technologies, XML, Web Services.

Sp Qtr. 2 1.5-hr cl. Prereq: CS&E 660; and ECE or CS&E 668. Not open to students with credit for ECE 694R or CS&E 794R or CS&E 769. Cross-listed in Computer Science and Engineering.

**776 Reliability Engineering**

Engineering system reliability modeling and prediction; reliability of engineering devices, systems, and processes; study of practical applications.

Cross-listed in Industrial and Systems Engineering, and Mechanical Engineering. Repeatable for different titled topics only of 776.xx.

**776.01 Reliability Engineering I U G 4**

Engineering system reliability modeling and prediction; reliability of programmable devices and human reliability; reliability and risk management of engineering systems.

Au Qtr. 2 2-hr cl. Prereq: 351 or Ind Eng 509 or Mech Eng 481 or grad standing.

**776.02 Reliability Engineering II U G 4**

Reliability of mechanical and electrical devices, systems, and engineering processes.

Wi Qtr. 2 2-hr cl. Prereq: 776.01 or Ind Eng 776.01 or Mech Eng 776.01 or permission of instructor.

**776.03 Reliability Engineering Applications U G 1**

Study and design of a complete reliability program for a selected engineering system.

Wi Qtr. 1 cl. Prereq or concur: 776.02 or Ind Eng 776.02 or Mech Eng 776.02 or permission of instructor.

**779 Introduction to Neural Networks U G 3**

Survey of fundamental methods and techniques of artificial neural networks: single and multi-layer networks; associative memory and statistical networks; supervised and unsupervised learning.

Wi Qtr. 3 cl. Prereq: 600 or 662 or CS&E 630 or permission of instructor. Not open to students with credit for CS&E 779. Cross-listed in Computer Science and Engineering.

**H783 Honors Program Research U G 1-3**

Honors program students are offered the opportunity to pursue independent distinction project/research. Student presentations and thesis writing included.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Sr standing in Elec & Cptr Eng, minimum CPHR of 3.4, and permission of instructor. Open only to Elec & Cptr Eng undergraduate students and students in BS/MS program. Repeatable to a maximum of 6 cr hrs.

**793 Individual Studies in Electrical and Computer Engineering U G 1-18**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 18 cr hrs. Offered summer quarter subject to faculty availability. This course is graded S/U.

**800\* Stochastic Digital Signal Processing G 3**

Signal processing techniques for stochastic signals. Vector space methods, optimal filtering and prediction, parametric and nonparametric estimation; harmonic retrieval; applications.

Sp Qtr. 3 cl. Prereq: 700 and 805. Odd years.

**801 Advanced Topics in Signal Processing**

Topics are selected to prepare graduate students for research and application to current problems in the field.

Repeatable for different titled topics only.

**801.01\* Adaptive Filtering G 3**

Theory and application of adaptive filtering algorithms; LMS and RLS and their variants; convergence and tracking properties.

Au Qtr. 3 cl. Prereq: 650 or 805; and 750 or Math 601. Not open to students with credit for 894A. Odd years.

**801.02\* Information Theory G 3**

Mathematical models for channels and sources: entropy, information, data compression, channel capacity, Shannon's theorems, rate distortion theory.

Wi Qtr. 3 cl. Prereq: 804. Not open to students with credit for 894I. Odd years.

**802\* Digital Speech Processing Systems G 3**

The rapid rise of multimedia and cellular communications has led to widespread use of digital voice processing. This course is designed to prepare graduate students for research in this area.

Au Qtr. 3 cl. Prereq: 600 and 804. Even years.

**803\* Coding Theory G 3**

Error detection and correction codes for communications and data storage, finite fields and polynomial algebra, linear codes, Hamming and Reed-Mueller codes, cyclic codes, burst error correction codes, interleaving, Fire codes, and Reed-Solomon codes.

Wi Qtr. 3 cl. Prereq: 804. Even years.

**804 Random Signal Analysis G 3**

Probability, random variables, and random vectors for analysis and research in electrical engineering. Distribution functions and densities, expectation, characteristic functions, functions of random variables, random vectors and sequences, stochastic convergence.

Au Qtr. 3 cl. Prereq: 352 or equiv; Stat 427 or Math 530 or equiv.

**805 Random Processes and Applications G 3**

Random processes; autocorrelation and cross-correlation functions; energy and power spectral densities; mean-square calculus; minimum mean squared error signal estimators; optimal filtering; random processes as inputs to linear systems; applications to communications and signal processing.

Wi Qtr. 3 cl. Prereq: 804.

**806 Signal Detection and Estimation G 3**

Binary and M-ary decision theory; Bayes, minimax, ideal, and Neyman-Pearson detectors; maximum likelihood and maximum a posteriori estimation; and receiver operating characteristics.

Sp Qtr. 3 cl. Prereq 805.

**807\* Advanced Communication Theory I G 3**

Advanced topics in wireless communication systems. Topics are selected to prepare graduate students for research and application to current problems in the field.

Sp Qtr. 3 cl. Prereq: 809. Odd years.

**808\* Advanced Communication Theory II G 3**

Advanced topics in communication theory. Topics are selected to prepare graduate students for research and application to current problems in the field.

Au Qtr. 3 cl. Prereq: 806. Even years.

**809 Digital Communication Theory G 3**

A study of digital communications theory with emphasis on performance, spectral characteristics, and complexity. Statistical decision theory is applied to digital communications problems.

Sp Qtr. 3 cl. Prereq or concur: 806.

**810 Electromagnetic Field Theory II G 3**

Electromagnetic field theorems with applications; separable guided wave and scattering boundary value problems; one-dimensional Green's functions with applications; multi-conductor transmission lines.

Wi Qtr. 3 cl. Prereq: 719.

**811 Electromagnetic Field Theory III G 3**

Multi-dimensional potential Green's functions for solving separable electromagnetic problems with arbitrary excitation; integral equation formulation for more general wave problems of practical interest.

Sp Qtr. 3 cl. Prereq: 810.

**812\* Electromagnetic Guided Waves G 3**

Rigorous treatment of electromagnetic guided waves in various types of planar transmission lines and waveguides, magnetized ferrites and semiconductors as well as photonic crystals.

Sp Qtr. 3 cl. Prereq: 719 or equiv. Odd years.

**813\* Finite Elements for Electromagnetics G 3**

A study of finite element methods from the viewpoint of researchers in electromagnetics.

Wi Qtr. 2 1.5-hr cl. Prereq: 715. Even years.

**814\* Method of Moments in Electromagnetics G 3**

Method of Moments solution of integral equations of electromagnetic radiation and scattering; applications to conducting and material bodies, apertures, thin wires, microstrip, etc.

Sp Qtr. 3 cl. Prereq: 715. Even years.

**815\* Advanced Antenna Theory G 3**

Mutual impedance; moment method, aperture antennas; ground plane effects; horn and reflector antennas; pattern synthesis; antenna measurements.

Au Qtr. 3 cl. Prereq: 810. Even years.

**816\* Electromagnetic Scattering from Random Media and Rough Surfaces G 3**

Analytical theories of scattering from statistically described media; independent scattering, radiative transfer, and analytical wave theory. Physical optics and perturbation theories of rough surface scattering.

Sp Qtr. 3 cl. Prereq: 810. Not open to students with credit for 894J. Odd years.

**817\* Discrete Electromagnetics G 3**

Discretization techniques for Maxwell equations, and associated numerical methods, with emphasis on finite difference, finite volumes, and finite elements.

Wi Qtr. 3 cl. Prereq: 715. Not open to students with credit for 894K. Odd years.

**819\* Advanced Electromagnetic Theory G 3**

Use of asymptotic methods to obtain high-frequency solutions; geometrical optics and the propagation through inhomogeneous media; geometrical theory of diffraction and its application to antenna and scattering problems.

Au Qtr. 3 cl. Prereq: 811. Odd years.

**820 Analog VLSI Design G 3**

Introduction to analog VLSI design with emphasis on the hardware implementation of analog signal processing VLSI circuits and systems.  
Sp Qtr. 3 cl. Prereq: 720, and prereq or concur 721; or grad standing.

**831\* Semiconductor Device Theory G 3**

Basic semiconductor device current equations, measurement and analysis of interface states, advanced p-n junction theory, avalanche breakdown, metal-semiconductor contacts, MIS capacitors, and short channel devices.  
Wi Qtr. 3 cl. Prereq: 730 or equiv. Even years.

**832\* High-Speed Semiconductor Devices G 3**

Principles underlying the operation and application of high-speed solid-state active devices, electron transport in high fields, Gunn effect, superlattices, heterostructures and modulation doped devices.  
Sp Qtr. 3 cl. Prereq: 730 or equiv. Even years.

**833\* Optical Effects in Materials and Devices G 3**

Interaction of light with crystals, polarization electrooptics, acousto-optics, optical properties of nanoscale structures and effects on energy harvesting, quantum cascade lasers, photonic band gaps.  
Wi Qtr. 3 cl. Prereq: Grad standing in engineering, chemistry, or physics. Odd years.

**835 Special Topics in Nanostructure Devices**

Fundamental electronic, optical and physical properties of nanostructures; application of nanostructure science to enable novel semiconductor devices for advanced optoelectronics, photonics, and electronics.  
Repeatable for different titled topics only.

**835.01\* Advanced Photovoltaics G 3**

Fundamentals of nanostructured semiconductors for photovoltaics; space solar cells; optoelectronic properties of semiconductors; physics, operation, and design of compound semiconductor solar cells.  
Wi Qtr. 3 cl. Prereq: 730. Odd years.

**835.02\* Special Topics on Organic Conducting Devices G 3**

Latest developments in organic conducting polymer devices; lectures followed by student paper discussion; papers are gathered based upon discussion and assignment and shared with class.  
Wi Qtr. 1 3-hr cl. Prereq: 432. Even years.

**835.03\* Nanoscale Structures and Devices G 3**

Fundamentals and technology of nanostructures and devices; engineering of new devices, confined structures in low dimensions, and their effects on more traditional devices.  
Wi Qtr. 2 1.5-hr cl. Prereq: 730. Odd years.

**842\* Power System Stability and Control G 3**

Control and transient stability of power system; excitation system; state estimation; advanced topics.  
Au Qtr. 3 cl. Prereq: 740 or permission of instructor. Odd years.

**844\* Application of Power Electronic Circuits in Electric Power Systems G 3**

Advanced static VAR compensation, system stability enhancement, harmonic minimization, etc., by power electronic means will be discussed.  
Sp Qtr. 3 cl. Prereq: 624 and 740, or permission of instructor. Even years.

**845\* Electromechanical System Identification G 3**

Electromechanical systems, model building, least-squares, output error and maximum likelihood estimation.  
Sp Qtr. 3 cl. Prereq: 650 and 743. Even years.

**850\* Theory and Design of Feedback Control Systems G 3**

Linear feedback theory, stability, the quadratic regulator, output feedback pole placement and design of servocompensators, and CAD techniques for control systems.  
Wi Qtr. 3 cl. Prereq: 750. Even years.

**851\* Stochastic Estimation and Control Systems G 3**

Synthesis of control systems, both linear and nonlinear, with random inputs; advanced topics.  
Wi Qtr. 3 cl. Prereq: 750, and 650 or 805. Even years.

**852\* Adaptive Control G 3**

Model reference adaptive control, direct and indirect methods, robustness issues, applications.  
Sp Qtr. 3 cl. Prereq: 750, 752, and 754. Even years.

**854\* Optimal Control Theory G 3**

Optimal control by dynamic programming, Pontryagin's maximum principle and variational methods; minimum time, energy, and fuel problems for linear continuous and discrete systems.  
Wi Qtr. 3 cl. Prereq: 750 or permission of instructor. Odd years.

**855\* Large Scale Systems G 3**

Computational methods in optimal control and large scale dynamical systems; decentralization, hierarchy and their effects on modelling, stability analysis, and

optimal controller design and implementation.

Au Qtr. 3 cl. Prereq: 850. Even years.

**856\* Advanced Feedback Control G 3**

Input-output methods, modern frequency domain analysis and design techniques, Youla parameterization, and H2 and H-infinity optimization.  
Wi Qtr. 3 cl. Prereq: 752 and 850; or permission of instructor. Odd years.

**857\* Nonlinear Control Systems G 3**

Input-output and input-to-state analysis and feedback control of nonlinear systems. Stabilization via full and partial state feedback. Robust stabilization. Nonlinear gain assignment.  
Sp Qtr. 3 cl. Prereq: 754. Not open to students with credit for 894H. Odd years.

**858\* Systems Biology of Decision Making G 3**

Mathematical modeling and analysis of individual and group decision making; ecology and evolution of decision making; examples from social insects and humans; bioinspired engineering design.  
Sp Qtr. 2 1.5-hr cl. Prereq: 750 and 754. Odd years.

**859\* Sliding Mode Control in Electro-Mechanical Systems G 3**

Sliding mode control for decoupling of the design procedure and low sensitivity with respect to uncertainties, and application to control of electromechanical systems.  
Au Qtr. 3 cl. Prereq: 551 or Mech Eng 571. Cross-listed in Mechanical Engineering. Odd years.

**863 Computer Vision G 3**

Computer vision systems, image models, edge detection, feature extraction, shape representation, morphology, structural descriptions, object modeling, matching, knowledge bases, semantic knowledge, architectures, and depth perception.  
Sp Qtr. 3 cl. Prereq: 707 or permission of instructor.

**864 Advanced Computer Design G 3**

Parallel computer architectures, pipeline design, multiprocessor design, interprocessor communication, case studies and application examples.  
Wi Qtr. 3 cl. Prereq: 662.

**866\* Multisensor Integration for Intelligent Systems G 3**

Physical sensing devices, multisensor interface, sensor data fusion, object recognition by multisensor integration, and system organization for multisensor integration.  
Au Qtr. 3 cl. Prereq: 662, 763, Math 530 or Stat 427 or equiv, and CS&E 660. Even years.

**867\* Design of Advanced Data Networks G 3**

Recent advances in design and implementation of advanced data networks; consists of in-depth study on network protocols/algorithms and discussion on protocol implementation with software system building.  
Au Qtr. 3 cl. Prereq: 701 or CS&E 677. Odd years.

**874\* Pattern Recognition G 3**

Fundamentals of pattern recognition techniques and their application to electrical and computer engineering problems, cognitive neuroscience and bioinformatics.  
Sp Qtr. 3 cl. Prereq: 804 or 707 or CS&E 730. Not open to students with credit for 894T. Odd years.

**881 Seminar in Electrical Engineering G 1-3**

Su, Au, Wi, Sp Qtrs. 1-3 cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 or hrs. This course is graded S/U.

**888 Open Graduate Seminar G 1-3**

As an introduction to potential research areas, students will attend OSU sponsored talks relevant to topics in Electrical and Computer Engineering and critique them by written reports.  
Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing in ECE. Repeatable to a maximum of 6 or hrs. The credit earned for this class will not be counted as part of the hour requirement for the Masters degree, nor can it be used as any part of the three areas of emphasis on the PhD Plan of Study. This course is graded S/U.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.  
Cross-listed in Biomedical Engineering, Biomedical Informatics, Biophysics, Computer Science and Engineering, Integrated Biomedical Science, Pathology, Radiology, Statistics, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.  
Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 or hrs. Cross-listed in Biomed E, CS&E, Stat, Vis Sci, IBGP, Biophys, Pathol, Radiology, and Biom Inf. This course is graded S/U.

## 170 Electrical and Computer Engineering

### 894 Group Studies in Electrical Engineering G 1-18

Au, Wi, Sp Qtrs. Repeatable to a maximum of 18 cr hrs. Students should check department listings.

### 910\* Periodic Structures in Electromagnetics G 3

Development of the Dyadic Green's function for one and two dimensional periodic structures of arbitrarily oriented elements; application to phased arrays with and without scan compensations.

Wi Qtr. 3 cl. Prereq: 711, 810, 815, or permission of instructor. Even years.

### 917\* Advanced Optical Concepts G 3

Fiber and integrated optics and their applications, optical transfer functions, aberrations, optical thick holograms, numerical optical computing, and liquid crystals.

Wi Qtr. Prereq: 716 or permission of instructor. Odd years.

### 999 Research in Electrical Engineering G 1-18

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Emergency Medicine

146 Means Hall 1654 Upham Dr, 293-8176

### 793 Individual Studies in Emergency Medicine G 1-5

Research on a basic science or clinical issue in Emergency Medicine (under faculty supervision).

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Permission of instructor and grad standing in the M.S. program in Medical Sciences. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 999 Research in Emergency Medicine G 1-9

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Permission of instructor and grad standing in the M.S. program in Medical Sciences. Repeatable. This course is graded S/U.

## Engineering

122 Hitchcock Hall, 2070 Neil Avenue, 292-2651

### 100 Engineering Survey

Academic requirements; University procedures, grading system, and resources; overview of engineering academic areas of study and services.

Su, Au, Wi, Sp Qtrs. 2 cl. Prereq: Enrollment in ENG. Not open to students with credit for Agr 100, Arts Col 100, Arts&Sci 100, Home Ec 100, Nat Res 100, and UVC 100.

#### 100.01 Aero/Astro Engineering Survey U 1

#### 100.02 Aviation Engineering Survey U 1

#### 100.03 Chemical and Biomolecular Engineering Survey U 1

#### 100.04 Civil and Environmental Engineering U 1

#### 100.05 Computer Science and Engineering Survey U 1

#### 100.06 Electrical and Computer Engineering Survey U 1

#### 100.07 Engineering Physics Survey U 1

#### 100.08 Food, Agricultural and Biological Engineering Survey U 1

#### 100.09 Geomatics Engineering Survey U 1

#### 100.10 Industrial and Systems Engineering Survey U 1

#### 100.11 Materials Science, Ceramic, and Metallurgical Engineering Survey U 1

#### 100.12 Mechanical Engineering Survey U 1

#### 100.13 Welding Engineering Survey U 1

#### 100.14 Undeclared Engineering Survey U 1

H100.14 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor.

#### 100.15 Women in Engineering Survey U 1

#### 100.16 Biomedical Engineering Survey U 1

#### 100.17 Environmental Engineering Survey U 1

### 180 Freshman Engineering Seminar U 1

Seminar for Pre-Engineering students to develop their study skills and practice these skills in their Pre-Calculus Mathematics courses.

Su, Au, Wi, Sp Qtrs. 2 1-hr rec. Prereq: Enrollment as Pre-Engineering, enrollment in Math 140 or 148 and in Engineer 100 or Univ Col 100 concurrently. This course is graded S/U.

### 181 Introduction to Engineering I U 3

Visualization and sketches, introduction to spreadsheets and CAD, working drawings, experimental design and data analysis, problem solving approaches, hands-on lab, reporting, and production dissection.

Su Term 1, Au, Wi Qtrs. 2 cl, 3 lab hrs. Prereq: prereq or concur: Math 150 or higher. AU quarter only open to students enrolled in the College of Engineering

### 183 Introduction to Engineering II U 3

Team building, design/build project; project management, introduction to MATLAB, written and oral reports, preparation of visual aids, hands-on lab and reporting.

Su Term 2, Wi, Sp Qtrs. 2 cl, 3 lab hrs. Prereq: 181 or H191. Not open to students with credit for 182.

### 185 Introduction to Engineering TI - Basic Skills U 2

Introduction to teamwork, oral and written communication, ethics, basic engineering tools, hands-on laboratories, and design.

Au, Wi Qtrs. 2 2-hr cl. Prereq: "K" credit for 186 or 187 or permission of instructor; Math 150 or concur. Not open to students with credit for 181, 182, or 183. Serves as a partial requirement, intended for transfer students, of the required 181-183 course sequence.

### 186 Introduction to Engineering TII - Graphics Communications U 2

Introduction to three-dimensional visualization and presentation with freehand, manual, and CADD (computer aided drawing and design) methods.

Au, Wi Qtrs. 2 2-hr cl. Prereq: "K" credit for 185 or 187 or permission of instructor; Math 150 or concur. Not open to students with credit for 181, 182, or 183. Serves as a partial requirement, intended for transfer students, of the required 181-183 course sequence.

### 187 Introduction to Engineering TIII - Computer Aided Problem Solving U 2

Introduction to managing variables, importing and exporting data, performing calculations, generating plots, and developing and managing files using computer applications.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: "K" credit for 185 or 186 or permission of instructor; Math 150 or concur. Not open to students with credit for 181, 182, or 183. Serves as a partial requirement, intended for transfer students, of the required 181-183 course sequence.

### H191 Engineering Fundamentals and Laboratory I U 4

Introduction to 3-dimensional visualization and presentation by sketching and CAD, engineering problem solving, spreadsheet use, experimental design, data analysis, lab experience and reporting.

Au Qtr. 4 2-hr cl and lab. Prereq: Math 151 or higher, available to students designated Honors or by permission of instructor. Not open to students with credit for 181 or En Graph H166. First of a three course sequence.

### H192 Engineering Fundamentals and Laboratory II U 4

Solving engineering problems using computer programming, development of algorithms, introduction to C/C++ language, MATLAB, data acquisition and reduction techniques, hands-on lab experience and reporting.

Wi Qtr. 4 2-hr cl/lab. Prereq: H191. Not open to students with credit for En Graph H167. Second of a three course sequence.

### H193 Engineering Fundamentals and Laboratory III U 4

Design/build team project with written and oral documentation and project management. Requires integration and application of concepts from previous engineering, math, and physics courses.

Sp Qtr. 3 2-hr lec/lab. Prereq: H192 or permission of instructor. Not open to students with credit for 183 or En Graph H168. Third of a three course sequence.

### 194 Group Studies in Engineering U 1-6

Special topics of general interest to engineering students.

Su, Au, Wi, Sp Qtrs. H194 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

### 195 Women in Engineering U 1

Guest speakers share their knowledge and experience about the areas and career options available in engineering; class discussions; activities for building professional awareness.

Sp Qtr. 1 cl. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

### 198 Explore Engineering U 1

Lectures and discussion of various engineering disciplines: current activities, expectations, responsibilities and future trends.

Sp Qtr. 2 cl. This course is graded S/U.

### 259 Fundamentals of Success for Engineering Students U 5

Teaches time management and study skills to promote academic success. Students learn study skills and practice time management in relation to their engineering coursework.

Wi, Sp Qtrs. 2 2-hr cl. This class focuses on technical courses and is therefore limited to engineering students.

### 293 Individual Studies in Engineering U 1-5

Opportunity for first year students to participate in supervised individual engineering experiences.

Su, Au, Wi, Sp Qtrs. H293 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of Associate Dean for Academics or Faculty Coordinator for Freshmen Programs. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.



**294 Group Studies in Engineering U 1-6**

Special topics of general interest to engineering students.

Su, Au, Wi, Sp Qtrs. H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**360 History of Technology and Engineering****360.01 History of Ancient Engineering U 5**

History of ancient engineers, engineering processes and products.

Wi Qtr. 3 1.5-hr cl. Prereq: English 110 or equiv. GEC historical study course.

**360.02 History of American Technology U 5**

History of the interaction of American technology and society from colonial times to the present.

Sp Qtr. 3 1.5-hr cl. Prereq: English 110 or equiv. GEC historical study course.

**367 American Attitudes about Technology U 5**

Exploration of various perspectives regarding the impact of engineering and technology on American culture.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: English 110 or 111, and soph standing or above. GEC second writing and social diversity course.

**400 The Ohio State Engineer Magazine**

Students run and publish an engineering and architectural magazine that increases their knowledge by publishing informative articles and information on persuasive employers and student events.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of magazine project advisor.

**400.01 The Ohio State Engineer Magazine Staff U 1-3**

Designed for writers, photographers, and other contributors to The Ohio State Engineer Magazine.

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**400.02 The Ohio State Engineer Magazine Management U 1-3**

Designed for the student managers of The Ohio State Engineer.

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**494 Group Studies in Engineering U 1-6**

Special topics of general interest to engineering students.

Su, Au, Wi, Sp Qtrs. H494 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**510 Fundamentals of Engineering (FE) Examination Review U G 1**

A twenty session review of all general engineering topics covered in the engineering licensing examination: Fundamentals of Engineering (FE) Morning Examination and General Afternoon Examination.

Wi Qtr. 2 1.5-hr cl. Prereq: Sr standing in the College of Engineering or have an Engineering degree, or permission of instructor. This course is graded S/U.

**689 Professional Practice in Engineering U 0**

Students complete a cooperative assignment in private industry or for a government agency; assignment is supervised by the employer and monitored and evaluated by the co-op program.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of the Director of the Co-op Program in Engineering. Repeatable. This course is graded S/U.

**692 Service Learning in Engineering U G 1-4**

Experiential education characterized by participation in an organized service activity connected to specific learning outcomes. Meets community needs and includes student reflection.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs. Some projects involve domestic or international travel and travel expenses are the responsibility of the student.

**694 Group Studies in Engineering U G 1-6**

Special topics of general interest to engineering students.

Su, Au, Wi, Sp Qtrs. H694 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**695 Engineering Teamwork Seminar U G 1**

Interactive training seminar that teaches communications and interpersonal skills vital to success as an engineer in industry. Sponsored by Tau Beta Pi National Engineering Honor Society.

Wi Qtr. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for the work.

Su, Au, Wi, Sp Qtrs. H697 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Written permission of the Associate Dean of Undergraduate Education and Student Services. Repeatable to a maximum of 45 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**Engineering Graphics**

240 Hitchcock Hall, 2070 Neil Avenue, 292-7923

**121 Graphic Presentation I U 3**

Presentation of three-dimensional subjects by precise graphics: orthographic, sectional, pictorial, and introduction to computer graphics.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl and lab. VPA Admis Cond course.

**122 Graphic Presentation II U 3**

Continuation of 121; elements of descriptive geometry, intersections, and development of surfaces, shade, and shadow.

Au, Wi, Sp Qtrs. 3 2-hr cl and lab. Prereq: 121. VPA Admis Cond course.

**141 Engineering Graphics I U 3**

Methods of problem solving and algorithmic development; introduction to 3-dimensional orthographic and pictorial visualization and presentation.

Wi Qtr. 3 2-hr cl and lab. Prereq or concur: Math 150 or equiv. VPA Admis Cond course.

**H141 Engineering Graphics I U 3**

Methods of problem solving and algorithmic development, and introduction to 3-dimensional orthographic and pictorial visualization and presentation.

Au, Wi Qtrs. 3 2-hr cl, lab. Prereq or concur: selection for honors program and Math 150 or equiv.

**142 Engineering Graphics II U 3**

Graphic problem solving techniques; introduction to computer graphics display methods; development of dimensioning and graphics skills.

Sp Qtr. 3 2-hr cl and lab. Prereq: 141. VPA Admis Cond course.

**143 Engineering Graphics III U 3**

Intermediate interactive computer graphics techniques and graphics conventions; comprehensive engineering problem solving project.

Au Qtr. 3 2-hr cl and lab. Prereq: 142.

**166 Engineering Graphics and Problem Solving U 4**

Introduction to 3-dimensional visualization and presentation with freehand, manual, and CADD methods; introduction to engineering problem solving and reporting.

Su, Au, Wi, Sp Qtrs. 4 2-hr cl. Prereq or concur: Math 150 or better; status as an engineering major, pre-major, or engineering undecided, or written permission of instructor. Not open to students with credit for 110. VPA Admis Cond Course.

**167 Problem Solving through Programming for Engineering Calculations and Computer Graphics U 4**

Solving engineering problems using computer programming; development of algorithms and program modules; solutions to major problems will be presented in an engineering report format.

Su, Au, Wi, Sp Qtrs. 4 2-hr cl/lab. Prereq or concur: Math 151 or better. Not open to students with credit for 200. VPA Admis Cond Course.

**204 Technical Drawing U 3**

Various systems of size description including precision dimensioning; fastening systems; and organization and preparation of engineering drawings, perspective, and computer graphics.

Au, Wi, Sp Qtrs. 2 2-hr cl and lab. Prereq: 121 or written permission of instructor.

**294 Group Studies in Engineering Graphics U 1-5**

Group studies of specially selected topics.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**304 Technical Illustration U 3**

Preparation of presentation graphics with emphasis on commercial techniques and design applications.

Wi, Sp Qtrs. 2 2-hr cl, lab. Prereq: 121.

**306 Architectural Drawing for Residential Buildings U 3**

Study of terminology and design considerations for residential buildings.

Sp Qtr. 2 2-hr cl and lab. Prereq: 121 or permission of instructor.

**404 Technical Airbrush Illustration U 3**

Preparation of airbrush graphics with emphasis on commercial techniques, materials, and presentations.

Au Qtr. 2 2-hr cl, lab. Prereq: 121.

**410 Computer Graphics U 3**

An advanced course in graphics with emphasis on the application of computer-generated graphics to the solution of engineering problems.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 166 or Engineer 182 or Engineer 194.07.

**504 Advanced Technical Illustration U 3**

Instruction, problems, materials, and graphic presentation.

Sp Qtr. 2 2-hr and individual consulting by arrangement. Prereq: 304 or 404 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**593 Individual Studies U G 1-5**

Opportunity to pursue special-interest topics not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**640 Solid Modeling in Engineering U G 4**

Theory and engineering applications of solid modeling in design, analysis, and manufacturing.

Su, Sp Qtrs. Prereq: 167, Math 254; Aero Eng 580 or Ceram En 406 or Metal En 250 or Cptr/Inf 541 and/or permission of instructor.

**694 Group Studies in Engineering Graphics U G 1-5**

Special topics in engineering graphics; topics, credit hours, and instructor announced the quarter proceeding the offering.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**794 Group Studies U G 1-5**

Interdisciplinary topics related to engineering design, graphics, and vision.

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**English**

421 Denney Hall, 164 West 17th Avenue, 292-6065

Courses 020,021,022,023,104,105,106,107,108.01,108.02 have been moved to Education: Teaching and Learning.

General Prerequisites for Courses Numbered 200 and 300

Unless otherwise indicated, the prerequisite for 200- and 300-level courses is English 110 or 111 or equivalent.

General Prerequisites for Courses Numbered 400 or above

Unless otherwise indicated, the prerequisites for 400-, 500- and 600-level courses are 10 credit hours of English courses at the 200 or 300 level or permission of instructor. A 367 offered by any department is acceptable towards the 10 hours.

500-level courses may provide graduate credit only in depts other than English.

Ordinarily all 500- and 600-level courses are offered at least once a year, but quarters of offering vary. Check the English listing in the quarterly Master Schedule of Classes Bulletin.

600-level courses may provide graduate credit in all depts.

General Prerequisites for Courses Numbered 700

Unless otherwise indicated, the prerequisites for 700-level courses are 15 credit hours of English courses at the 300 or 500 or 600 levels or the equivalent work in allied departments or permission of the instructor.

General Prerequisites for Courses Numbered 800

30 hrs of courses in English, or 20 hrs in English and 25 hrs in specified allied disciplines. Topics may not be taken which were formerly taken as courses under a different number. Admission to 800-level courses is by permission of a Department of English graduate adviser only.

General Prerequisites for Courses Numbered 900

15 hrs of English at the 800 level. Topics may not be taken which were formerly taken as courses under a different number. Admission to 900-level courses is by permission of an English department graduate adviser only.

**101 American Sign Language I U 5**

Speaking and listening skills in American Sign Language development at an informal conversational level; instruction occurs primarily in ALS without speech.

2 2-hr cl. GEC for lang course.

**102 American Sign Language II U 5**

Expands on skills learned in English 101; more complex conversations about self, others, activities; culture and politics of American Deaf Community explored.

2 2-hr cl. Prereq: 101 or equiv. GEC for lang course.

**109 Intensive Writing and Reading**

5 cl or 2 2-hr cl. Credit may not count toward graduation in some degree programs.

**109.01 Intensive Writing and Reading I U 5**

First course in a two-course sequence that provides intensive practice in

integrating academic reading and writing.

Prereq: English Placement Test score of 6. Not open to students with credit for 052, 060, 110W, 110, or 111.

**109.02 Intensive Writing and Reading II U 5**

Second course in a two-course sequence that provides intensive practice in integrating academic reading and writing.

Prereq: 109.01. Not open to students with credit for 053, 060, 110W, 110, or 111.

**110 First-Year English Composition**

Practice in the fundamentals of expository writing, as illustrated in the student's own writing and in the essays of professional writers.

No prereq except when testing determines 052, 053, 106, 107, 109.01, 109.02, 110.03 or EDU T&L 108.01 to be required. Not open to students with credit for 110, 110C, 110L, 110W, H110, 111, H111, or H167. This course is available for EM credit only through the AP program. GEC first writing course.

C-- Taught in a computer-assisted classroom.

**110.01 First-Year English Composition U 5**

Prereq: English placement level 4 or 109.02 or EDU T&L 108.01. Not open to students with credit for 110, 110.02 or 110.03.

**H110.01 Honors First-Year English Composition U 5**

Intensive practice in the fundamentals of writing for selected students, as illustrated in the student's own writing and in the essays of professional writers.

Prereq: 28 or above on the English section of the ACT or 660 on the verbal section of the SAT. Not open to students with credit for 110, H110, 110.01, H110.02. GEC first writing course.

**110.02 First-Year English Composition U 5**

Taught with an emphasis on literature.

Prereq: English placement level 4 or 109.02 or EDU T&L 108.01. Not open to students with credit for 110, 110.01, 110.03.

**H110.02 Honors First-Year English Composition U 5**

Taught with an emphasis on literature.

Prereq: 28 or above on the English section of the ACT or 660 on the verbal section of the SAT. Not open to students with credit for 110, H110 or H 110.01.

**110.03 First-Year English Composition U 5**

Intensive practice in the fundamentals of expository writing.

Prereq: English placement level 5, placement level 4 allowed if student requests service. Must be taken concurrent with 193.03. Not open to students with credit for 110, 110.01, 110.02.

**H167 First-Year Writing Seminar in the Humanities U 5**

Intensive critical reading and writing concerning central issues in the humanities.

Prereq: A score of 4 or 5 on the Advanced Placement Test, which earns EM credit for 110. GEC arts and hums, cultures and ideas course.

**193 Individual Studies**

Intensive practice in the fundamentals of expository writing.

Prereq: Fr standing and permission of Director of First-Year Writing. Must be taught concurrent with 110.03.

**193.03 Individual Studies U 2-5**

Not open to students with credit for 193. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**201 Selected Works of British Literature: Medieval through 1800 U 5**

An introductory critical study of the works of major British writers from 800 to 1800.

H201 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 201: 110 or 111 or equiv. Prereq for H201: H110 or H111 or equiv or permission of instructor. 201 is required of non-honors English majors. GEC arts and hums lit course.

**202 Selected Works of British Literature: 1800 to the Present U 5**

An introductory critical study of works of major British writers of the 19th and 20th centuries.

H202 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 202: 110 or 111 or equiv. Prereq for H202: H110 or H111 or equiv or permission of instructor. Not open to students with credit for 284 or 285. 202 is required of non-honors English majors. GEC arts and hums lit course.

**220 Introduction to Shakespeare U 5**

Study of selected plays designed to give an understanding of drama as theatrical art and as an interpretation of fundamental human experience.

H220 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 220: 110 or 111 or equiv. Prereq for H220: H110 or H111 or equiv, and enrollment in an honors program. GEC arts and hums lit course.

**260 Introduction to Poetry U 5**

Designed to help students understand and appreciate poetry through intensive study of a representative group of poems.

H260 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums lit course.

**261 Introduction to Fiction U 5**

Examination of the elements of fiction -- plot, character, setting, narrative, perspective, theme, etc. -- and their various interrelations; comparisons with nonfictional narrative may be included.

H261 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or 111 or equiv. GEC arts and hums lit course.

**262 Introduction to Drama U 5**

A critical analysis of selected dramatic masterpieces from Greek antiquity to the present, designed to clarify the nature and major achievements of western dramatic art.

H262 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums lit course.

**263 Introduction to Film U 5**

Introduction to methods of reading film texts by analyzing cinema as technique, as system, and as cultural project.

1 3-hr cl, 1 2-hr cl. GEC arts and hums VPA course.

**264 Introduction to Reading Popular Culture U 5**

Introduction to the analysis of popular culture texts, with special emphasis on the relationship between popular culture studies and literary studies.

Prereq: 110 or equiv. Not open to students with credit for Comp Std 264. Cross-listed in Comparative Studies. GEC arts and hums cultures and ideas course.

**265 Writing of Fiction I U 5**

Practice in the writing of fiction; analysis and discussion of student work, with some attention to general methods of fiction and the publishing situation.

Repeatable to a maximum of 10 cr hrs.

**266 Writing of Poetry I U 5**

Practice in the writing of poetry; emphasis on the students' own work, with reference to established poetic patterns and established poetry.

Repeatable to a maximum of 10 cr hrs.

**268 Writing of Creative Nonfiction I U 5**

Practice in the writing of creative nonfiction; analysis and discussion of student work, with reference to the general methods and scope of the genre.

Workshop-seminar. 2 2-hr cl. Prereq: English 110 or 111 or equiv. Repeatable to a maximum of 10 cr hrs.

**269 Digital Media Composing U 5**

A writing course where students analyze and compose digital media texts while studying complex forms and practices of textual production.

Prereq: English 110 or equiv. GEC arts and hums VPA course.

**270 Introduction to Folklore U 5**

A general study of the field of folklore including basic approaches and a survey of primary folk materials: folktales, legends, folksongs, ballads, and folk beliefs.

GEC arts and hums cultures and ideas course.

**271 Introduction to English Language Study U 5**

An introduction to the grammar, history, and social and regional dialects of the English language.

Not open to students with credit for 570, 669, 671, 672; or Linguist 601. GEC arts and hums cultures and ideas course.

**275 Thematic Approaches to Literature U 5**

An introduction to literature through the examination of a major theme as treated in different genres and periods; topic varies quarterly.

Repeatable to a maximum of 10 cr hrs. GEC arts and hums lit course.

**276 Introduction to Rhetoric U 5**

Study of developments in rhetorical theory, teaching, criticism, and practice through examination of representative figures, texts, movements and periods from antiquity to the present.

2 2-hr cl. GEC arts and hums, cultures and ideas course.

**277 Introduction to Disability Studies U 5**

Foundational concepts and issues in disability studies; introduction to the sociopolitical models of disability.

2 2-hr cl. GEC arts and hums cultures and ideas course.

**280 The English Bible U 5**

The Bible in English translation, with special attention to its literary qualities, conceptual content, and development within history.

H280 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums lit course.

**281 Introduction to African-American Literature U 5**

A study of representative literary works by African-American writers from 1760 to the present.

Offered in cooperation with African-American and African Studies. GEC arts and hums lit and social diversity course.

**290 Colonial and U.S. Literature to 1865 U 5**

Introductory study of significant works of U.S. literature from its Colonial origins to 1865.

Either 290 or 291 is required of non-honors English majors. GEC arts and hums lit course.

**291 U.S. Literature: 1865 to Present U 5**

Introductory study of significant works of U.S. literature from 1865 to the present.

Prereq: 110 or 111 or equiv. Either 290 or 291 is required of non-honors English majors. GEC arts and hums lit course.

**294 Group Studies U 3-5**

Topic varies from quarter to quarter on subjects not otherwise covered by English courses.

Repeatable to a maximum of 30 cr hrs.

**H296 Honors Seminar: Literature and Intellectual Movements U 5**

Studies in the relationship of works of literature to their general intellectual contexts, involving such topics as Deism, Marxism, Primitivism, Freudian psychology; topic varies quarterly.

Prereq: CPHR of 3.00 or better, with 3.50 or better in English, and permission of dept.

**304 Business and Professional Writing U 5**

The study of principles and the practice of techniques associated with business and professional writing; emphasis on the style, organization, and conventions appropriate to business letters and reports.

2 2-hr cl. Prereq: 110 or 111 or equiv, and jr or sr standing.

**305 Technical Writing U 3**

Study of principles and practices of technical writing. Emphasis on the style, organization, and conventions of technical and research reports, proposals, memoranda, professional correspondence, etc.

2 1.5-hr cl. Prereq: 110 or 111 or equiv.

**364 Special Topics in Reading Popular Culture U 5**

Focused study in reading popular culture texts, organized around a single theme or medium.

Prereq: 110 or equiv. GEC arts and hums, cultures and ideas course.

**367 Intermediate Essay Writing**

Prereq for 367.01, 367.02, 367.03, 367.04, 367.05, 367.06, 367.07: Credit for 110 through regular course enrollment and soph standing; or EM credit for 110; or a declared major in English. Not open to students with credit for 210, 267, H267, 301, 303, 305, or 367. Only one English 367 decimal subdivision may be taken for credit.

**367.01 The American Experience U 5**

An intermediate course that extends and refines expository writing and analytic reading skills, with an emphasis on style and an introduction to documentation, with major topics pertaining to the United States.

H367.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC second writing and social diversity course. E367.01 may be available for honors embedded experience at the regional campuses.

**367.02 The U.S. Experience as Reflected in Literature U 5**

Discussion, analysis, and writing about issues presented through the diverse voices of U.S. literature.

GEC second writing and social diversity course.

**367.03 African-American Voices in U.S. Literature U 5**

Discussion, analysis, and writing about issues presented through the diverse voices of African-American literature.

Not open to students with credit for AfAm&Ast 367.03. Cross-listed in African-American and African Studies. GEC second writing and social diversity course.

**367.04 English in the United States U 5**

Discussion, analysis, and writing about issues related to the use of English in the United States.

GEC second writing course.

**367.05 The U.S. Folk Experience U 5**

Discussion, analysis, and writing about U.S. folk culture with a concentration on individual life stories.

GEC second writing and social diversity course.

**367.06 Composing U.S. Communities U 5**

Discussion, analysis, and writing about how rhetorical discourse helps to define, sustain, and challenge American society.

GEC second writing course.

**367.07 Issues of Diversity in U.S. Workplace Communication U 5**

Discussion, analysis and writing about issues of diversity as they affect communication in U.S. workplaces.

GEC second writing course.

**378 Special Topics in Film and Literature U 5**

Focuses on the relationship between film and literature; topics may include adaptation, cross-media themes and modes, influence of cinema on literature and vice versa.

1 3-hr, 1 2-hr cl. Prereq: 110 or 111 or equiv. GEC arts and hums, cultures and ideas course.

**398 Critical Writing U 5**

Analysis of poetry, fiction, and drama, and issues in literary studies; intensive practice in writing critical essays in preparation for upper-division course work in English.

Prereq: 110 or 111 or equiv, a 367 writing course, and a declared English major; Rank 4 students must have permission of the director of undergraduate studies. Not open to students with credit for 302. Required of English majors; enrollment limited to English majors except by permission of dept. GEC third writing course.

**H398 Honors Critical Writing U 5**

Intensive practice in writing various kinds of analyses of literary texts.

2 2-hr cl. Prereq: 110 or 111, a second writing course, English honors major or written permission of instructor. GEC third writing course.

**405 Special Topics in Professional Communication U 5**

Topics vary; possible topics include technical communication, technical editing, managerial communication, international business communication, visual rhetoric, writing for the web, and scientific writing.

2 2-hr cl. Prereq: A 367 second writing course. Repeatable to a maximum of 10 cr hrs.

**467 Writing and Learning U 5**

Study of how writing skills develop, in the context of a peer consulting program, including 2 weekly classes and a 2-hour tutoring practicum.

2 2-hr cl, arr practicum. Prereq: 110 or 111 or equiv.

**505 Language and the Black Experience U 5**

Introduction to the structure, history, and use of distinctive varieties of English used by and among many African Americans in the U.S.

Prereq: English 110 or 110.01 or 110.02 or 110.03. Not open to students with credit for AfAm&ASt 505 or Linguist 505. Cross-listed in African American and African Studies and Linguistics.

**513 Introduction to Medieval Literature U G 5**

The study of masterpieces from the Middle Ages, chosen for their values in interpreting medieval culture as well as for their independent literary worth.

**514 Middle English Literature U G 5**

A study of non-Chaucerian classics from late medieval England, such as Sir Gawain and the Green Knight, Piers Plowman, and The Book of Margery Kempe.

2 2-hr cl.

**515 Chaucer U G 5**

A close study of Troilus and Criseyde and The Canterbury Tales as introduction to the artist and his period.

Not open to students with credit for 615.

**520 Studies in Shakespeare**

A study of the works of Shakespeare.

**520.01 Shakespeare U G 5**

A critical consideration of the art, personality, and achievement of Shakespeare in the light of Renaissance and modern significance.

Not open to students with credit for 520.

**520.02 Special Topics in Shakespeare U G 5**

Topics include genre-specific courses (e.g. the Histories), period-specific courses (e.g. Elizabethan Shakespeare), and theme-specific courses (e.g. Shakespeare and religion).

Prereq: 220 or 520.01 or equiv.

**521 16th-Century Literature U G 5**

A study of Tudor prose and poetry as they exemplify literary art and as they reflect the creative and inquiring temper of the age.

Not open to students with credit for 621.

**522 Early 17th-Century Literature U G 5**

A study of the poetry and prose of 1600-1660, including the major works of Milton.

**531 Restoration and Early 18th-Century Literature U G 5**

Study of poetry, prose and drama from the Restoration to the 1730s; authors may include Behn, Swift, and Wycherley.

**533 Literature of the Eighteenth Century, 1740-1800 U G 5**

Study of poetry, prose, and drama from the 1740s to the end of the eighteenth century; authors may include Johnson, Burke, Sheridan, and Wollstonecraft. 2 2-hr cl. Not open to students with credit for 535 prior to Au Qtr 2002.

**535 The Early British Novel: Origins to the 1830s U G 5**

Readings in the British Novel before the 1830s, with particular attention to novels of the 18th century; authors may include Fielding, Richardson, Burney, and Austen.

**540 Poetry and Poetics of the British Romantic Period U G 5**

Study of Romantic poetry and poetics: readings in Blake, Wordsworth, Coleridge, Byron, Shelley, Keats, and Mary Shelley.

**541 Victorian Poetry and Poetics U G 5**

Study of Victorian poetry and poetics; readings in Tennyson, the Brownings, Arnold, the Rossettis, Swinburne, Hopkins, and Hardy.

**542 The Victorian Novel U G 5**

Readings in a group of representative Victorian novelists, such as George Eliot, Charles Dickens, and William Thackeray, with special emphasis upon social and humanistic values.

Not open to students with credit for 641.

**543 20th-Century British Fiction U G 5**

A study of the development of British fiction after 1900, with emphasis on such major novelists as Conrad, Joyce, Lawrence, and Woolf.

Not open to students with credit for 643.

**547 20th-Century Poetry U G 5**

A study of 20th-century American and British poetry, with emphasis on such major figures as Frost, Yeats, Stevens, Eliot, Williams, Auden, Bishop, and Langston Hughes.

**549 Modern Drama U G 5**

An historical and critical examination of the major developments, personalities, and achievements in the drama of Europe and America since the advent of Ibsen.

Not open to students with credit for 649.

**550 Colonial and U.S. Literature to 1830 U G 5**

Introduction to selected works of early U.S. and Colonial literature including such writers as Anne Bradstreet, Phillis Wheatley, Benjamin Franklin, Washington Irving, James Fenimore Cooper.

**551 U.S. Literature, 1830-1865 U G 5**

An introduction to the major American writers of the mid-19th century: Poe, Hawthorne, Melville, Emerson, Thoreau, and Whitman.

**552 U.S. Literature, 1865-1914 U G 5**

Studies in fiction and poetry emphasizing such major figures as Twain, Howells, James, Dickinson, Robinson, Crane, Dreiser, and Willa Cather.

**553 20th-Century U.S. Fiction U G 5**

A study of American fiction after 1914, with emphasis on the work of such major figures as Anderson, Fitzgerald, Hemingway, and Faulkner.

**559 Introduction to Narrative and Narrative Theory U G 5**

Study of narrative in its different manifestations, e.g., novel, autobiography, film, legal testimony, and of theories of its form and significance.

**560 Special Topics in Poetry U G 5**

Topic varies; examples: the dramatic monologue; epic and mock epic; the religious lyric; narrative poetry.

Repeatable to a maximum of 10 cr hrs.

**561 Special Topics in Fictional and Nonfictional Narrative U G 5**

Topic may focus on fiction, nonfiction, or both; examples: the novel in the city; character narrators in fiction and autobiography.

Repeatable to a maximum of 10 cr hrs.

**562 Special Topics in Drama U G 5**

Topic varies; examples: the revenge play; Restoration and 18th-century drama; tragedy; the play within the play.

Repeatable to a maximum of 10 cr hrs.

**563 Contemporary Literature U G 5**

A study of prose and poetry written since approximately 1945.

**564 Special Topics in a Major Author**

Intensive study of the work of one of the major authors of English and American Literature.

2 2-hr cl.

**564.01 Major Author in Medieval and Renaissance British Literature U G 5****564.02 Major Author in 18th and 19th Century British Literature U G 5****564.03 Major Author in American Literature to 1900 U G 5**

**564.04 Major Author in 20th Century Literature in English U G 5**

2 2-hr cl.

**565 Writing of Fiction II U G 5**

Practice in the writing of fiction; continuation of 265 at an advanced level.

Prereq: 265 or equiv and permission of instructor. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in 665.

**566 Writing of Poetry II U G 5**

Practice in the writing of poetry; continuation of 266 at an advanced level.

Prereq: 266 or equiv and permission of instructor. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in 666.

**567 Rhetoric and Community Service: A Writing Seminar U 5**

The study of issues relating to rhetoric, community service, and intercultural communication while serving as volunteers and as writers for a local community service agency.

2 2-hr cl, 2 hrs on site. Prereq: 110 and one of the 367 decimals. Repeatable to a maximum of 10 cr hrs.

**568 Writing of Creative Nonfiction II U G 5**

Practice in the writing of essays and book-length creative nonfiction; continuation of 268 at an advanced level.

Prereq: 268 or equiv, and permission of instructor. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in 664.

**569 Digital Media and English Studies U G 5**

A critical examination of the intersection of English studies and the emergent technologies that are used to acquire and create knowledge in the discipline.

2 2-hr cl. Repeatable to a maximum of 10 cr hrs.

**570 Introduction to the History of English U G 5**

A study of the historical development of English giving attention to social factors associated with language changes in the phonology, morphology, syntax, lexicon, and discourse structure.

Prereq: 10 cr hrs of English at 200 or 300 level or equiv, or permission of instructor. Not open to students with credit for 274.

**571 Studies in the English Language U G 5**

Topic varies; examples: American English; the sociology of American dialects; language and style.

Repeatable to a maximum of 10 cr hrs.

**572 Traditional Grammar and Usage U G 5**

An examination of terminology and structures traditionally associated with the study of English grammar and of usage rules, especially problematical ones, governing edited written American English.

**573 Studies in Rhetorical Theory and Analysis**

Study of rhetorical theories to show how a range of social and textual discourses construct, address, and attempt to persuade audiences to assent or action.

**573.01 Rhetorical Theory and Analysis of Discourse U G 5**

Examination of persuasive strategies in a representative selection of textual genres, including oratory, news articles, editorials, essays, advertisements, fiction, poetry, and film.

2 2-hr cl.

**573.02 Rhetorical Theory and Analysis of Social Action U G 5**

Examination of persuasive strategies in social interaction, including collective social movements, political protests, cultural trends, rituals and ceremonies, and everyday practices.

2 2-hr cl.

**574 History and Theories of Writing U G 5**

Study of the origins, definitions, and development of writing, with varying perspectives on historical, technological, theoretical, and ideological issues.

**575 Special Topics in Literary Forms and Themes U G 5**

Topic varies; examples: ironic forms; the Trojan War in English literature; the hero and the anti-hero; pastoralism and romance.

Repeatable to a maximum of 10 cr hrs. E575 may be offered for honors embedded experience.

**576 Studies in Critical Theory**

Study of the history of literary criticism and of special topics in critical theory.

**576.01 History of Critical Theory: Plato to Aestheticism U G 5**

Study of the developments and basic texts in literary criticism and critical theory from Plato to Oscar Wilde.

2 2-hr cl.

**576.02 History of Critical Theory: 1900 to Present U G 5**

Study of the developments and basic texts in literary criticism and critical theory from 1900 to the present.

2 2-hr cl.

**576.03 Issues and Movements in Critical Theory U G 5**

Study of selected issues or movements in critical theory; topics may include feminist theory, postmodernism, narrative theory, mass culture and queer theory.

**577 Studies in Folklore**

Study of folk groups and communities, folklore genres, and issues and methods in folklore studies.

**577.01 Folk Groups and Communities U G 5**

Study of group identities, group concerns, expressive strategies of particular groups; African-American folklore; folklore and the elderly; women and folklore; ethnicity, identify, heritage.

2 2-hr cl.

**577.02 Folklore Genres: Form, Meaning and Use U G 5**

Study of the relationship between cultural forms, community interpretations, and social uses; topics include fairy tales; festival; folksong; the joke; narrative, self, and society.

2 2-hr cl.

**577.03 Issues and Methods in the Study of Folklore U G 5**

General concerns in the study of folklore; topics include ethnography and fieldwork; folklore and public policy; tourism and museums; folklore and memory; folklore and race.

2 2-hr cl.

**578 Special Topics in Film U G 5**

Examination of particular topics, themes, genres, or movements in cinema; topics may include particular directors (Orson Welles), periods (The Sixties), genres (horror).

1 3-hr, 1 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**579 Special Topics in Nonfiction U G 5**

Critical analysis of nonfiction written discourse with varied topics, e.g., Victorian prose, American nature writing, business and professional writing, rhetorical discourse, biography and autobiography.

2 2-hr cl. Repeatable to a maximum of 10 cr hrs.

**580 Special Topics in Gay and Lesbian Language and Literature U G 5**

Issues in the representation of gay and lesbian desires, identities, and cultures, through the study of literature, film, folklore, or language.

2 2-hr cl. Repeatable to a maximum of 10 cr hrs.

**581 Special Topics in U.S. Ethnic Literatures U G 5**

Study of selected issues or forms in U.S. ethnic literatures and cultures; topic varies: Native American autobiography, Asian American poetry; Latino/Latina novel.

2 2-hr cl. Repeatable to a maximum of 10 cr hrs.

**582 Studies in African-American Literature U 5**

Topic varies; examples: Neo-slave narratives; the Harlem Renaissance; literature by African-American women.

2 2-hr cl. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in AfAm&amp;ASt 582. Cross-listed in African-American and African Studies.

**583 Special Topics in World Literature in English U G 5**

Study of literatures written in English and produced outside of the U.S. and Britain; topics include colonial/postcolonial writing, regional literature, theoretical and historical approaches, genres.

2 2-hr cl. Repeatable to a maximum of 10 cr hrs.

**585 Studies in Literacy**

This foundational course explores how our understanding of literacy and its relationships to ongoing societies, cultures, and social change has been challenged and revised.

Prereq: 10 credit hours of English courses at the 200 or 300 level or permission of instructor. History will be cross-listing the 585.02 version of the class only. They will offer it as 585. Comparative Studies will cross-list both versions (585.01 and 585.02) of the class.

**585.01 Topics in Literacy Studies U 5**

Reconsiders the "great debates" about literacy--oral v. written, etc.--through the critical study of literacy's acquisition, practice or use, and consequences/concomitants.

Prereq: 10 hours of English courses at the 200 or 300-level or permission of instructor. Not open to students with credit for Comp Std 585.01. Cross-listed with Comp Std 585.01.

**585.02 History of Literacy U 5**

This course seeks to understand the history of literacy by examining literacy's contributions to making the modern world, and social changes' impacts on literacy.

Prereq: 10 credit hours of English courses at the 200 or 300-level or permission of instructor. Not open to students with credit for History 585 or Comp Std 585.02. Cross-listed with History 585 and Comp Std 585.02.

**586 Studies in American Indian Literature and Culture U G 5**

Focused study of a topic in American Indian literary and cultural studies.

Prereq: 110, 110.01, 110.02 or 110.03. Repeatable to a maximum of 10 cr hrs.

**587 Studies in Asian American Literature and Culture U G 5**

Focused study of a topic in American Asian literary and cultural studies.

Prereq: 110, 110.01, 110.02 or 110.03. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Comp Std 543. Cross-listed with Comp Std 543.

**588 Studies in Latino/a Literature and Culture U G 5**

Focused study of a topic in Latino/a literary and cultural studies.

Prereq: 110, 110.01, 110.02 or 110.03. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Comp Std 544. Cross-listed with Comp Std 544.

**H590 Honors Seminar: Major Periods in Literary History**

Intensive study of one of the major periods of English and American literature; periods vary quarterly.

Prereq: CPHR of 3.00 or better, with a 3.50 or better in English, and permission of dept.

**H590.01 The Middle Ages U 5****H590.02 The Renaissance U 5****H590.03 18th Century British Literature U 5****H590.04 Romanticism U 5****H590.05 The Later 19th Century U 5****H590.06 The Modern Period U 5****H590.07 Literature in English after 1945 U 5**

Intensive study of literature written in English after World War II, examining influential intellectual and literary movements and theories of the time.

2 2-hr cl.

**H590.08 U.S. and Colonial Literature U 5**

2 2-hr cl.

**H591 Honors Seminars: Topics in English Studies****H591.01 Special Topics in the Study of Creative Writing U 5**

A seminar in literary forms and themes, with a significant creative writing component.

2 2-hr cl. Prereq: 265 or 266 or 268; and enrollment in an honors program; or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**H591.02 Special Topics in the Study of Rhetoric U 5**

Study of rhetorical theories, practices, and literacies through examination of rhetorical communities, texts, movements, and periods both past and present.

Prereq: Enrollment in an honors program or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**592 Special Topics in Women in Literature U G 5**

Close examination from feminist perspectives of literature by or about women; central topic varies, for example, biography or autobiography, women as artists, images, and stereotypes.

Repeatable to a maximum of 10 cr hrs. Offered in cooperation with Women's Studies.

**593 Literature and Law U G 5**

Exploration of some fundamental questions underlying the cultural representation of legal order, particularly the nature of legal authority and of individual resistance to it.

**595 Literary Locations U G 5**

Study of sites of literary importance, and texts connected with them in the British Isles, Ireland, and elsewhere. Concludes with 10-day visit to location.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: Rank 2 or above; cumulative GPA of 3.0; completion of at least 10 cr hrs in English beyond 110; permission of instructor. Repeatable to a maximum of 10 cr hrs. Taught in conjunction with English 697; Sp Qtr focuses on London; Wi Qtr locations vary.

**596 Studies in Literature and the Other Arts U G 5**

Studies in English literature in interdisciplinary context. Period and context will vary: possible topics are modernism and music, romanticism and painting, Elizabethan literature and iconography.

Prereq: 10 cr hrs of English courses at the 200 or 300-level or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**597 The Disability Experience in the Contemporary World U 5**

Global, national, and local issues of disability in the contemporary world; interdisciplinary approach combines historical, literary, philosophical, scientific, and service-oriented analysis of experience of disability.

Prereq: Jr or sr standing. GEC contemporary world course.

**H598 Honors Seminar: Selected Topics in Literature and Literary Interpretation U 5**

Selected problems (themes, movements, genres, and styles) emphasizing continuity and development in English and American literary and linguistic history; topic varies quarterly.

Prereq: CPHR of 3.00 or better with a 3.50 or better in English, and permission of dept. Repeatable to a maximum of 10 cr hrs.

**662 Literary Publishing U G 5**

Theory and practice of editing and publishing literature.

Prereq: 265 or 266, 5 cr hrs of 500-level literature courses in English, and

permission of instructor.

**681 Studies in Asian-American Literature****681.01 Studies in Korean-American Literature U G 5**

Critical study of Korean-American literature and literary genres of the twentieth century, with particular attention to historical, social and cultural contexts.

2 2-hr cl. Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Comp Std 645 or Korean 645. Cross-listed with Comp Stds 645 and Korean 645.

**681.02 Studies in Japanese-American Literature U G 5**

Critical study of modern Japanese-American literature in historical and cultural context; topics vary: literature of the internment, gender and identity politics, genre studies, women's writing.

2 2-hr cl. Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Comp Std 665 or Japanese 665. Cross-listed with Comp Std 665 and Japanese 665.

**681.03 Studies in Chinese-American Literature U G 5**

Critical study of modern Chinese-American literature in historical and cultural context; topics vary: gender issues, genre studies, women's studies.

2 2-hr cl. Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Chinese 678 or Comp Std 678. Cross-listed with Chinese 678 and Comp Std 678.

**692 Workshop U G 1-8**

Repeatable to a maximum of 12 cr hrs.

W-- This alphabetical subdivision is graded S/U.

**693 Individual Studies U G 1-5**

Students may register for individual directed study under this number for work not normally offered in courses.

Prereq: Sr standing and permission of instructor and of dept undergrad or grad committee. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

Repeatable to a maximum of 15 cr hrs.

**696 Research in English: Comprehensive Examinations G 1-18**

Research in preparation for MA comprehensive exams.

Arr. Prereq: Permission of grad studies director. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**700 Introduction to Graduate Study in English G 5**

Introduction to bibliography, research methods, critical theory, and the principles of literary criticism for advanced work in English studies.

Prereq: Permission of director of graduate studies. Not open to students with credit for 800. Required of all MA candidates.

**710 Introduction to Old English Language and Literature U G 5**

The reading of Old English prose with special attention to the language and to cultural background.

**713 Introduction to Middle English Language U G 5**

An intensive study of Middle English phonology, morphology, syntax, and dialectology from 1100-1500, with selected readings in the literature.

**716 Introduction to Graduate Study in the Middle Ages U G 5**

Introduction to advanced study and current scholarship and criticism in medieval literature, 1300-1500.

Prereq: Grad standing or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**718 Introduction to Graduate Study in Chaucer U G 5**

Introduction to advanced study in Chaucer, with a focus on *The Canterbury Tales* and *Troilus and Criseyde*.

2 2-hr cl. Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**720 Introduction to Graduate Study in Renaissance Drama U G 5**

Introduction to advanced study and current scholarship and criticism in drama by Shakespeare and his contemporaries.

2 2-hr cl. Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**727 Introduction to Graduate Study in Literature of the 16th Century U G 5**

Introduction to advanced study and current scholarship and criticism in 16th century English literature.

22-hr cl. Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted by permission of instructor.

**728 Introduction to Graduate Study in English Literature of the 17th Century U G 5**

Introduction to advanced study and current scholarship and criticism in 17th century English literature.

22-hr cl. Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**736 Introduction to Graduate Study in the Restoration and 18th Century U G 5**

Introduction to advanced study and current scholarship and criticism in English literature, 1660-1800.

Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**737 Introduction to Graduate Study in 18th Century English Fiction U G 5**

Introduction to advanced study and current scholarship and criticism in 18th century English fiction.

22-hr cl. Prereq: Grad standing or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**746 Introduction to Graduate Study in British Literature of the Romantic Period U G 5**

Introduction to advanced study and current scholarship and criticism in British literature of the Romantic period.

Prereq: Grad standing or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**747 Introduction to Graduate Study in British Literature of the Victorian Period U G 5**

Introduction to advanced study and current scholarship and criticism in British Victorian literature.

22-hr cl. Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**750 Introduction to Graduate Study in Literacy G 5**

Basic issues in literacy research: the "great debates" about literacy - oral v. written, traditional v. modern - literacy's relationships with development, major approaches in interpreting literacy.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**755 Introduction to Graduate Study in American Literature, Origins to 1840 U G 5**

Introduction to advanced study and current scholarship and criticism in early American literature.

22-hr cl. Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**756 Introduction to Graduate Study in American Literature, 1840-1914 U G 5**

Introduction to advanced study and current scholarship and criticism in American Literature, 1840-1914.

Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**757 Introduction to Graduate Studies in African-American Literature****757.01 Introduction to Graduate Studies in African-American Literature, 1746-1900 G 5**

A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1746 to 1900.

22-hr cl. Not open to students with credit for AfAm&ASt 757.01. Cross-listed in African-American and African Studies.

**757.02 Introduction to Graduate Studies in African-American Literature, 1900 to Present G 5**

A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1900 to the present.

22-hr cl. Not open to students with credit for AfAm&ASt 757.02. Cross-listed in African-American and African Studies.

**758 Introduction to Graduate Study in U.S. Ethnic Literature and Culture G 5**

Introduction to graduate study of representative literature and culture of a U.S. ethnic group, such as American-Indian, Jewish-American, Latino/a.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**761 Introduction to Graduate Study in Narrative and Narrative Theory G 5**

Study of narrative in its different forms (novel, history, autobiography, film, etc.) and of key issues in narrative theory (narrative discourse, plot, progression, ethics, etc.)

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Advanced undergraduates may be admitted with permission of instructor.

**762 Introduction to Graduate Study in Drama and Performance U G 5**

Introduction to advanced study in the theory, history, and practice of drama and performance.

Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**763 Graduate Workshop in Poetry U G 5**

A graduate-level workshop in the writing of poetry.

Prereq: MFA standing or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**765 Graduate Workshop in Fiction U G 5**

A graduate-level workshop in the writing of fiction.

Prereq: MFA standing or permission of instructor. Repeatable to a maximum of 20 cr hrs. Designed for advanced undergrads and grad students.

**766 Introduction to Graduate Study in 20th Century Literature, 1900-1945 U G 5**

Introduction to advanced study and current scholarship and criticism in literature written in English 1900-1945.

Prereq: Grad standing in English or permission of instructor. Advanced undergraduates may be admitted with permission of instructor.

**767 Introduction to Graduate Study in 20th Century Literature, 1945-Present U G 5**

Introduction to advanced study in 20th century literature written in English since 1945.

22-hr cl. Prereq: Grad standing in English or permission of instructor. Advanced undergraduates may be admitted with permission of instructor.

**768 Graduate Workshop in Creative Nonfiction U G 5**

A graduate-level workshop in the writing of creative nonfiction.

Prereq: MFA standing or permission of instructor. Repeatable to a maximum of 20 cr hrs. including cr hrs earned in 764.

**769 Graduate Workshop in Creative Writing (Special Topics) G 5**

A special topics course in the writing of fiction, poetry, and/or creative nonfiction.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**770 Introduction to Graduate Study in Folklore**

A two-course sequence in current scholarship and methods necessary for advanced study in folklore.

2 2-hr cl. Cross-listed in Comparative Studies.

**770.01 Folklore Genres and Interpretive Methods G 5**

Introduction to the canonical folklore genres and practice and methods in the interpretation of folklore in context.

Prereq: Grad standing or permission of instructor. Advanced undergrads may be admitted with permission of instructor. Not open to students with credit for Comp Std 770.01.

**770.02 Field Research G 5**

Introduction to Ethnographic research design, participant observation and interview methods, ethics in human subject research, archiving of research materials, and ethnographic writing.

Prereq: Grad standing or permission of instructor. 770.01 or Comp Std 770.01 recommended. Not open to students with credit for Comp Std 770.02.

**770.03 The Ethnography of Communication G 5**

Ethnographic approaches to social interaction and performance; the speech community; the communicative economy.

Au, Wi, Sp Qtrs. Prereq: Grad standing.

**771 Introduction to the English Language U G 5**

Introduction to the structure of and variation in the English language, with emphasis on both oral and written English.

**772 English Syntax U G 5**

A study of various systems of English grammar, with emphasis on their application to writing and teaching.

Prereq: 271 or 771, or Linguist 201 or 601.

**773 Applied English Phonology U G 5**

A study of English phonology and its application to a variety of literary and non-literary resources.

Prereq: 271, or Linguist 201 or 601.

**774 History of the English Language G 5**

The historical development of English and its place among the world's languages; emphasis on inner history and outer matrix.

**776 Graduate Study in the History of Literary Criticism**

A two-course sequence in literary criticism from Plato to contemporary theory.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing in English or permission of instructor. Not open to students with credit for 676.

**776.01 From Plato to Aestheticism G 5**

Major texts and issues in criticism from the classical Greeks to Wilde.

**776.02 From 1900 to the Contemporary Period G 5**

Major texts and issues from 1900 to the present.

**777 American English U G 5**

Introduction to various aspects of the English language as it is used, and has been used in the continental United States.

Prereq: 271 or 771 or equiv or permission of instructor.

**778 Introduction to Graduate Study in Film and Film Theory G 5**

An introduction to the methodologies, contexts, and development of film and film theory.

1 2-hr cl, 1 3-hr cl. Prereq: Grad standing in English or permission of instructor.

**779 Introduction to Graduate Study in Rhetoric**

A two-course sequence in history and theory which provides a foundation for advanced study in rhetoric.

22-hr cl. Prereq: Grad standing in English or permission of instructor. Advanced undergrads may be admitted with permission of instructor.

**779.01 Classical to Early Renaissance U G 5**

History and theory of rhetoric from Classical Greece to early modern Europe.

**779.02 Renaissance to 20th Century U G 5**

History and theory of rhetoric from the Renaissance to the present.

Prereq: Grad standing in English or permission of instructor; 779.01 recommended.

**780 Current Theory and Practice in the Teaching of Writing U G 5**

Modern theories of composition; topics include: invention, style, sentence combining, evaluation, the composing process.

Prereq: Grad standing or permission of instructor.

**781 Introduction to the Teaching of First-Year English G 5**

Introduction to the theory and practice of teaching first-year English.

2 2-hr cl. Not open to students with credit for 881.01. Required of new GTAs in English. This course is graded S/U.

**H783 Honors Research U 3-5**

A program of reading arranged for each student, with individual conferences, reports, and honors thesis.

Prereq: 4th yr standing and permission of professor under whose supervision the work is to be completed. Open only to candidates for distinction in English. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**788 Studies in the Theory and Practice of Imaginative Writing G 5**

Instruction in imaginative writing as a method for studying scholarly issues in English, e.g. disability narratives, ethnicity and literature, gender and genre.

Prereq: Grad standing. Repeatable to a maximum of 10 cr hrs.

**789 Introduction to Graduate Studies in Digital Media G 5**

Explores how scholars in English studies use computer technologies and multiple media to make meaning, represent and analyze information, teach, and conduct research.

Prereq: Grad standing.

**790 Foundations of Contemporary Critical Theory U G 5**

Interdisciplinary survey of the theoretical bases of major contemporary approaches to the study of literature; readings in Marx, Freud, Derrida, Cixous, and others.

Prereq: Grad standing or permission of instructor. Advanced undergrads may be admitted with permission of instructor. Cross-listed in Comparative Studies, French, German, Italian, and Spanish.

**791 Introduction to Graduate Study in Critical Theory: Contemporary Movements G 5**

Introduction to a movement in critical or cultural theory such as feminist, marxist, reader-response, queer, or postcolonial, and its relation to current critical practices.

Prereq: Grad standing or permission of instructor. Advanced undergraduates may be admitted with permission of instructor. Repeatable to a maximum of 15 cr hrs.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs. with permission of dept.

**795 Introduction to Research Methods in Rhetoric and Composition****G 5**

Introduction to the quantitative and qualitative research methods most widely used in rhetoric and composition studies.

2 2-hr cl. Prereq: Grad standing in English or permission of instructor.

**799 Graduate Studies in Literary Bibliography G 5**

An introduction to the materials and methods of literary bibliography for graduate students in literary studies.

2 2-hr cl. Prereq: Grad standing.

**817 Seminar in Early Medieval English Literature G 5**

Topics include: Beowulf and its background; Old English poetry exclusive of Beowulf.

Prereq: 710 or equiv. Repeatable to a maximum of 10 cr hrs.

**818 Seminar in Later Medieval English Literature G 5**

Topics include: Poetry of the alliterative revival; medieval English drama; 15th-century non-dramatic literature.

Repeatable to a maximum of 20 cr hrs.

**820 Seminar in Shakespeare G 5**

An intensive consideration of selected problems in the scholarly study of Shakespeare.

Repeatable to a maximum of 10 cr hrs.

**827 Seminar in English Renaissance Literature G 5**

Topics include: Renaissance and early 17th-century poetry; Spenser; Renaissance drama; Milton; Renaissance prose.

Repeatable to a maximum of 20 cr hrs.

**837 Seminar in Restoration and 18th-Century Literature G 5**

Topics: 18th-century novel; Restoration and 18th-century drama; 18th-century literature and culture.

Repeatable to a maximum of 25 cr hrs.

**840 Seminar in English Romantic Literature G 5**

Literary romanticism in relation to contemporary intellectual and political movements; topic varies from year to year.

Repeatable to a maximum of 15 cr hrs.

**844 Seminar in Victorian Literature G 5**

Topics include: Victorian poetry; 19th-century non-fictional prose; 19th-century novel.

Repeatable to a maximum of 15 cr hrs.

**850 Seminar in 19th-Century American Literature G 5**

Topics include: American literature 1865-1914; individual American writers, 1800-1900; the American Renaissance.

Repeatable to a maximum of 20 cr hrs.

**851 Seminar in Critical Approaches to Black Literatures G 5**

A close reading of major literary critical discourses that have shaped and determined the course of black literary production in Africa, North America, and the Caribbean.

22-hr cl. Prereq: Grad standing and an introductory course in African-American/ African literature; or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Af-Af&ASt 851. Cross-listed in African-American and African Studies.

**860 Seminar in 20th-Century Literature**

Problems, forms, and themes in 20th-century British and American literature; study of particular 20th-century writers.

**860.01 Seminar in 20th-Century American Literature G 5**

Problems, forms, and themes in 20th-century American literature; study of particular 20th-century American writers.

Repeatable to a maximum of 15 cr hrs.

**860.02 Seminar in 20th-Century British Literature G 5**

Problems, forms, and themes in 20th-century British literature; study of particular 20th-century British writers.

Repeatable to a maximum of 15 cr hrs.

**860.03 Seminar in 20th-Century British and American Literature G 5**

Topics in 20th-century British and American literature; study of particular 20th-century British and American writers.

Repeatable to a maximum of 15 cr hrs.

**864 Postcolonial/Transnational Literatures G 5**

Topics include postcolonial and transnational literature in English; theories of colonial, postcolonial, and transnational literature and culture.

2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**870 Seminar in Folklore G 5**

Intensive study of some particular aspect of folklore.

Prereq: 770 or equiv with written permission of instructor. Repeatable to a maximum of 10 cr hrs.



**871 Seminar in the Forms of Literature G 5**

Problems in the criticism of fiction, poetry, or drama. Repeatable to a maximum of 20 cr hrs.

**872 Seminar in the English Language G 5**

Advanced English language study; topics vary. Prereq: 771 or Linguist 601 or equiv with permission of instructor. Repeatable to a maximum of 10 cr hrs.

**876 Seminar in Critical Theory G 5**

A review of theory and practice in some of the principal forms of literary analysis; focus on a single theoretical movement or a single critical problem. Repeatable to a maximum of 10 cr hrs.

**878 Seminar in Film Studies G 5**

An intensive consideration of selected issues, themes, and forms in Film Studies. Topic varies. Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**879 Seminar in Rhetoric G 5**

Rhetoric of a particular period; major figures in rhetoric, rhetorical analysis of literature. Repeatable to a maximum of 10 cr hrs.

**880 Seminar in Composition G 5**

Invention; the composing process and revision; evaluating and responding to writing; discourse analysis. Repeatable to a maximum of 10 cr hrs.

**881 Studies in the Teaching of College Composition****881.02 Teaching Basic Writing G 5**

Theory and practice in the teaching of basic writing. Prereq: 781 or permission of instructor.

**881.03 Teaching of College Composition in English as a Second Language G 5**

Research in teaching English as a second language at the college level; materials and pedagogical techniques to use in English as a second language courses. Prereq: 671 or Linguist 602.01 or permission of instructor.

**881.04 Teaching Business and Professional Communication G 5**

Theoretical foundations of and teaching techniques for major units in business communication, designed to prepare graduate students to do research in and to teach business and professional writing. Prereq: 881.01 or permission of instructor.

**883 Studies in Literacy G 5**

Examination of the meanings of the term "literacy" and the historical, cognitive, social, economic, artistic, and political consequences of these definitions. 22-hr cl. Prereq: Grad standing in English or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**884 Literacy Past and Present G 5**

From the invention of alphabets to the electronic age: literacy's relationships with social, cultural, political, and economic changes; impacts and significance for individuals and collectives. Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. Cross-listed with History 775.

**889 Seminar on Digital Media Studies G 5**

Advanced theoretical and practical approaches to digital media in English studies. Examines such intellectual questions as authorship, narrative, argument, and the nature of texts. Repeatable to a maximum of 10 cr hrs.

**890 Interdepartmental Seminar in Critical Theory G 5**

Interdisciplinary study of a movement (phenomenology, feminism, deconstruction, etc.) or problem (intentionality, evaluation, etc.) in literary theory. Prereq: Background in critical theory recommended. Cross-listed in Comparative Studies, French, German, Spanish, and Women's Studies.

**891 Seminar in Disability Studies in Language and Literature G 5**

Intensive study of disability as a representational system and of key issues in disability studies. Repeatable to a maximum of 20 cr hrs.

**892 Seminar in Feminist Studies in Literature and Culture G 5**

Analysis of literary and cultural texts through feminist methodologies. Time, period, and topic vary. Repeatable to a maximum of 20 cr hrs.

**894 Group Studies G 2-5**

Repeatable to a maximum of 15 cr hrs.

**895 Seminar in Research Methods in Rhetoric and Composition G**

5

Advanced study in a specific quantitative or qualitative research method in rhetoric and composition.

Prereq: 795 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**900 The Long Seminar: Research in Literary History, Theory, and Forms I G 5**

Reading and research in literature, its theory and forms, and its intellectual and social backgrounds.

Prereq: At least 25 cr hrs of grad instruction. Repeatable to a maximum of 10 cr hrs. This is a Progress course. 900 must be followed by 901. Credit awarded upon completion of 901.

**901 The Long Seminar: Research in Literary History, Theory, and Forms II G 5**

Continuation of 900.

Prereq: 900. Repeatable to a maximum of 10 cr hrs.

**903 Teaching College English G 5**

Students work as apprentices to faculty members in the planning and execution of an undergraduate English course.

Arr. Prereq: PhD standing and permission of instructor. Repeatable to a maximum of 15 cr hrs. Of the 15 maximum repeatable hrs only 5 will count towards the 45 crs hrs work requirement. This course is graded S/U.

**904 Writing for Publication G 3**

Assists students in English in learning to write publishable critical essays and in becoming familiar with publishing protocols.

2 hrs cl. Prereq: Must be enrolled in English graduate program. Repeatable with permission of English graduate director. This course is graded S/U.

**980 Bibliography and Method G 5**

For advanced grad students in the methods and tools of literary research.

**982 Textual Criticism and Editing G 5**

Evaluation of literary editorial methods, past and present; training in skills requisite to the textual critic and scholarly editor; practice in textual editing.

Prereq: 980.

**993 Individual Studies G 1-15**

Doctoral students may register for individual study in areas not normally covered by courses.

Prereq: Permission of dept grad committee. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**996 Research in English: Candidacy Examination G 1-18**

Research in preparation for Ph.D. exams.

Arr. Prereq: Permission of graduate studies director. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**997 The Dissertation Seminar G 3**

Doctoral candidates present their research-in-progress to faculty and each other.

Prereq: Successful completion of the General Exam. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**998 Research in English: Thesis G 1-18**

Research for the master's thesis.

Repeatable. This course is graded S/U.

**999 Research in English: Dissertation G 1-18**

Research for dissertation purposes only.

Repeatable. This course is graded S/U.

**Entomology**

400 Aronoff Laboratory, 318 W. 12th Ave., 292-8209

**101 Insect Biology I U 5**

Biological sciences with insects as a model; structure, function, development, and interactions with environment.

Wi Qtr. 4 cl, 1 2-hr lab. Prereq: Math 075, 076, or 104; or Mathematics Placement Level R. GEC bio sci course.

**102 Insect Biology II U 5**

Continuation of 101; behavior, diversity, insect interactions with humans, pathogens, social insects.

Sp Qtr. 4 cl, 1 2-hr lab. Prereq: 101 or Biology 101. GEC bio sci course.

**126 Introductory Insect Biology U 3**

Biology of insects and their relatives, with emphasis on behavior, ecology and diversity; collection is required.

Su Qtr. Offered at Stone Lab. Prereq: A high school course in biology. Offered at Stone Lab, One week (7 days).

**294 Group Studies U 1-5**

Group studies in the field of the chosen problem.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**333 Social Insects U 3**

Exploration of biological and cybernetic factors that permit ants, bees, wasps, and termites to maintain large and complex societies.

Prereq: Biology 101 or equiv. Not open to students with credit for H444. GEC bio sci course.

**H444 Social Insects U 5**

Introduction to the biology of social insects (ants, bees, wasps, termites).

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 102, or Biology 102 or 114 or H116, or Plnt Bio 102; and enrollment in an honors program; or equivs with permission of instructor. Not open to students with credit for 333.

**460 Economic Entomology and Insect Pest Management U 5**

Survey of arthropods that affect public health, crops, livestock, and the home; integrated control methods, and examination of specimens from economic orders, and important pests.

Wi Qtr. 3 cl, 2 2-hr labs. Prereq: Biology 101 or 113 or H115. Not open to students with credit for 462. Requirement for entomol undergrad majors.

**461\*\* Forest Entomology U 3**

Insects and other arthropods in the forest as they relate to effective management for maximum production of wood products and sustained preservation of forests and parklands.

Wi Qtr. 3 cl. Prereq: Biology 101 or 113 or H115, and PCMB 102; Natural Resources 221 recommended.

**462 Economic Entomology for Turf, Ornamentals, and Greenhouses U 4**

Survey of arthropod pests of turf, ornamentals, and greenhouses; emphasis on biology, identification, and control methods, including integrated pest management.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: Biology 101 or 113 or equiv. Not open to students with credit for 460.

**500 General Entomology U G 5**

Structure, function, development, ecology, and insect-human interactions in an evolutionary context; lab stresses classification and identification of insects; insect collection required.

Su, Au Qtrs. 3 cl, 2 2-hr labs, field trip. Prereq: 15 cr hrs in biological sciences. For students at the jr or sr level in biological and agricultural sciences and grad students in biological sciences.

**520 Insect Biology for Teachers U G 3**

Morphology, identification, behavior, and activities in terrestrial/aquatic entomology; development of an integrated curriculum; designed for K-12 teachers.

Su Qtr. Offered at Stone Lab. One week (7 days). Inservice teachers and education majors are given first priority.

**550\*\* Comparative Endocrinology U G 3**

Introduction to hormones and hormone action; comparison between vertebrates and invertebrates with emphasis on special situations such as metamorphosis.

Sp Qtr. 3 cl. Prereq: Biochem 511 or equiv. Not open to students with credit for EEOB 550. Cross-listed in Evolution, Ecology, and Organismal Biology.

**592 Workshop U G 1-6**

Intensive study of a topic in entomology; the format will depend upon the topic.

Su, Au, Wi, Sp Qtrs. Arr, lecs, labs, or lecs/labs. Prereq: Written permission of workshop director. Repeatable to a maximum of 6 cr hrs.

**597 Environmental, Human, and Social Impacts of Chemical and Biological Pollutants U G 5**

Presentation of information on important environmental and social issues associated with pollutants. Also intended for high school teachers.

Su, Sp Qtrs. 2 2-hr cl, 1 1-hr discussion. Prereq: 3rd or 4th yr standing. GEC issues of the contemporary world course.

**612 Aquatic Entomology U G 5**

Designed for preparation in the teaching of biology or for research on aquatic resources; emphasis on taxonomy and ecology of immature and adult aquatic insects.

Su Qtr. 3 all-day cl. Prereq: 500 or equiv.

**621\*\* Insect Systematics and Diversity U G 5**

Principles of systematics and application to insect classification and identification.

Au Qtr. 2 cl, 6 lab hrs. Prereq: 500 or equiv.

**623\* Insect Morphology U G 5**

Comparative external and internal anatomy of insects and other arthropods;

organ systems in developmental, functional, and evolutionary contexts; individual histological projects.

Wi Qtr. 2 cl, 3 2-hr labs. Prereq: 500 or equiv.

**626\*\* Cladistic Methods G 3**

Designed to familiarize students with the philosophy and tools of cladistic analysis to interpret current literature and to execute publishable analysis of their own data.

Wi Qtr. 3 cl. Prereq: EEOB or Zoology 400 or equiv. Repeatable to a maximum of 6 cr hrs.

**631 Insect Physiology U G 5**

The general physiology of insects and other arthropods; labs stress the use of insects to demonstrate fundamental physiological processes.

Au Qtr. 3 cl, 2 2-hr labs. Prereq: 500, and Chem 251 and 254; or equivs.

**632 Insect Molecular Genetics U G 3**

Structure, genetics and methodology of insect genes and genomes.

Wi Qtr. 3-cl. Prereq: Biochem 511, Mol Gen 500 or equiv. Cross-listed in Molecular Genetics.

**641\* Insect Ecology U G 5**

The distribution, abundance, population regulation, plant-insect interactions, and species survival patterns of insects are analyzed in relation to microenvironment and ecosystems.

Au Qtr. 3 2-hr lec/labs. Prereq: 500, and EEOB/PCMB 413.01; or equiv.

**642\*\* Insect Behavior G 4**

Introduction to mechanisms of insect behavior, behavioral physiology and ecology, and social behavior.

Wi Qtr. 2 2-hr cl. Prereq: 500 or permission of instructor.

**645\*\* Simulation Modeling in Applied Insect Ecology U G 5**

Theory and practice of systems analysis relative to management of insect pests.

Wi Qtr. 3 cl, 2 lab hrs. Prereq: 460 or 462 and Math 132, or their equivs and permission of instructor.

**650\*\* Biological Control of Arthropod Pests U G 4**

Introduction to the theory and practice of biological control of arthropod pests.

Sp Qtr. 3 cl, 2 lab hrs. Prereq: 20 cr hrs in life sciences, including at least one entomol course.

**655 Quantitative Methods in Applied Biology U G 3**

Review of quantitative methods used in biological research especially emphasizing practical application to agricultural and environmental sciences.

Au Qtr. 3 1-hr lectures. Prereq: Stat 528 or equiv. Not open to students with credit for Plnt Pth 655. Cross-listed in Plant Pathology. Recommended to graduate students beginning their research.

**660\*\* Advanced Economic Entomology U G 5**

Theory and practice of pest population management, emphasizing current research, population modelling, sampling, and data analysis.

Sp Qtr. 3 cl, 2 2-hr labs, field trips. Prereq: 460 or 462, and EEOB/PCMB 413.01; or equivs with written permission of instructor.

**661\* Medical Entomology U G 5**

Arthropod agents and vectors of vertebrate disease: life cycles, behavior, pathogenesis, identification, control; arthropod-pathogen and arthropod vertebrate relationships; arthropod-borne disease systems.

Wi Qtr. 3 cl, 2 2-hr labs. Prereq: 500 and EEOB 610 recommended.

**662\* Principles of Insect Toxicology U G 5**

The properties of insecticides, modes of action, metabolism, toxicity factors, joint action, resistance, experimental procedures and interpretation of data.

Wi Qtr. 3 cl, 2 2-hr labs. Prereq: 631 or equiv or permission of instructor.

**670 General Acarology U G 2**

An introduction to the morphology, development, and general biology of mites; laboratory consists of a taxonomic review of the families of Acari.

Su Qtr. 3 cl, 2-3 2-hr lab/day for 6 consecutive days. Course is part of Acarology Summer Program.

**693 Individual Studies U G 1-10**

Individual work in the field of the chosen problems.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 30 cr hrs. No more than 5 cr hrs may be counted toward an undergrad entomol major. This course is graded S/U.

**694 Group Studies U G 2-5**

Group work in the field of the chosen problems.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. for grads and 15 cr hrs for undergrads.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Research in Entomology U G 1-6**

Undergraduate experience in entomological research in variable topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**762\* Environmental Toxicology and Chemistry U G 3**

Technical examination of the environmental behavior of organic, inorganic, and microbial xenobiotics; emphasis on chemistry of interactions with physical environment, fugacity models, risk assessment, and predictive toxicology.

Sp Qtr. 3 cl. Prereq: Chem 251 and 252.

**H783 Honors Research U 3-5**

A program of reading and research for each student with individual conferences, reports, and Honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the courses in biological sciences and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 2 qtrs are required of candidates for the degrees BA or BS with distinction in entomol. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**790\* The Nature and Practice of Science G 2**

Analysis and application of logic underlying scientific reasoning, theory, hypothesis, and their integration with experimental design, discovery, ethics, and science as a human endeavor.

Wi Qtr. 1 2-hr cl. Recommended for graduate students conducting independent research. Not repeatable except as audit.

**795 Special Topics in Entomology**

Seminar on publications, current research, or research techniques.

Su, Au, Wi, Sp Qtrs. 1, 2, or 3 cl. Prereq: 25 cr hrs in biological sciences at 200 level or above. Each decimal subdivision repeatable to a maximum of 10 cr hrs.

**795.01 Acarology U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.02 Apiculture U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.03 Behavior U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.04 Biological Control U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.05 Ecology U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.06 Economic Entomology U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.07 Genetics U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.08 Medical Entomology U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.09 Pathology U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.10 Physiology-Toxicology U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.11 Reseach Methods U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**795.12 Systematics U G 1-3**

Repeatable to a maximum of 10 cr hrs.

**796 Advanced Studies and Techniques in Entomology G 1-2**

Presentation of specialized information and methods of entomologically related research, teaching, and extension.

Su, Au, Wi, Sp Qtrs. 1 or 2 2-hr cl. Prereq: 500 or equiv. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**800 Entomology Seminar G 1**

Faculty, graduate students, and outside speakers will participate; topics: recent advances in various entomological fields.

Au, Wi, Sp Qtrs. 1 1.5-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**831\*\* Advanced Insect Physiology G 5**

Insect biochemistry and recent advances in insect physiology; lab consists of a term project.

Sp Qtr. 2 cl, 2 3-hr labs. Prereq: 631 or EEOB 415 or Zoology 415 or 432, or equiv.

**840\*\* Insect Chemical Ecology G 3**

Chemical strategies used by insects for defense, mate finding, and host selection; techniques used for the characterization of semiochemicals.

Sp Qtr. 1 2-hr cl, 1 2-hr lab. Given at OARDC, Wooster, Ohio. Prereq: 642 and Chem 251 and 254; or equivs; or permission of instructor; Biochem 511 recommended.

**870 Medical-Veterinary Acarology G 4**

The mites associated with humans, domestic animals, and wildlife, stressing their ecology and behavior in relation to transmission of viral, rickettsial, bacterial, and protozoan diseases.

Su Qtr. 1 cl, 1 4-hr lab; 3 hrs cl/lab daily for 2 wks. Course is part of Acarology Summer Program.

**871 Agricultural Acarology G 4**

An intensive review of the mites associated with crops, ornamental plants, and stored food products with emphasis on taxonomy and ecology of these animals.

Su Qtr. 1 cl, 1 4-hr lab, 8 hrs cl/lab daily for 2 wks. Course is part of Acarology Summer Program.

**872 Soil Acarology G 6**

Taxonomy, ecology and life-history of mites associated with soil and litter.

Su Qtr. 3 cl, 3 2-hr labs/day for 19 days. Prereq: 670 and Biology 114, or permission of instructor. Course is part of the Acarology Summer Program. This course is graded S/U.

**880 Research and Training Seminar G 2**

Presentation of procedures, resources, and faculty research in the Department of Entomology; required of all graduate majors during the first year of registration.

Au Qtr. 1 2-hr cl. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**891 Interdepartmental Seminar in Environmental Biology G 2**

Selected topics treating the environmental aspects of organisms, populations, and ecosystems as they may relate to time, space, and human activities.

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**999 Research in Entomology G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Environment and Natural Resources**

210 Kottman Hall, 2021 Coffey Road, 292-2265

**101 Soils in Our Environment U 5**

Soil as: an irreplaceable natural resource, source of pollution, and as the media for storage and/or inactivation of pollutants. Nutrient pollution of waters, homeowners' problems with soils, and the effect of soils on the food chain.

Su, Au Qtrs. 3 cl, 1 2-hr disc. Not open to Soil Science majors or students required to take or with credit for 300.01 or Soil Sci 300.01. GEC physi sci course.

**119 Professional Survey in Environment and Natural Resources**

Career opportunities, professional development, and curriculum planning for majors and exploring students.

Wi, Sp Qtrs.

**119.01 Survey of Park and Policy Careers U 1**

The identification, development and recommended academic preparation for professional career opportunities in park administration and conservation policy.

Wi Qtr. 1 2-hr cl. Repeatable to a maximum of 3 cr hrs. Some off campus field trips for direct contact with various park operation and programs with professional administrators. This course is graded S/U.

**119.02 Professional Survey of Forestry, Fisheries and Wildlife U 1**

Origin, development, and future of the Forestry, Fisheries, and Wildlife professions. Career opportunities, professional development, and curriculum planning for majors and exploring students.

Wi Qtr. 1 2-hr cl. Not open to students with credit for Nat Res 119.02. Repeatable to a maximum of 3 cr hrs. Required of Forestry, Fisheries, and Wildlife majors. This course is graded S/U.

**119.03 Professional Survey of Environmental Science U 1**

Exploration of the field, including areas of study and career opportunities in Ecosystem Restoration, Environmental Science Education, Stream, Coastal and Wetland Science, and Soil and Water Conservation.

Wi Qtr. This course is graded S/U.

**189 Work Experience in Natural Resources U 2**

Student must secure approval of instructor prior to employment (equivalent to 10 weeks full-time) and submit an evaluation by third Friday of quarter following work.

Su, Au, Wi, Sp Qtrs. Equiv of 10 wks employment. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**201 Introduction to Environmental Science U 5**

Introduction to environmental science, the ecological foundation of environmental systems, and the ecological impacts of environmental degradation by humans.

Su, Au, Wi, Sp Qtrs. 4 cl, 1 dis.

**203 Society and Natural Resources U 5**

Introduction to interactions between humans, natural resources, and ecosystems from a social science perspective.

Su, Wi, Sp Qtrs. 4 cl, 1 dis.

**221 Biology and Identification of Woody Forest Plants U 5**

Field identification of trees, shrubs, and vines in temperate forest ecosystems; basic biological principles of morphology, reproduction, growth, genetics, and taxonomy of major woody species.

Au Qtr. 3 cl, 1 4.5-hr lab.

**222 Natural Resources Data Analysis U 5**

Natural resources applications of statistics to land management.

Au, Sp Qtrs. 4 cl, 1 3-hr lab. GEC course.

**231 Research in Avian Ecology U 5**

Introduction to the scientific process and research methods as commonly applied to studies of avian ecology and conservation.

Sp Qtr. 1 2-hr cl. H231 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Honors program or permission of instructor. Three weekend field trips are required.

**232 Landscape Maintenance U 4**

Management of landscape plantings with special emphasis on transplanting, mulching, nutrition, pest control, pruning, physiological disorders and diagnosing plant problems.

Wi Qtr. 2 2-hr cl. Cross-listed in Horticulture and Crop Science.

**289 Natural Resources Practicum U 2**

Experience in the application of principles and techniques of environmental/natural resources problem solving.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Enrollment in the School of Environment and Natural Resources and permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**300 Soil Science**

This course is available for EM credit. NS Admis Cond course. BER/GEC/LAR course.

**300.01 Soil Science U 3**

Introduction to soil physical, chemical, and biological properties related to land use, environmental quality, and crop production.

Au, Wi Qtrs. 3 cl.

**300.02 Soil Science Laboratory U 2**

Observation and quantitative determination of soil properties.

Au, Wi Qtrs. 1 3-hr lab. Prereq or concur: 300.01.

**311 Foundations for Environmental Communications, Education and Interpretation U 3**

Foundational course that prepares students in ECEI for understanding the theoretical bases that relate and differentiate environmental communications, education, and interpretation.

Au Qtr. 2 1.5-hr cl. Prereq: 201 and 203 or permission of instructor. Course includes required field trips.

**319 Introduction to Forestry Fisheries and Wildlife U 3**

Ecological principles applied to integrated management of forest, fish, and wildlife resources; economic, policy, and administrative aspects of forestry, fisheries, and wildlife management.

Au Qtr. 3 cl. Prereq: 201 and 203. Required of Forestry, Fisheries, and Wildlife majors.

**322 Forest Ecosystems U 5**

Structure and function of temperate forest ecosystems; field-oriented study of the relationships among ecosystem components, and of the composition and successional dynamics of forest communities.

Au Qtr. 3 cl, 1 4.5-hr lab. Prereq or concur: 201, 203, 221 or permission of instructor.

**323 Forest Biometrics U 5**

A study of the quantitative decision tools necessary to measure the forest resource; confidence and probability measures of land area, timber, water, wildlife, and recreation.

Sp Qtr. 3 cl, 2 2-hr lab. Prereq: 222 or Stat 145 or H&CS 260 or Anim Sci 260.

**324 Natural Resources Photointerpretation U 3**

Principles and methods of photointerpretation for natural resources management.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: 201 and 203.

**333 Silviculture U 5**

Ecological principles and practical applications of methods for controlling forest ecosystem structure and function; prescription of silvicultural practices in the field.

Sp Qtr. 3 cl, 1 5-hr cl. 1 or 2 all-day field trips. Prereq or concur: 201, 203, and 221, or permission of instructor.

**340 Concepts of Parks and Recreation U 3**

Examination of parks and recreation concepts including development, rationale, and frameworks for park and recreation systems in the United States.

Wi Qtr. 3 cl.

**350 Wildland Fire Management****350.01 Introduction to Wildland Fire Management U 3**

Wildland fire behavior, fire safety, control of wildland fires, and the use of prescribed fire in management objectives. Meets S-100 and S-190 requirements for wildland firefighter certification.

Au Qtr. 1 3-hr cl.

**350.02 Wildland Fire Management Laboratory U 2**

Teaches wildland firefighter skills and safety, and provides familiarity with tools and apparatus. Meets S-130 requirements for wildland firefighter certification. One weekend field work required.

Au Qtr. 1 3-hr cl. Concur: 350.01.

**355 Water Quality Management U 3**

Causes, consequences, and solutions of pollution in lakes, rivers, wetlands, and groundwater; analysis of the physical, chemical, and biological indicators of water quality.

Wi Qtr. 1 3-hr cl.

**367 The Making and Meaning of the American Landscape U 5**

Interpretation of the contemporary American landscape as the product of many interacting physical and sociocultural forces.

Au, Wi, Sp Qtrs. 3 cl, 2 1-hr rec. Prereq: English 110 or 110.01 or 110.02 or 110.03 or equiv. Not open to students with credit for Larch 202 or 367. Cross-listed in Landscape Architecture. VPA Admis Cond course. GEC second writing course (and arts and hums cultures and ideas BS only).

**400 Natural Resources Policy U 5**

Conceptual and historic development, implementation, and evaluation of resource policy.

Wi, Sp Qtrs. 4 cl, 1 rec. Prereq: 201 and 203. BER/GEC/LAR course.

**410\* Environmental Interpretation and Visitor Services U 5**

Principles and practice in communicating with visitors in leisure and non-formal education settings.

Sp Qtr. 2 2.5-hr cl, 3 independent off campus site visits. Prereq: 367 or equiv. Not open to students with credit for 610.

**413 Methods for Environmental and Conservation Education U 5**

Experience centered course for environmental and conservation education including objective, instructional, and evaluative procedures appropriate for nonformal settings.

Sp Qtr. 2 2.5-hr cl. Not open to students with credit for 613, Edu T&L 613.

**432\* Forest Industries U 5**

A detailed study of the harvesting and manufacturing processes used to produce forest products; laws governing workshop safety and environmental pollution; transportation of forest products.

Wi Qtr. 2 2.5-hr cl. Prereq: 201 and 203 or permission of instructor.

**442 Soil Management U 5**

A consideration of the necessity for conserving our soil resource. Emphasis on processes active in erosion and management practice to sustain productivity and maintain environmental quality.

Sp Qtr. 5 cl.

**448 Natural Resources Law Enforcement U 4**

An examination of the law enforcement function in natural resources and recreation management. Prerequisite for acceptance to the Natural Resources Ranger Academy program.

Sp Qtr. 1 4-hr cl.

## 494 Group Studies U 3-5

Selected topics in soil science.

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

## 498 Study Tour

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable for different titled study tours only.

### 498.01 Study Tour - Domestic U 1-15

Repeatable.

### 498.02 Study Tour - Foreign U 1-15

Repeatable.

## 510 Natural History of Ohio U G 5

Field course emphasizing inter-relationship among physical and biological factors in various ecological settings; field techniques and identification skills used for research paper; teacher section offered.

Sp Qtr. 2 2.5-hr cl and Sat field trip.

## H529 Biotechnology and Evolution U 5

Evolutionary and genetic mechanisms leading to life history variation among vertebrates; promises and pitfalls of biotechnology; genetic mechanisms of diseases in higher vertebrates and humans.

Wi Qtr. 2 3-hr cl. Prereq: Jr standing and written permission of instructor. Cross-listed in Obstetrics and Gynecology. Prior courses recommended are EEOB 400 or H400, Mol Gen 500, Biochem 511, Chem 252, and Nat Res 628.

## 531 Environmental and Natural Resources Economics U G 5

Economic analysis of the use and management of natural resources and of environmental policy.

Au, Sp Qtrs. 5 cl. Not open to students with credit for AED Econ 531. Cross-listed in Agricultural, Environmental, and Development Economics.

## 540 Urban and Sports Turf Soils U G 3

Soil science relevant to urban use, including problems associated with urban soil, urban and sports turf soil design, and playability of sports turf soils.

Sp Qtr. 3 cl. Prereq: 300.01 or permission of instructor.

## 545 Advanced Perspectives of Natural Resource Administration U G 5

Advanced concepts and principles of agency purposes, policy processes, and planning strategies for natural resource land and/or program management.

Wi Qtr. 5 cl. Prereq: 400 or grad standing.

## 567 Communicating Environmental and Natural Resources Information U 5

Concepts, skills development, and practice in accessing and communicating information about the environment and natural resources to varied audiences; emphasis on written and oral communication.

Au, Wi, Sp Qtrs. 3 2-hr cl. Prereq: Second writing course. GEC/LAR course.

## 580 Soil Fertility and Fertilizers U G 3

Principles of soil fertility, plant nutrition, and fertilizer management; environmental considerations and low input concepts in soil fertility.

Wi Qtr. 2 1.5-hr cl.

## H590 Honors Colloquium U 2

Instruction in the preparation of research proposals and discussion of current research in natural resources.

Wi Qtr. 1 2-hr cl. Prereq: Jr standing in ENR honors program. Required of all ENR honors students. This course is graded S/U.

## 595 Wilderness Leadership Education

Affiliate program with the National Outdoor Leadership School (NOLS). Field studies and practice of wilderness expedition skills, leadership, group dynamics, safety, judgement, and environmental studies.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Approval of NOLS application. Specific content, location, quarter(s) of offering, and prerequisites vary. Contact department office for details. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

### 595.01 Wilderness Leadership Education - Term U 6

Term - 4 weeks. Repeatable. Repeatable for different titled study tours only.

### 595.02 Wilderness Leadership Education - Quarter U 15

Quarter - 12 weeks. Repeatable. Repeatable for different titled study tours only.

## 596 Environmental Field Studies

Affiliate program with the School for Field Studies (SFS). Interdisciplinary studies and field research methods exploring ecological, socio-political, and economic aspects of environmental issues.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Approval of SFS application. Specific content, location, quarter(s) of offering, and prerequisites vary. Contact

department office for details. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

### 596.01 Environmental Field Studies - Term U 6

Term - 4 weeks. Repeatable. Repeatable for different titled study tours only.

### 596.02 Environmental Field Studies - Quarter U 15

Quarter - 12 weeks. Repeatable. Repeatable for different titled study tours only.

## 597 Issues of the Contemporary World

Prereq: Sr standing. GEC/LAR courses.

### 597.02 Antarctic Marine Ecology and Policy U 5

Historical and contemporary evaluation of Antarctic resource management and its scientific basis.

Sp Qtr. 3 1.5-hr cl. H597.02 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Sr standing. Prereq for H597.02: Sr standing and enrollment in an honors program. Not open to students with credit for Int Stds 597.02 or Zoology 597.02. Cross-listed in International Studies.

## 598 Natural Resources Management Study Tour U 2-5

Analysis and comparative studies of natural resources management program through on-site visits and interaction with professional managers.

Au, Wi, Sp Qtrs. 1-2 hr cl; field study tour. Prereq: Jr standing. Repeatable to a maximum of 10 cr hrs. Travel and subsistence costs will be borne by the student.

## 601 Evaluation of Environmental Impact U G 4

Study of impact of human activity in natural resources through evaluation of environmental impact.

Au Qtr. 2 2-hr cl. Prereq: Sr or grad standing. Not open to students with credit for Nat Res 601.

## 602 International Environmental Impact Assessment U G 5

Fundamental concepts of International Environmental Impact Assessment including the legal and institutional frameworks, practice and performance, and social and cultural contexts that shape EIA's implementation worldwide.

Wi Qtr. 2 2-hr cl, 1 hr arr. Prereq: Jr, sr, grad standing or permission of instructor.

## 606 Natural Resources Management

### 606.01 Natural Resources Management U 5

Integration of technical knowledge with social and institutional constraints as they relate to professions in resources management.

Au, Wi Qtrs. 4 cl, 1-hr disc (Arranged). Prereq: Sr standing and permission of instructor. Required of Human Dimensions and Environmental Science majors.

### 606.02 Natural Resources Management for Forestry Fisheries and Wildlife U 5

Application and integration of technical knowledge and methodologies in the forestry, fisheries, and wildlife sciences to planning, problem-solving, and decision-making in natural resources.

Au Qtr. Arr. Prereq: 323 or 626 or 662 or Nat Res 323 or 626 or 662 and sr standing in natural resources. Students will normally be Forestry, Fisheries, and Wildlife majors. Required of Forestry, Fisheries, and Wildlife majors. Lodging, meals, and transportation fee required for off-campus field experience. 2-week off campus field experience before autumn quarter. Course continues on-campus during autumn quarter.

## 611\* Great Lakes Education Workshop U G 1-4

Techniques and curricula for presenting interdisciplinary aspects of the oceans and Great Lakes in formal and nonformal education settings.

Su, Au, Wi, Sp Qtrs. 10 course hrs per cr hr, field trip. Prereq: Jr standing or above. Repeatable to a maximum of 10 cr hrs. Offered frequently off-campus on request. Cross-listed with Education Teaching and Learning.

## 614\* Marine and Aquatic Education U G 3

Overview of oceanic and Great Lakes resources, their roles in history, climate, commerce, and culture; examination of teaching materials for formal and informal settings.

Su, Wi Qtrs. 1 3-hr cl, field trip. Prereq: 20 cr hrs of social, physical, and/or biological sciences or teacher certification, and permission of instructor. Cross-listed with Educational Studies. Travel and subsistence costs for winter field trip must be borne by students. Summer offering at Stone Lab.

## 615 Environmental Risk Communication U G 5

Principles and practice for environmental risk communication processing where the objective is to inform and improve decision making at a variety of levels.

Wi Qtr. 2 2.5-hr cl. Prereq: Junior standing or above.

## 617 Aquatic Environmental Science for Teachers U G 3

Classroom adaptable study of coastal/lake environments including physical and biological characteristics and processes, species interactions, management principles, and human environmental impacts.

Su Qtr. 6 days, 8AM-4PM. Prereq: 20 cr hrs of physical and/or biological sciences. Taught at F.T. Stone Laboratory.

**618 Ecological Engineering and Science U G 4**

Definition, classification, and practice of Ecological Engineering. Course describes ecological systems and the design of natural systems to provide societal services and benefits to nature.

Wi Qtr. 2 2-hr cl. Prereq: Jr standing with at least one course in one of the following subject areas: biology, ecology, engineering, or geology. Not open to students with credit for Civil En 618 or FA&B Eng 618 or Env Eng 618. Cross-listed in Food, Agricultural and Biological Engineering and Environmental Engineering.

**620 Principles of Fisheries Ecology and Management U G 5**

Ecological principles applied to conservation and management of aquatic vertebrates. Principles of fisheries management including social and economic factors.

Wi Qtr. 5 cl. Prereq: 319, or grad standing, or permission of instructor.

**623 Principles of Wildlife Ecology and Management U G 5**

Principles of population and community ecology applied to conservation and management of terrestrial vertebrates. Principles of wildlife management including social and economic factors.

Au Qtr. 3 1.5-hr cl. Prereq: 319 or Nat Res 319 or grad standing or permission of instructor.

**624 Wildlife Identification and Management U G 5**

Characteristics, life histories, and population management of North American game, non-game, and special interest wildlife.

Wi Qtr. 2 1.5-hr cl, 2 2-hr labs, 1-2 Sat field trips required. Prereq: 319 or equiv.

**625 Management of Wildlife Habitat U G 3**

Principles and practices of ecosystem conservation for game, non-game, and special interest wildlife.

Wi Qtr. 3 1-hr cl. Prereq: 319 or permission of instructor.

**626 Methods in Aquatic Ecology U G 5**

Introduction to experimental designs, field and laboratory techniques, and statistical methods commonly used to study aquatic ecosystems.

Au Qtr. 3 cl, 1 4-hr lab, 4 overnight field trips. Prereq: 201 or grad standing.

**627 Ecology and Management of Aquatic Invertebrates U G 5**

Diversity, ecology, and management of the major groups of aquatic invertebrates, with an emphasis on North American freshwater macroinvertebrates.

Sp Qtr. 3 cl, 1 4-hr lab. Prereq: 319 or permission of instructor.

**628 Aquaculture U G 5**

Overview of physical, biological and economical factors influencing fish culture systems. World fish production practice comparisons. Emphasis on propagation and conservation efforts.

Wi Qtr. 3 cl, 1 4-hr lab, 2 fish hatchery trips. Prereq: 319 or grad standing.

**629 Ecology and Management of Wetlands Birds U G 3**

Ecology and habitat relationships of wetland birds that inhabit the Lake Erie region. Management of wetlands as wildlife habitat.

Su Qtr. 1 wk full time Stone Lab. Prereq: College Biology, Ecology, or permission of instructor.

**630 Soils of Forest Ecosystems U G 3**

Characteristics and processes of soils in natural and managed forests; interactions of forest communities and soils; management of soils in forest ecosystems.

Wi Qtr. 3 cl. Designed for undergraduate and graduate students, and practicing professionals in forestry and soil science.

**631 Arboriculture U G 5**

Integration of environmental factors and culture practices necessary to establish, grow, and maintain plant function in the landscape in an ethical, cost effective manner.

Au Qtr. 4 cl, 1 2-hr lab. Prereq: H&CS 234 or ENR 221. 400 level course in Entomol or Plnt Path is strongly recommended. This course is available for EM credit.

**635 Forest Management U G 4**

Application of biological, economic, and planning principles to address the sustainable management of forest resources with emphasis of the timber resource and associated products.

Wi Qtr. 2 2-hr cl. Prereq: 323 and 333, or permission of instructor.

**640 Natural Resources Program Planning I U G 5**

Inventory and evaluation of natural resources for program planning with consideration of goals, objectives and actions, budgeting, and planning documents.

Au Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 311 or 340 and 400.

**641 Natural Resources Program Planning II U G 3**

Application of concepts, strategies, and data from Natural Resources Program Planning I to a field planning exercise.

Wi Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 640.

**642 Natural Resources Administration U G 5**

Organization and administration of parks and associated recreation areas and activities.

Sp Qtr. 5 1-hr cl. Prereq: 400 or permission of instructor.

**643 Outdoor Recreation and Tourism by the Private Sector U G 4**

Factors influencing supply and demand for outdoor recreation and tourism facilities provided by the private sector; the feasibility study, liability, insurance, and other managerial concerns.

Sp Qtr. 4 cl. Prereq: 545.

**645 Soils of the Tropics U G 3**

Review of soil resources of the tropics and their management based on climate, vegetation, soil types and their geographic distribution, soil properties, traditional and improved soil management systems.

Au Qtr. 3 cl. Prereq: 300.01.

**647 Wilderness Policy and Management U G 4**

Detailed study of policy processes, planning procedures, designation mechanics, utilization issues, and management programs for wilderness resources.

Sp Qtr. 4 cl. Prereq: 319 and 400 or 545 or equiv with permission of instructor.

**H648 Tragedy of the Commons? Environment, Government and Collective Action U G 4**

Interdisciplinary study of common pool resources to understand the interplay of communities, markets and states in solving collective action problems. Includes strategic game simulations.

Sp Qtr. 2 2-hr cl. Prereq: Honors or scholars students with jr or sr or grad standing.

**650\* Soil Landscapes: Morphology, Genesis and Classification U G 5**

Course in soil genesis, classification and mapping.

Au Qtr. 2 2-hr cl, 1-hr lab. Prereq: 300.01 and 300.02 or permission of instructor.

**651 Water Resources Institutions and Policies U G 5**

Review and advanced analysis of Ohio, interstate, and federal institutions and policies which influence the use and management of water resources.

Sp Qtr. 2 2-hr, 1 1-hr cl arr. Prereq: 400 or permission of instructor and senior standing or grad standing.

**653\* Solid Waste Management U G 5**

Overview of the management of solid waste examination of policy, alternative strategies, and hierarchical decision-making.

Sp Qtr. 2 2.5-hr cl. Prereq: 201 or permission of instructor. Field trips required.

**655 The Soil Physical Environment U G 4**

Principally involves the state and transport of water, heat and gas within soil, and the associated soil physical properties.

Au Qtr. 4 hrs lec. Prereq: 300.01, Physics 111 or 131 and Math 150 or equiv.

**656 Ecosystems of the World: Temperate, Boreal and High Latitude Ecosystems U G 3**

Intermediate course in ecology emphasizing structure-function relations at broad scales, incorporating soil development, geomorphology, climate, and human impact into analyses of major temperate, boreal, and polar ecosystems.

Wi Qtr. 2 1.5-hr cl. Prereq: Sr or grad standing; PCMB 413.01 or EEOB 413.01 or equiv; and 20 additional hrs in natural science or natural resources or permission of instructor. Not open to students with credit for EEOB 656 or PCMB 656. Cross-listed in Evolution, Ecology, and Organismal Biology.

**660 Soil Chemical Processes and Environmental Quality U G 5**

A comprehensive study of chemical processes in soils and their impact on environmental quality. Computer laboratory provides hands-on experience with geochemical speciation models.

Wi Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 300.01. Not open to students with credit for 680.

**662 Wildlife Ecology Methods U G 5**

Methods used by professional wildlife ecologists to measure population characteristics and habitat quality for wild terrestrial vertebrates.

Sp Qtr. 2 cl, 2 3-hr labs, 2 Sat and 1 full weekend field trips required. Prereq: 222 or Stat 145 or H&CS 260 or Anim Sci 260 or AEE 387 and ENR 319, or permission of instructor.

**665 Biology of Soil Ecosystems U G 4**

A comprehensive study of microbial communities and their role in providing ecosystems services.

Sp Qtr. 2 2-hr cl. Prereq: 300.01 or Soil Sci 300.01. Not open to students with credit for 682.

**671 Soil Physics U G 5**

A study of the physical makeup and properties of soil, including structure, thermal relationships, consistency, plasticity, water, and their relationships.  
Wi Qtr. 2 3-cl, 2 2-hr labs. Prereq: 442 or Soil Sci 442, Physics 131, Math 151.

**675 Environmental Fate and Impact of Contaminants in Soil and Water U G 4**

An overview of contaminant sources, transport through soil and water, and environmental fate and impact to human and ecosystem receptors.  
Sp Qtr. 2 2-hr cl. Prereq: Two qtrs of chemistry.

**684 Internships in Natural Resources Professions U G 0**

Internship (equivalent to 10 weeks of full-time employment) in natural resources professions arranged with cooperating natural resources or environmental agencies, organizations or industries.  
Su, Au, Wi, Sp Qtrs. Arr. Prereq: Enrollment in the School of Environment Natural Resources and permission of instructor. Repeatable. Maximum of 6 quarters. This course is graded S/U.

**689 Professional Practice in Natural Resources U 4**

Preparation of a written report and delivery of a presentation based on internship employment in natural resources professions.  
Su, Au, Wi, Sp Qtrs. Arr. Prereq: 684 and permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**690 Workshop in Environmental Education U G 1-3**

Problems of instruction in environmental education with consideration of both traditional approaches and current developments in content and methodology.  
Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**691 Workshop in Environmental Management Education U G 1-2**

Identification of environmental problems and management alternatives with emphasis on related education and communications techniques; survey of related research; development of applied educational and communications strategies.  
Arr. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**693 Individual Studies in Natural Resources U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

Group studies on the nature and management of natural resources encompassed in one of the following areas.  
Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.  
Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.  
Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Study Tour - Domestic U G 1-15**

Repeatable to a maximum of 15 cr hrs.

**698.02 Study Tour - Foreign U G 1-15**

Repeatable to a maximum of 15 cr hrs.

**710 Methods in Ecosystem Science U G 5**

Examines the movement and interaction of material and energy into, out of, and within terrestrial and aquatic ecosystems. Introduction to concepts and methods commonly used in ecosystems sciences.  
Au Qtr. 2 1.5-hr cl, 4-hr lab. Prereq: General Ecology (EEOB 413 or equiv) and 15 additional cr hrs in biological sciences; or permission of instructor.

**715 Community Education for Environmental Issues U G 3**

Seminar study in activism, mass/group movements, and education for reempowerment/intervention with emphasis on community environmental issues.  
Su Qtr. 1 3-hr cl. Prereq: Sr or grad standing. Maximum enrollment of 25. Experiential learning methods.

**716 Choices for the Environment U G 3**

Exploration of the process of information flow leading to individual decision-making and educating on environmental issues.  
Au Qtr. 1 3-hr cl. Prereq: Jr or sr or grad standing. Experiential based learning course.

**720 Characterization of Soil in the Field and Laboratory: Sampling U G 3**

Field soil observations; sampling across the landscape; GPS and GIS data acquisition systems and spatial statistical analysis; soil physical and water measurements in the field.  
Au Qtr. 2 3-hr labs. Prereq: 300.01, 300.02.

**725 Wetland Ecology and Management U G 5**

Biological, physical, chemical, and ecological aspects of major wetland ecosystems in North America; valuation, classification, and management of wetlands for biotic resources and water management.  
Au Qtr. 1 5-hr cl. Prereq: EEOB 413.01 or permission of instructor.

**726 Wetland and River Restoration U G 3**

Fundamental concepts of ecological engineering applied to wetland creation and restoration and river restoration.  
Wi Qtr. 3 cl. Prereq: 725 or permission of instructor.

**730 Computer Simulation of Soil Hydrological and Biogeochemical Processes U G 3**

Simulations include geochemical speciation, fate of toxic substances, contaminant bioavailability, remediation, water flow, soil thermal properties, cycling of C and plant nutrients, and microbial populations.  
Wi Qtr. 2 3-hr labs. Prereq: 300.01, 300.02.

**731\* Principles and Applications of Forest Ecosystem Restoration U G 3**

Analysis of ecological processes as they relate to the restoration of disturbed forest ecosystems.  
Sp Qtr. 2 cl, 1 hr arr. Prereq: Sr or grad standing; permission of instructor. 1-2 all day field trips.

**733 Successional Dynamics of Forests U G 5**

Analysis of past development of forest stands; examination of major processes causing changes over time in communities of trees.  
Wi Qtr. 2 cl, 4-hr lab, and arranged 1 or 2 all-day field trips. Prereq: Sr or grad standing; permission of instructor. Taught in odd years.

**734 Forest Ecosystem Management U G 4**

Concepts and methods applied to managing forests across broad landscapes for biodiversity, multiple uses, and ecosystem integrity within the context of traditional forest management.  
Au Qtr. 2 2-hr cl. Prereq: Sr or grad standing and permission of instructor.

**736\* Public Forest and Lands Policy U G 4**

Explores fundamental and leading-edge concepts in U.S. public forest and lands policy. Emphasizes political, legal, and administrative issues of federal and state lands, especially forests.  
Wi Qtr. 2 2-hr cl. Prereq: 400 or grad standing.

**740 Field Soil Investigation: Soil Chemistry, Fertility and Biology U G 3**

A comprehensive overview of theory, principles and techniques of laboratory methods used for chemical analysis of soil, plant material, and environmental samples.  
Sp Qtr. 2 3-hr labs. Prereq: 300.01, 300.02. Not open to students with credit for 672.

**750 Resolving Social Conflict G 4**

A multidisciplinary examination of social conflict, its dynamics, and its negotiated and consensual resolution; offers a broad-based framework for diagnosing and managing conflict; applied to legal, environmental, organizational, and geopolitical conflicts.  
Au Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor. Cross-listed in Business Administration: Interdisciplinary and City and Regional Planning.

**752 Environmental Science and Law U G 4**

Introduction to the common and statutory law and administration of environmental protection, with special emphasis on scientific and technological aspects.  
Au Qtr. 2 2-hr cl. Prereq: ENR 400 or senior standing or grad standing or permission of instructor.

**753\* Soil Mineralogy U G 5**

Theory and application of methods for analyzing minerals in soil environments, including X-ray, thin section, electron optical, thermal, and wet chemical techniques.  
Sp Qtr. 3 cl, 2 2-hr labs. Prereq: Grad standing or permission of instructor.

**756 Rehabilitation/Restoration of Ecosystems U G 3**

Intermediate-level course dealing with ecosystems drastically disturbed by human impacts and strategies employed to rehabilitate and restore them for long-term biological productivity and use.  
Au Qtr. 2 1.5-hr cl. Prereq: Sr or grad standing; 201, 203 and 20 additional hrs in natural resources or natural science; or permission of instructor.

**760 Ecosystem Modeling U G 5**

Development and simulation of ecological models for natural resource/ecosystem management; conceptual and symbolic models, simulation techniques on main frame and microcomputers.

Wi Qtr. 5 cl. Arr. Prereq: Math 151 and EEOB 413.01 or equiv.

**761\* Soil Biochemistry U G 4**

Soil biochemical techniques, elemental transformations, biologically active compounds, pesticide metabolism, and fate of genetic materials in soils.

Sp Qtr. 2 2-hr cl. Prereq: 300.01, Chem 231, Biochem 511.

**770\* Watershed Ecology and Restoration U G 4**

Fundamental ecological processes affecting streams, wetlands, and rivers at the watershed scale and the emerging roles of restoration and adaptive management in disturbed aquatic ecosystems.

Wi Qtr. 3 hr lecture, field trips. Prereq: Grad standing or permission of instructor. Offered every other year.

**797 Interdepartmental Seminar U G 1-5**

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Repeatable.

**798 Current Topics in Environmental Science and Engineering U G 1**

Seminar course which presents current research findings on environmental quality and pollution control.

Au, Sp Qtrs. 1 cl. Prereq: Grad standing in eng, sci, nat res, agr; or permission of instructor. Not available for simultaneous credit as Env Eng 798. Repeatable to a maximum of 3 cr hrs. Cross-listed in Environmental Engineering.

**799 Current Topics in Environment and Engineering U G 1**

Summer seminar which presents research, management and policy of topics in science, environment and engineering.

Su Qtr. 1.5-hrs/wk, 5 week term. Repeatable to a maximum of 3 cr hrs. Taught at Franz Theodore Stone Laboratory. This course is graded S/U.

**800 Research in Natural Resources G 3**

The use of science and research to address natural resource problems; development of a thesis proposal.

Au Qtr. 2 1.5-hr cl. Prereq: Grad standing. This course is graded S/U.

**812 Spatial Methods in Natural Resources G 3**

Spatial analysis methods for natural resources data in small scale settings.

Au Qtr. 3 1-hr cl. Prereq: A graduate course in Statistics.

**822\* Quantitative Methods for Natural Resources G 5**

Multivariate statistical methods used by natural resource scientists to study environmental relationships of plants and animals. Analytical methods are explained with real Forestry, Fisheries, and Wildlife data sets.

Wi Qtr. 2 1.5-hr lec, 1 4-hr lab. Prereq: Stat 530 or equiv and grad standing or permission of instructor. Not recommended for first-year Master's students. Offered even numbered years.

**835 Ecosystem Management Policy G 5**

Theory and practice of integrating natural and social science for managing watersheds, forests, and regions. Foundations, adoption, and potential future for this emerging natural resources paradigm.

Au Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: Grad standing. Service learning may include off-campus field experience.

**851\* Human Dimensions Theory Building in Natural Resources G 4**

Explores fundamental concepts in human dimensions theory building related to natural resources. Bridges qualitative and quantitative research approaches, applied to developing a practice thesis proposal.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing.

**861 Property, Land Information, and Environment G 4**

Institutional, legal, economic, and social aspects of geographic and land information system development in government and private organizations.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing and permission of instructor.

**871\*\* Advanced Soil Physics G 3**

Moisture, gaseous, and thermal processes and regimes in vegetated soils and their influences on plant growth.

Wi Qtr. 3 cl. Prereq: 671 or Soil Sci 671 and permission of instructor.

**872\* Surface and Colloid Chemistry of Soils G 3**

A study of the surface and colloid chemistries of soils, sediments, and reference mineral systems.

Wi Qtr. 2 1.5-hr cl. Prereq: 772.01 or 772.02 or Agronomy 772.01 or Agronomy 772.02 or permission of instructor. Not open to students with credit for Soil Sci 872.

**880 Natural Resources Seminar G 1**

Required of all graduate students in natural resources.

Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Grad standing. Repeatable. This course is graded S/U.

**893 Advanced Individual Studies G 1-5**

Individual studies in selected areas not otherwise offered in natural resources.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing and permission of instructor. Not for use by PhD candidates who have passed the general examination. Not more than 10 hrs of any 693 and/or any 893 will apply toward the master's degree. Repeatable. This course is graded S/U.

**894 Advanced Group Studies G 2-5**

Advanced group studies in the nature and management of natural resources. Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**897 Research Proposal Symposium G 1**

A symposium for graduate students to present thesis and dissertation proposals.

Sp Qtr. Arr. Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**899 Seminars on Special Topics in Natural Resources**

Seminar on special topics in natural resources.

Au, Wi, Sp Qtrs. 1 cr per contact hr. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 160 cr hrs, each subdivision repeatable to 20 cr hrs.

**899.01 Fish and Wildlife Management Seminar G 2-5**

Seminar on special topics in fish and wildlife ecology and management.

Repeatable to a maximum of 20 cr hrs.

**899.02 Watershed Ecology and Management Seminar G 2-5**

Seminar on special topics in watershed ecology and management.

Repeatable to a maximum of 20 cr hrs.

**899.03 Environmental Science Seminar G 2-5**

Seminar on special topics in environmental science.

Repeatable to a maximum of 20 cr hrs.

**899.04 Soil Science Seminar G 2-5**

Seminar on special topics in soil science.

Repeatable to a maximum of 20 cr hrs.

**899.05 Forest Science and Management Seminar G 2-5**

Seminar on special topics in forest science and management.

Repeatable to a maximum of 20 cr hrs.

**899.06 Environmental Policy and Decision-Making Seminar G 2-5**

Seminar on special topics in environmental policy and decision-making.

Repeatable to a maximum of 20 cr hrs.

**899.07 Environmental Education and Communication Seminar G 2-5**

Seminar on special topics in environmental education and communication.

Repeatable to a maximum of 20 cr hrs.

**899.08 Parks and Recreation Management Seminar G 2-5**

Seminar on special topics in parks and recreation management.

Repeatable to a maximum of 20 cr hrs.

**985\* Research Paradigms G 5**

An examination of research paradigms and techniques used in the disciplines involved in natural resource science and management.

Au Qtr. 5 cl. Prereq: PhD standing or permission of instructor. Required of all Ooak PhD students in Natural Resources.

**993 Individual Studies**

Special problems in soil science not included in regular courses.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**993.01 Soil Science Instruction G 3,5**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**993.02 Special Problems G 3,5**

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**997 Advanced Seminar in Natural Resources G 1**

Advanced seminar on current topics in Natural Resources science and management.

Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable to a maximum of 3 cr hrs. Required of all students seeking the Ooak PhD in Natural Resources. This course is graded S/U.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.



## Environmental Engineering

470 Hitchcock Hall, 2070 Neil Avenue, 292-2771

### 413<sup>A</sup> Fluid Mechanics U 4

Fluid properties; fluid statics; flow concepts; continuity, energy, and momentum equations; dimensional analysis and dynamic similarity; viscous effects; drag; basic pipe flow; lab demonstrations and experiments.

3 cl, 1 2-hr lab. Prereq: Env Eng or Civil En or FA&B Eng major; minimum CPHR of 2.0; or written permission of dept chairperson. Not open to students with credit for Civil En 413. Cross-listed in Civil Engineering.

### 460 Professional Aspects of Civil and Environmental Engineering U 1

Topics in civil and environmental engineering ethics and practice.

1 2-hr lab. Prereq: Civil En or Env Eng major; must be taken as soon as possible upon entering the major. Not open to students with credit for Civil En 460. Cross-listed in Civil Engineering. This course is graded S/U.

### 511 Introduction to Environmental Engineering U G 3

Quantitative analysis of water, air, and noise pollution, hazardous waste management, ionizing radiation, occupational and environmental health engineering, and pollution prevention.

Sp Qtr. 3 cl. Prereq: Chem 122 or 125, and Math 152; acceptance as an engineering or environmental science major or permission of instructor. Not open to students with credit for Civil En 511.

### 516 Water Resources Engineering U G 4

Pipe systems, introduction to open channel flow, basic hydrology, demographic studies, water supply, and wastewater flows.

4 cl. Prereq: 413 and En Graph 200 or En Graph 167 and env eng or civil en major. Not open to students with credit for Civil En 516. Cross-listed in Civil Engineering.

### 520 Design of Treatment Facilities U G 4

Selection and design of processes for the purification of natural and used waters.

4 cl. Prereq: Chem 122 or 125. Not open to students with credit for Civil En 520. Cross-listed in Civil Engineering.

### 540 Civil and Environmental Engineering Systems U G 4

Basic concepts and methods of systems engineering and applications to civil engineering problems in transportation and water resources planning, structural design, and construction management.

4 cl. Prereq: Civil En 405. Not open to students with credit for Civil En 540. Cross-listed in Civil Engineering.

### 576 Civil and Environmental Engineering Economics and Planning U G 4

Engineering economics and theories of planning applied to private and public civil works.

4 cl. Prereq or coreq: Civil En 406. Not open to students with credit for Civil En 576. Cross-listed in Civil Engineering.

### 590 Special Topics in Environmental Engineering

Studies in analysis, design, test, fabrication, and construction.

Arr. Prereq: Jr standing in engineering or written permission of instructor.

#### 590.04 Environmental Engineering Process Development U 2

Topics of special interest in environmental engineering process design.

Not open to students with credit for Civil En 590.04. Repeatable to a maximum of 8 cr hrs. Studies in the analysis, design, test, fabrication and construction of environmental engineering process.

### 610 Analysis of Natural and Polluted Waters U G 3

A laboratory study of the measurement and interpretation of water quality indices and pollution parameters including BOD, COD, alkalinity, nutrients, PH, and heavy metals.

Au Qtr. 2 cl, 1 3-hr lab. Prereq: Chem 122 or 125 and Math 152 or equiv. Not open to students with credit for Civil En 610.

### 613 Applied Hydrology U G 4

Hydrologic cycle, meteorology, streamflow, evapotranspiration, hydrographs, runoff relations, runoff hydrographs, groundwater, unit hydrographs, flood routing, frequency and duration studies, and application of hydrologic techniques.

4 cl. Prereq: 516 or Civil En 510 or 516. Not open to students with credit for Civil En 613. Cross-listed in Civil Engineering.

### 618<sup>A</sup> Ecological Engineering and Science U G 4

Definition, classification, and practice of Ecological Engineering. Course describes ecological systems and the design of natural systems to provide societal services and benefits to nature.

2 2-hr cl. Prereq: Jr standing with at least one course in one of the following subject areas: biology, ecology, engineering, or geology. Not open to students with credit for FA&B Eng 618 or ENR 618 or Nat Res 618 or Civil En 618. Cross-listed in Food, Agricultural and Biological Engineering and Environment and Natural Resources.

### 619 Environmental Engineering Capstone Design U 4

Experimental and design laboratory for water supply collection, transmission, distribution and measurement systems, sewage and storm water collection, and disposal and measurement systems.

Sp Qtr. 2 cl, 2 2-hr labs. Prereq: 460, 516, 520, 576 or Civil En 460, 516, 520, 576 and sr standing in environmental eng. Must be taken as close to graduation as possible. Not open to students with credit for 519 or Civil En 619. Third writing course.

### 620 Treatment Plant Design Laboratory U G 2

A laboratory demonstration of the treatment processes discussed in 520 and an introduction to pilot-testing procedures for environmental engineering majors.

Wi Qtr. 1 cl, 1 3-hr lab. Prereq: 610 or Civil En 610; prereq or concur 520 or Civil En 520. Not open to students with credit for Civil En 620.

### 624 Coastal and Ocean Engineering U G 4

Linear and nonlinear waves, water level and wave forecasting spectra, forces on fixed structures; beach processes, littoral drift, and transport; shoreline protection.

4 cl. Prereq: 516 or Civil En 516. Not open to students with credit for Civil En 624. Cross-listed in Civil Engineering.

### 640 Civil and Environmental Systems Engineering U G 4

Critical path method; linear, integer, and nonlinear programming simulation; mathematical modeling and optimization with design applications in civil and environmental engineering; research paper.

4 cl. Prereq: Permission of instructor. Not open to students with credit for 540 or Civil En 540 or 640. Cross-listed in Civil Engineering.

### 693 Individual Studies U G 1-5

Individual conferences, assigned readings, and reports on minor investigations.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. Limitations on number of cr hrs applicable toward degrees are governed by departmental rules. This course is graded S/U.

### 694 Group Studies in Environmental Engineering

The student must register for particular decimals from fields of environmental engineering listed; the topics, cr hrs, and instructors will be announced in quarter previous to the quarter offered.

Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs, not more than 10 of which shall be in any one of the decimals.

#### 694.03 Environmental Engineering U G 1-5

Repeatable to a maximum of 15 cr hrs.

### 699 Undergraduate Research in Environmental Engineering U 1-5

Opportunity for undergraduate student to conduct research in Environmental Engineering.

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 711 Bioremediation of Used Waters U G 4

Principles and design of biological processes for used water treatment.

Wi Qtr. 4 cl. Prereq: 520 or Civil En 520. Not open to students with credit for Civil En 711.

### 713 Water Quality and Environmental Measurements U G 4

The application of advanced physical and chemical measurement and calculation techniques to environmental engineering problems.

Wi Qtr. 4 cl. Prereq: 610 or Civil En 610 or permission of instructor. Not open to students with credit for Civil En 713.

### 714<sup>\*</sup> Hazardous Waste Management U G 3

Environmental regulations; site remediation process; remedial alternatives; implementation; case studies.

Sp Qtr. 3 cl. Prereq: 520 or Civil En 520. Not open to students with credit for Civil En 714. Offered in odd years.

### 715<sup>A\*</sup> Water Resource Systems: Water Supply U G 5

Regional and municipal water supply design and management; water use, law, demand, pricing, supply alternatives, and allocation; and optimal system and component design.

Sp Qtr. 5 cl. Prereq: 516 and 540 or Civil En 516 and 540. Not open to students with credit for Civil En 715.

### 717 Municipal and Industrial Solid Waste Management U G 4

Characterization and sources of solid wastes; solid waste management; collection systems; processing; disposal; and recycle.

Sp Qtr. 4 cl. Prereq or concur: 520 or Civil En 520. Not open to students with credit for Civil En 520.

### 718 Strategies for Industrial Environmental Management U G 3

Industrial environmental management systems, audits, accounting, reports; industrial ecology; design for environment; ISO 9000, 14000, global competition; entrepreneurship; case studies.

Au Qtr. 1 3-hr cl. Prereq or concur: 540 or Civil En 540 or equiv with permission of instructor. Not open to students with credit for Civil En 718.

**719\* Water Quality Modeling U G 3**

Stream and effluent standards for beneficial uses, and computer modeling of pollutant impacts on rivers.

Au Qtr. 3 cl. Prereq: 520 or Civil En 520 or equiv with written permission of instructor. Not open to students with credit for Civil En 719. Offered in even years.

**720 Environmental Engineering Risk Assessment U G 3**

Basic methodologies for quantitative risk assessment and applications to a variety of contaminants, pathways, and engineering problem areas.

Wi Qtr. 3 cl. Prereq: 540 or Civil En 540 or grad standing. Not open to students with credit for Civil En 720.

**722 Open Channel Hydraulics U G 4**

Flow classifications, channel properties, energy and momentum principles, critical flow, uniform flow formulas, erodible and nonerodible channel design, and gradually varied flow profile computations.

4 cl. Prereq: 516 or Civil En 516. Not open to students with credit for Civil En 722. Cross-listed in Civil Engineering.

**723 Transport Phenomena in Water Resources Engineering U G 4**

Water environment momentum mass energy transport, laminar and turbulent mixing; applications include river and lake pollutant dispersal, heated effluent plumes, eutrophication processes.

4 cl. Prereq: 516 or Civil En 516 and Math 255 or 415, or equivs. Not open to students with credit for Civil En 614 or 723. Cross-listed in Civil Engineering.

**760 Civil and Environmental Engineering Planning U G 5**

Water resource planning process, benefit-cost analysis; environmental, economic, and social impacts of civil engineering projects; project selection; and case studies in water resources, transportation, and energy.

5 cl. Prereq: 516 or Civil En 516. Not open to students with credit for Civil En 760. Odd years. Cross-listed in Civil Engineering.

**771 Radioactive Waste Management U G 3**

Overview of radioactive waste management. Covers waste categories, sources, treatment and disposal methods, minimization, transportation and current research topics.

3 cl. Prereq: Nuclr En 505 or Nuclr En 606 or permission of instructor. Not open to students with credit for Civil En 771 or Nuclr En 771. Cross-listed in Nuclear Engineering.

**H783 Honors Research U 1-5**

Supervised research and project work arranged individually for honors students.

Prereq: Honors standing; permission of instructor. Repeatable to a maximum of 12 cr hrs. Limitations on number of credit hours applicable toward degree are governed by departmental rules. This course is graded S/U.

**797 Interdepartmental Seminars U G 1-5**

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Repeatable. Cross-listed in Civil Engineering.

**798 Current Topics in Environmental Science and Engineering U G 1**

Seminar course which presents current research findings on environmental quality and pollution control.

Au, Sp Qtrs. 1 cl. Prereq: Grad standing in engineer, science, nat res, or agr, or permission of instructor. Not available for simultaneous credit as ENR 798. Repeatable to a maximum of 3 cr hrs. Cross-listed in Environment and Natural Resources.

**Environmental Science**

246 Agricultural Engineering Bldg, 590 Woody Hayes Dr, 292-9762, (fax) 292-9448

Interdepartmental Seminar in Environmental Biology

See Entomol 891

**694 Group Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**793 Individual Studies in Environmental Science G 1-18**

Affords the qualified student the opportunity for independent reading, study, practical experience, or laboratory work in a specialized field of interest.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**798 Current Research Issues in Environmental Studies G 1**

Graduate seminar where faculty from within and outside the University and graduating students will present their research.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**999 Research in Environmental Science G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Evolution, Ecology, and Organismal Biology**

305 Aronoff Laboratoryl, 318 W. 12th Ave., 292-8088

**110 Introduction to Local Flora U 3**

Structures, processes, and stages of the plant life cycle; common families of flowering plants; plant geography, ecology, and conservation; and uses of plants.

Su Qtr. 1 week full-time at Stone Laboratory. Prereq: A course in high school biology.

**125 Introductory Aquatic Biology U 3**

Components of the ecosystem in freshwater aquatic environments at Stone Laboratory.

Su Qtr. 1 week full-time at Stone Laboratory. Prereq: A course in high school biology.

**126 Introduction to the Study of Birds U 3**

An introductory course for students interested in ornithology including bird identification, behavior and ecology, with an emphasis on field and laboratory techniques.

Su Qtr. 1 week full-time at Stone Laboratory. Prereq: Successful completion of a course in high school biology.

**210 Local Flora U 5**

A lecture, laboratory, and field course in identifying common Ohio plants; emphasis on taxonomic principles, use of keys and manuals, and field recognition of plants.

Su, Sp Qtrs. 3 cl, 2 2-hr labs, several Sat field trips. Prereq: Biology 114, or Plnt Bio 102 or 112, or equiv with written permission of instructor. Not open to students with credit for Plnt Bio 210. NS Admis Cond course.

**232 Introductory Physiology U 5**

A survey of the human nervous system, sense organs, muscle function, circulation, respiration, digestion, metabolism, kidney function, and reproduction.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 5 cr hrs in general biology or general chemistry; Biology 102 or 113 recommended. Credit does not count toward a major in evolution and ecology or zoology. Not intended for biological science majors. GEC bio sci course. NS Admis Cond course.

**235 Introductory Anatomy U 5**

An introduction to mammalian anatomy with emphasis on human anatomy; dissection of cat.

Su, Wi Qtrs. 3 cl, 1 3-hr lab. Prereq: 5 cr hrs in general biology (Biology 102 recommended) or Anthropol 200. Credit does not count toward a major in evolution and ecology or zoology. Not intended for biological science majors. GEC bio sci course. NS Admis Cond course.

**293 Individual Studies U 1-5**

Individual work in the field of the chosen problem.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 405; and written permission of instructor. Repeatable to a maximum of 15 cr hrs. Only 5 hrs to count on evolution and ecology or zoology majors. This course is graded S/U.

**294 Group Studies U 1-5**

Study of selected topics in evolution, ecology, and organismal biology.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**322 Introduction to Ornithology U 5**

The general biology of birds with emphasis on their natural histories and on the field identification of local species.

Sp Qtr. 3 cl, 2 2-hr labs. Prereq: 5 cr hrs in introductory biology. NS Admis Cond course.

**350 Dynamics of the Dinosaurs U 3**

Review of current information on dinosaur biology, emphasizing scientific approaches to reconstructing dinosaurs as living, dynamic animals.

Sp Qtr. 3 cl. Prereq: 5 cr hrs of biological science or historical geology course work.

**370 Extinction U 3**

Exploration of the causes of, and possible solutions to, the present-day global extinction event.

Sp Qtr. 2 1.5-hr cl. Prereq: 5 cr hrs of biological sciences course work.

**400 Evolution U 5**

Basic conceptual issues and processes in evolution with emphasis on the ecological basis of adaptation and consequences of natural selection.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Biology 114 or H116.

**H400 Evolution U 5**

Basic conceptual issues and processes in evolution focusing on the ecological basis of adaptation and consequences of natural selection; class discussions, reading, and writing assignments.

Wi Qtr. 3 80-min cl. Prereq: Biology 114 or H116, and Mol Gen 500 or 501.

**405 Diversity and Systematics of Organisms U**

Su, Au, Wi, Sp Qtrs. Prereq: 400.

**405.01 Lecture U 4**

Survey of organismal diversity and the evolutionary relationships between and within major taxonomic groups.

4 cl. Prereq: 400.

**405.02 Laboratory U 2**

Laboratory survey of animal diversity (including animal-like protists), and the evolutionary relationships between and within major taxonomic groups.

2 2-hr labs. Prereq: 400; prereq or concur: 405.01.

**410 Animal Form and Function U 4**

Functional systems in invertebrates and vertebrates: respiration; circulation; water, ion, and energy balance; communication; locomotion; and reproduction.

Au, Wi, Sp Qtrs. 3 cl, 1 1-hr discussion. H410 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 410: Biology 114 or H116, Chem 122, Math 148, and Physics 111 or 131. Prereq for H410: Biology 114 or H116, Chem 122, Math 148, and Physics 111 or 131; Math 150.

**413 Introduction to Ecology**

**413.03 Lecture and Laboratory U 5**

Distribution and abundance of species, population dynamics, community ecology, ecosystem dynamics, applied perspectives, and design and execution of experiments.

Prereq: 10 cr hrs in biological sciences. Not open to students with credit for 413.01 or 413.02 Offered only at the regional campuses.

**415 Principles of Animal Cellular and Developmental Biology U 4**

Introduction to the structure and function of animal cells, and to patterns of early development in vertebrates and invertebrates.

Wi Qtr. 4 cl. H415 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 400 or H400, recommended; Biology 113 or H115, Chem 231 or 252, and Physics 112 or equiv. Not open to students with credit for Mol Gen 502.

**440 Introductory Ethology U 5**

Observations of animal behaviors, and introductory analysis of their adaptive value, physiological mechanisms, development, and evolution; emphasis on movie presentations, reading, and small-group discussions.

Au Qtr. 4 cl, 1 2-hr field work per week. Prereq: 405. GEC third writing course.

**470 Biology of Vertebrates U 5**

Analysis of the anatomical, physiological, behavioral and ecological characteristics of the major vertebrate groups.

Au Qtr. 3 cl, 2 2-hr labs. Prereq: 405.

**502\*\* Plants and People U G 4**

Introductory course on the botany and historical uses of economically important plants; topics include the major food, spice, drug and industrial plants, their domestication and cultural significance.

Au Qtr. 3 cl, 1 arr. Prereq: 5 cr hrs in biological sciences.

**503 Introduction to Ecology**

**503.01 Lecture U 4**

Distribution and abundance of species, population dynamics, community ecology, ecosystem dynamics, and applied perspectives.

Au, Wi Qtrs. 4cl. Prereq: 10 cr hrs in biological sciences. Not open to students with credit for 413.01.

**503.02 Laboratory U 2**

Critique of ecological primary literature, analysis of ecological data, and design and execution of experiments.

Au, Wi Qtrs. 2 cl. Prereq or concur: 413.01 or 503.01. Not open to students with credit for 413.02.

**505^ Marine Biology and Ecology U G 5**

Diversity and distribution of marine organisms; population dynamics, productivity, and structure of marine ecosystems; human impact on ocean resources.

Su Qtr. 3 all-day cl per wk for 1 term at Stone Laboratory. Prereq: 405, or PCMB

102 or equiv; PCMB 413.02, or 413.03 recommended.

**510 Field Botany U G 5**

Collection, preservation, field and laboratory identification, and local distribution of plants of the major groups.

Su, Sp Qtrs. 3 cl, 1 3-hr lab. Prereq: Biology 102 or 114, or PCMB 102 ; or permission of instructor.

**511 Local Flora for Teachers U G 3**

Basic botanical and identification skills, field experience, and preparation of lessons for the classroom with special attention given to ODE Academic Content Standards.

Su Qtr. One week full-time at Stone Laboratory. Prereq: In-service teacher, non-formal educator, or education major with jr standing or above. No graduate credit for plant biology majors.

**512 Laboratory in Comparative Vertebrate Anatomy U G 2**

Introduction to trends in vertebrate evolution as illustrated by the anatomy of select taxa; involves dissection of specimens.

Au, Wi, Sp Qtrs. 1 4-hr lab. Prereq or concur: 410.

**513 Field Ecology U G 3**

A field based introduction to the distribution and abundance of animals and plant in pond, lake, river, marsh, beach, field and woodland ecosystems.

Su Qtr. 1 week full-time at Stone Laboratory (8AM-4PM, evenings 7PM-9PM). Prereq: At least jr standing by the summer of enrollment, minimum GPA 2.5 and completion of 15 hours of biology including introductory ecology; or permission of instructor.

**522 Ornithology for Teachers U G 3**

Field and laboratory studies of birds, discussion of birds of the world and their classification with resource material for classroom teachers and other educators.

Su Qtr. 1 week full-time at Stone Laboratory. Prereq: In-service teacher, non-formal educator, or education major with sr standing.

**550 Comparative Endocrinology U G 3**

Introduction to hormones and hormone action; comparison between vertebrates and invertebrates with emphasis on special situations such as metamorphosis.

Sp Qtr. 3 1-hr cl. Prereq: Biochem 511 or equiv. Not open to students with credit for Entomol 550. Cross-listed in Entomology.

**H557\* Tropical Field Ecology U 3**

Study of tropical ecosystems and biodiversity; includes travel to Costa Rica, independent field experimentation, and inquiry into the natural history of tropical plants and animals.

Sp Qtr. Arr. Prereq: 413.01; enrollment in an honors program and permission of instructor. Travel to Costa Rica over Spring break. Mandatory organizational meetings Wi Qtr. Students will pay Ohio State fees as well as travel and subsistence costs.

**597 Issues of the Contemporary World**

Prereq: Sr standing. GEC course.

**597.02 Antarctic Marine Ecology and Policy U 5**

Historical and contemporary evaluation of Antarctic resource management and its scientific basis.

Au, Wi, Sp Qtrs. 3 1.5 cl. H597.02 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for Int Stds 597.02 or Nat Res 597.02. Cross-listed in International Studies and Natural Resources.

**611 Aquatic and Wetland Flora U G 5**

Aquatic plants, other than the algae, of Great Lakes region; field and laboratory work on their identification and ecological and geographical relations.

Su Term 2 5 all-day cl per wk for 3 wks at Stone Laboratory. Prereq: Plnt Bio 102 or 112, and 15 additional cr hrs in biological sciences. Not open to students with credit for Plnt Bio 611.

**617\* Theoretical Ecology I U G 5**

The models, assumptions, and conclusions of the mathematical theory of ecology including stability notions, deterministic and stochastic models, and models for patchy environments.

Wi Qtr. 3 cl. Prereq: 413.01 or 413.03, equiv; and introductory calculus. This course is graded S/U.

**620 Animal Communication U G 4**

Study of the structure of animal communication signals, methods used by scientists in this field, and how signals function and evolve.

Wi Qtr. 3 lecture, 1 lab. Prereq: 440 or permission of instructor.

**621 Ichthyology U G 5**

Study of the distribution and classification of fishes, which includes methods of identification, collection, and preservation.

Su Qtr. 3 all-day cl per wk for 1 term at Stone Laboratory. Prereq: 405 or equiv.

**622\* Herpetology U G 5**

Local species of reptiles and amphibians, their habits, life histories, ecology, and classification.

Su Qtr. 3 all-day cl per wk for 1 term at Stone Laboratory. Prereq: 405

**625 Mammalogy U G 5**

Mammals of the world, their natural history, distribution, taxonomy, and major anatomical and physiological adaptations; study of local species emphasized in lab.

Wi Qtr. 3 cl, 2 2-hr labs. Prereq: 405 or equiv.

**626 Biology of Fishes U G 5**

Lecture emphasis on the behavior, migration, distribution, and evolution of fishes; laboratory emphasis on ecological and systematic ichthyology.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 405 and 15 cr hrs in biological sciences; or permission of instructor.

**630 Vertebrate Histology U G 5**

Examination and analysis of the functional morphology of cells and tissues of vertebrate animals, with emphasis on mammalian histology.

Sp Qtr. 3 cl, 2 3-hr labs. Prereq: 5 cr hrs in biological structure/functions e.g., 410 or 415 or permission of instructor. GEC third writing course.

**632\* Neurobiology U G 3**

Integration of studies of sensory, integrative and motor systems with evolution and ecology.

Sp Qtr. 3 cl. Prereq: 10 cr hrs of biological sciences at 500 level or above, or grad standing.

**640 The Genetic Basis of Evolution U G 5**

The modern theory of evolution and its underlying genetic basis.

Sp Qtr. 3 1.5-hr cl. Prereq: Mol Gen 500 or Mol Gen 606 or equiv. Not open to students with credit for Mol Gen 640. Cross-listed in Molecular Genetics.

**647 Plankton U G 5**

Examination of phytoplankton and zooplankton communities, emphasizing population dynamics, seasonality, predation, and productivity; lab emphasis on identification and quantitative methods for collecting and enumerating plankton.

Au Qtr. 2 cl, 2 3-hr labs, 1 required wkend field trip to Lake Erie. Prereq: English 110 or 111 or equiv, and 20 cr hrs in biological sciences recommended; 413.01 or 413.03 or 652 or 655, recommended. Occasionally offered at Stone Laboratory. GEC third writing course.

**651 Field Zoology U G 5**

Field and laboratory identification of aquatic and terrestrial vertebrates and invertebrates of the region, in relation to habitats occupied.

Su Qtr. 3 all-day cl per wk for 1 term at Stone Laboratory. Prereq: 405 or equiv.

**652 Limnology at Stone Laboratory U G 5**

Study of physical, geological, chemical and biological factors influencing freshwater life; field and laboratory techniques for determining lake morphometry, chemistry and biological productivity are emphasized.

Su Qtr. 3 all-day cl per wk for 1 term at Stone Laboratory. Prereq: 405 or equiv; 10 cr hrs in chem; 10 cr hrs in physics; and written permission of instructor.

**653 Fish Ecology U G 5**

Field and laboratory studies of life histories and interspecific relationships of fishes and of the various factors influencing their abundance.

Su Qtr. 3 all-day cl per wk for 1 term at Stone Laboratory. Overnight field trips. Prereq: 621.

**654 Ecological Physiology of Animals****654.01\* Ecological Physiology of Animals U G 4**

Study of the habitat includes physical and chemical adjustment, tolerance, and acclimatization to environment by vertebrates and invertebrates.

Wi Qtr. 4 cl. Prereq: 410 or equiv.

**654.02\* Third Writing Course U G 5**

Study of the habitat including physical and chemical adjustment, tolerance, and acclimatization to environment by vertebrates and invertebrates.

Wi Qtr. 4 cl. Prereq: 410 or equiv; 5 cr hrs each in chem, physics, and physiol; and GEC second writing course. GEC third writing course.

**655 Limnology U G 5**

Aquatic Ecology: A study of the physical, chemical, and biological factors influencing the biological productivity of inland waters, and of techniques and equipment used in evaluating them.

Sp Qtr. 3 cl, 1 4-hr lab, several field trips (1 required field trip to Lake Erie). Prereq: 10 cr hrs in chem and 20 cr hrs in biological sciences.

**657\* Experimental Field Ecology U G 5**

Field research projects in plant and animal and aquatic and terrestrial ecology, emphasizing experimental design, data collection, analysis, interpretation, and expression of results.

Au Qtr. Prereq: 413.02 or 413.03, and at least 15 cr hrs in biological sciences.

**661 Conservation Biology U G 5**

Application of population and community ecology, population genetics, and biogeography to the study and conservation of biodiversity, threatened communities, and endangered species.

Au Qtr. 3 cl, 2 2-hr labs, occasional field trips (some Sat). Prereq: 15 cr hrs in biological sciences above the 100 level, including 413.01 or 413.03,

**671\* Plant Population Ecology U G 5**

Quantitative study of plant population processes, evolutionary ecology, and ecological methods.

Au Qtr. 3 cl, 1 4-hr lab, field trips. Prereq: 413.01 or 413.03, or ; Math 151; and 15 cr hrs in biological sciences.

**672\* Taxonomy of Vascular Plants U G 5**

A laboratory and lecture course concerning the classification of vascular plants; emphasis on taxonomic principles, systems of classification, family characteristics and relationships.

Sp Qtr. 3 cl, 2 2-hr labs. Prereq: 210 and 10 additional cr hrs in biological sciences; or permission of instructor.

**673\* Evolutionary Processes in Flowering Plants U G 5**

Origin of variation in plants with emphasis on evolutionary processes unique to the flowering plants.

Au Qtr. 5 cl.

**674\* Physiological Ecology of Plants U G 5**

Physiological relationships between light, water, mineral nutrients and plant growth, including plant-insect and plant-microbe interactions.

Au Qtr. 3 cl, 1 4-hr lab. Prereq: 413.02 or 413.03, and 15 cr hrs in biological sciences.

**692 Workshop U G 1-6**

Intensive study of topics in evolution, ecology, and organismal biology; format will depend upon the topic and time.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of workshop director. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**693 Individual Studies U G 2-10**

Individual work in the field of the chosen problem.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. No more than 5 cr hrs may be counted toward an undergrad evolution and ecology or zoology majors. This course is graded S/U.

**694 Group Studies U G 2-5**

Group work in the field of the chosen problem.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 35 cr hrs. for grad cr and 20 cr hrs for undergrad cr.

**695 Senior Seminar in Evolution and Ecology U 3**

Seminar on topics in evolution and/or ecology; required of all undergraduate evolution and ecology majors in their 4th year.

Wi Qtr. 1 2-hr cl. Prereq: 15 hours in the biological sciences at the 200 level or above, and 4th-yr standing. Open only to evol & ecol majors. This course is graded S/U.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Prereq: Permission of instructor. Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Research in Evolution, Ecology, and Organismal Biology U 1-15**

Undergraduate research in evolution, ecology, and organismal biology.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**700\* Principles of Biogeography U G 5**

Principles and patterns of animal and plant distribution over the world, using historical, geographic, and biological approaches.

Au Qtr. 5 cl. Prereq: 10 hours of biology.

**710\*\* Creation and Evolution: Differing World Views U G 5**

Philosophical and historical survey of the controversy over evolution theory and creationist viewpoints.

Sp Qtr. 5 cl. Prereq: 10 cr hrs of biology. Not open to students with credit for Plnt Bio 710.

**711\* Molecular Evolution U G 3**

Evolution and population genetics as seen at the molecular level: phenomena, concepts, methods of study, and implications for molecular biology and other disciplines.

Wi Qtr. 3 cl. Prereq: Mol Gen 500 or Mol Gen 606, and EEOB 640 or Mol Gen 640 or Mol Gen 701 or EEOB 400 or equivs or permission of instructor. Not open to students with credit for Mol Gen 711. Cross-listed in Molecular Genetics.

**713 Molecular Ecology U G 5**

Overview of the use of molecular markers in ecological studies.

Sp Qtr. 3 cl, 1 rec, 1 3-hr lab. Prereq: 400, and an additional 10 hours of EEOB courses other than 400.

**714 Theoretical Ecology II**

Prereq: 617, or Plnt Bio 617; or permission of instructor. Not open to students with credit for 714 or Plnt Bio 714.

**714.01\* Lecture U G 4**

Dynamic optimization theory applied to ecology and resource management.

Au Qtr. 2 2-hr cl.

**714.02\* Laboratory U G 2**

Computer techniques for solving optimality problems in ecology and resource management.

Au Qtr. 1 4-hr cl. Prereq or concur: 714.01. This course is graded S/U.

**720\*\* Community Ecology and Ecosystems U 5**

A quantitative and descriptive approach to the establishment, development, succession, and dynamics of plant communities and their interrelations with historic, climatic, soil, and biotic factors.

Sp Qtr. 5 cl, several field trips. Prereq: 413.01 or 413.03 and 20 cr hrs in biological sciences.

**730\*\* Bioacoustics U G 3**

Theory and practice of the study of animal sound: physics of sound transmission, acoustic analysis, and the use of sound in communication.

Au Qtr. 2 cl, 1 2-hr lab, 1 Saturday field trip. Prereq: 440 or 640 or 740, or Psych 601.

**740 Behavioral Ecology U G 5**

Comparative study of mechanisms, ontogeny, function and evolution of behavior in its ecological and social contexts.

Wi Qtr. 3 1.5-hr cl. Prereq: Grd standing or written permission of instructor.

**741 Social Behavior**

**741.01\* Lecture U G 4**

Theory of the evolution of social behavior in animals, from spacing patterns and mating systems through complex social systems including reproductive division of labor.

Sp Qtr. 2 1.5-hr cl. Prereq: 413.01 or 413.03 or 440 or 640 or 740, or Plnt Bio 313 or 413.01; or permission of instructor.

**741.02\*\* Laboratory U G 2**

DNA-based techniques for discerning genetic relatedness among individuals.

Sp Qtr. 6 hrs. Prereq: 741.01; and prereq or concur: Mol Gen 500 or 501; or permission of instructor.

**H783 Honors Research U 3-5**

A program of reading and research for each student, with individual conferences, reports, and Honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the courses in biological sciences and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 2 qtrs are required of candidates for the degrees BS or BA with distinction in zoology or evolution and ecology. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**785 Stream Ecology for Teachers U G 3**

Introduces high school teachers to concepts and methodologies of stream ecology.

Su Qtr. 1 week full time. Taught for OSU's Stone Laboratory at the Old Woman Creek National Estuary, Huron, OH.

**861\* Principles of Systematics G 3**

A study of the principles and techniques used in the identification, classification, and nomenclature of organisms.

Sp Qtr. 2 2-hr cl. Prereq: 15 cr hrs in EEOB or entomology at the 600-level or above.

**880 Seminar G 1-2**

Required of all grad majors in evolution, ecology, and organismal biology during the first Au Qtr of registration.

Au, Wi Qtrs. 1 cl. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**881 Seminars on Selected Topics**

A variety of selected topics to be presented and discussed.

Su, Au, Wi, Sp Qtrs. Each decimal subdivision repeatable to a maximum of 20 cr hrs. These courses are graded S/U.

**881.01 Seminar on Anatomy and Physiology G 1-3**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**881.02 Seminar on Behavior G 1-3**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**881.03 Seminar on Cell Biology G 1-3**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**881.04 Seminar on Ecology G 1-3**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**881.05 Seminar on Evolution G 1-3**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**881.06 Seminar on Marine Biology G 1-3**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**881.07 Seminar on Wildlife Biology G 1-3**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**881.08 Seminar on Fisheries Biology G 1-3**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**999 Research in Evolution, Ecology, and Organismal Biology G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Family and Consumer Sciences Education**

201 Campbell Hall, 1787 Neil Avenue, 292-6612

**289 Introductory Professional Development in Family and Consumer Sciences Education U 2**

Directed observation-participation in family and consumer science middle and secondary programs.

Wi Qtr. Arr field experience, 1 hr cl. Prereq: 2nd yr standing; C+ in Math 116 or higher and English 110 or 110.01 or 110.02 or 110.03; speech class.

**294 Group Studies U 2-3,5**

Selected topics in family and consumer sciences education.

Prereq: Open to students who meet program's stated prereqs. Repeatable to a maximum of 10 cr hrs.

**593 Individual Studies U 1-5**

Problems in various phases of family and consumer sciences education.

Su, Au, Wi, Sp Qtrs. 1 or more conf. H593 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Completion of individual study plan form. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**640 Workplace Education through Family and Consumer Sciences Education U G 3**

Principles and procedures for integrating and administering workplace education in family and consumer sciences education, including developing family, school, and community partnerships.

Au Qtr. 1 3-hr cl; arr 15 hrs field experience. Prereq: 2.50 CPHR; rank 4; concur: 746.01.

**689 Professional Development in Family and Consumer Sciences Education**

Directed observation and teaching experiences in family and consumer sciences programs to develop critically reflective and creative teachers through journaling, action research, and portfolio development.

Prereq: 4th yr or grad standing; admission to a teacher education program. Not open to students with credit for 589 series.

**689.01 Accommodating Diversity U G 2**

Urban field experience and development of knowledge and skills for teaching and accommodating needs of diverse learners.

Au Qtr. 1 2-hr cl, arr field experience. Prereq: 2.50 CPHR; 289; 742; concur: 746.01.

**689.03 Context for Teaching and Learning U G 2**

Examination of the student and social context for teaching and learning through action research and portfolio development.

Wi Qtr. 1 cl; arr field experience. Prereq: 2.50 CPHR; rank 4; concur: 746.03.

**694 Group Studies U G 2-3,5**

Selected topics in family and consumer sciences education.

Prereq: Open to students who meet program's stated prereqs. Repeatable to a maximum of 10 cr hrs.

**741 Curriculum in Family and Consumer Sciences G 3**

Critical analysis and development of curriculum in family and consumer sciences in terms of philosophy, design, and adaptability.

1 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**742 Culturally Responsive Teaching U G 3**

Principles and strategies for working with culturally diverse student populations, emphasizing teaching strategies and program modification.

Su Qtr. 1 2.5-hr cl.

**743 Research Methods in Family and Consumer Sciences G 3**

Nature of research in various areas of the field; criteria for setting up a research problem; techniques for collecting and analyzing data.

1 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**744 Evaluation in Family and Consumer Sciences G 3**

Principles of evaluation, framework for evaluation, procedures for appraising student progress in the attainment of objectives, construction of evaluation instruments, analysis and interpretation of evaluation data.

1 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**745 Supervision in Family and Consumer Sciences Education G 3**

Principles, models, and processes of supervision in the context of student teaching and other settings where instruction in family and consumer sciences takes place.

1 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**746 Instruction in Family and Consumer Sciences Education**

Learning and instructional theory, research, and strategies for family and consumer learning environments.

**746.01 Instruction for Effective Learning in Family and Consumer Sciences Education U G 5**

Learning and developmental theory and its application to planning and instruction in family and consumer sciences education.

Au Qtr. 2 2-hr cl, 1 3-hr lab. Prereq: 289; 742; 746.01; 2.50 CPHR; rank 4; concur: 689.01.

**746.03 Instruction for Problem-Based Learning U G 5**

Cognitive learning and critical social theories and related curricular and instructional theories and their implementation.

Wi Qtr. 2 2-hr cl, 1 3-hr lab. Prereq: 2.50 CPHR; 746.01; rank 4; concur: 689.03.

**791 Teaching Internship in Family and Consumer Sciences Education**

Ten week full-time internship in a family and consumer sciences education program under guidance of a cooperating teacher and university supervisor; includes reflective seminar.

Sp Qtr. Full-time for 1 qtr; 3-hr cl. Prereq: Completion of certification courses. Written permission of advisor.

**791.01 Designing Instruction U G 4**

Concur: 791.02 and 791.03.

**791.02 Facilitating Learning in Family and Consumer Sciences U G 4**

Concur: 791.01 and 791.03.

**791.03 Professional Development and Action Research U G 4**

Concur: 791.01 and 791.02.

**793 Individual Studies G 1-5**

Problems in various phases of family and consumer sciences education.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**846 Family and Consumer Sciences Teaching Strategies and Learning Theory G 3**

Innovative use of teaching methods; relationship to learning theory.

1 2.5-hr cl. Prereq: A course in educational psychology.

**Family Medicine**

B0902B Cramblett Hall, 456 West 10th Avenue, 293-8792

**793 Individual Studies in Family Practice P 4,8,16,24**

Experience with family physician-preceptor or family practice residency programs; student must achieve objectives which fall within the curriculum objectives of the Dept of Family Medicine.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Med Coll 663 and written permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**Film Studies**

109 Brown Hall, 190 West 17th Avenue, 292-7226

**270 Introduction to Film Studies U 5**

An introduction to the field of Film Studies based on a survey of the major theories of film analysis.

Su, Au, Wi, Sp Qtrs. Prereq: English 263 or Hist Art 260. GEC arts and hums VPA course.

**293 Individual Studies in Film U 2-5**

Individual investigation of minor problems in Film Studies not covered in regular course work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of Film Studies Director. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Studies in Film U 2-5**

Investigation of minor problems in Film Studies not covered in regular coursework.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of Film Studies Director. Repeatable to a maximum of 10 cr hrs.

**H670 Cinema and the Historical Avant Garde U 5**

Historicizes cinema's political and artistic roots, concentrating on the perceived and real possibilities of the medium. Fosters critical awareness of "film culture" historically and currently.

Prereq: English 110, 110.01, 110.02 or 110.03; and honors standing. Not open to students with credit for German H670. Cross-listed in German. Taught in English.

**680 Screenwriting and the Business of Cinema U G 5**

This course examines screenwriting as both a literary art form and a challenging profession.

Prereq: 636 or permission of instructor. Not open to students with 10 cr hours in theatre 636; class limit 18.

**693 Individual Studies U G 2-5**

Students may register for individual directed study under this number for work in various fields of film studies not normally offered in courses.

Prereq: Permission of program director. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies U 2-5**

Group studies for work in various fields of film studies not normally offered in courses.

Prereq: Permission of program director. Repeatable to a maximum of 10 cr hrs.

**699 Undergraduate Research U 1-15**

Undergraduate research or creative activities in variable topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**Food Science and Technology**

110 Parker Food Science and Technology Building, 2015 Fyffe Road, 292-6281. Fax:292-0218

**101 Chocolate Science U 2**

Introduction to science and business of chocolate. Students develop and market a chocolate product as part of a virtual company. Students taste commercial products weekly.

Au, Wi, Sp Qtrs. 1 2-hr cl.

**170 Wine and Beer in Western Culture U 3**

The role of wine and beer in western culture with emphasis on the geographic origins, production techniques, and stylistic considerations.

Au, Wi Qtrs. 2 1.5-hr cl.

**201 The Science of Food U 5**

Food and nutrition in modern civilization; principles involved in assembling, processing, and distribution of food; and the role of science, industry, and government in meeting food needs.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Biology 101 or 113 or H115 or equiv. BER/GEC/LAR course. E201 may be offered for honors embedded experience.

**H208 Food: Fact and Fiction U 5**

Introduction to controversial topics in food science and nutrition that are found in popular media.

Wi Qtr. 3 1.5-hr cl. Prereq: Honors or Scholars program members or permission of instructor.

**289 Food Industries Field Experience U 3**

Ten weeks practical experience or equivalent in an approved food plant or laboratory; written report required.

Su, Au, Wi, Sp Qtrs. Open only to students majoring in food science.

**294 Group Studies U 1-5**

Group studies on selected topics in food science and technology.  
Su, Au, Wi, Sp Qtrs. Quarter offered varies. Arr. Prereq: Permission of instructor.  
Repeatable to a maximum of 15 cr hrs.

**401 Introduction to Food Processing U 3**

Unit operations in food processing, basic elements of food processing equipment, product formulation, food manufacturing, quality control, cleaning, and sanitizing.

Au, Sp Qtrs. 1 cl, 2 3-hr labs.

**410 HACCP Analysis U 3**

Principles of hazard analysis as applied to the food industry. Students will develop a HACCP plan.

Wi Qtr. 3 cl. Prereq: 401.

**493 Individual Studies U 1-5**

Individual study course to permit undergraduate students to explore in-depth selected areas of food science and nutrition.

Su, Au, Wi, Sp Qtrs. 3, 6, 9, 12, or 15-hr lab. Prereq: 2.50 CPHR and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**494 Group Studies U 3-5**

Group studies on selected topics in food science and nutrition.

Su, Au, Wi, Sp Qtrs. Arr. H494 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**589 Professional Experience U 5**

Ten weeks of supervised structured in-depth industrial experience in selected food related subjects.

Su, Au, Wi, Sp Qtrs. Prereq: 20 cr hrs of 500-level courses or above in major field, and permission of instructor. Open only to students majoring in food science and nutrition. Repeatable to a maximum of 10 cr hrs. Experience must be obtained with organization approved by the dept.

**597 Contemporary Issues in Food Science and Nutrition**

Prereq: Sr standing. GEC contemporary world courses.

**597.01 Alcohol and Society U 5**

The historical, nutritional, medical, social, technical, and economic aspects of the use of beverage and industrial alcohol.

Wi, Sp Qtrs. 2 2-hr cl.

**597.02 Food and Health Controversies in the 21st Century U 5**

Examines current controversies surrounding food. Topics include biotech foods, dietary supplements, childhood obesity and public policies domestically and abroad that fuel the controversies.

Su, Au, Wi, Sp Qtrs. Prereq: 3rd or 4th yr standing only.

**601 Food Analysis U G 5**

Basic composition, chemical structures and properties of foods; and chemical and instrumental analyses of food components.

Au Qtr. 4 cl, 1 3-hr lab. Prereq: Chem 252.

**605 Advanced Food Chemistry U G 4**

Intensive coverage of the chemical reactions of food components with emphasis on the reaction mechanisms responsible for changes in food products.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq or concur: Biochem 511 or permission of instructor.

**610 Processing of Fluid Milk and Related Products U G 4**

Principles involved in the production, processing, and marketing of high quality, safe, and nutritious milk and milk products.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: Chem 101 or 121 or H201 and Rank 3 or 4 or permission of instructor.

**611 Food Fermentation U G 4**

Principles and practices related to the manufacture, processing, distribution, and marketing, nutritional value and safety of fermented foods.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: Micrbiol 509 or permission of instructor.

**613 Fruit and Vegetable Processing U G 4**

Commercial processing of fruits, vegetables and related products. The effect of processing and raw product chemistry on final product quality.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 401.

**621 Food Additives U G 3**

Chemical and physical nature of food additives; functions and effects on chemical, rheological, microbiological, and nutritional properties of foods.

Au Qtr. 3 cl. Prereq: 15 cr hrs in food science or related area.

**630 Principles of Food Processing U G 4**

Principles of science and engineering applied in food processing and their unit operations including concentration, separation, and thermal sterilization processes.

Wi Qtr. 3 cl, 2-hr lab. Prereq: 541 or grad standing or permission of instructor.

**632 Sensory Evaluation U G 4**

Fundamentals of sensory evaluation and the perception of taste, smell, and flavor. Emphasis on statistical interpretation and industrial application.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: Stat 135 or 145 or 245 or AED Econ 205 or H&CS 260 or Anim Sci 260 or Agr Educ 387 or AEE 387 or Nat Res 222 or Psych 320 and familiarity with Excel. Not open to students with credit for Psych 632. Cross-listed in Psychology.

**636 Food Microbiology****636.01 Food Microbiology Lecture U G 3**

Microorganisms in relation to the production, processing and handling of food with emphasis on food transmitted pathogens and minimizing public health risks.

Au, Sp Qtrs. 3 cl. Prereq: Micrbiol 509 or 521. Not open to students with credit for 636 or Micrbiol 636. Cross-listed in Microbiology.

**636.02 Food Microbiology Laboratory U G 3**

Laboratory training for determining the microbiological safety and quality of food with emphasis on handling pathogens and observing analyst's safety.

Au, Sp Qtrs. 2 2-hr labs, 1 cl. Prereq: 636.01 or concur. Not open to students with credit for 636 or Micrbiol 636. Cross-listed in Microbiology.

**640 Food Regulations U G 3**

Food laws, regulations and the technical control of processed foods.

Wi Qtr. 3 cl. Prereq: 401 or 610 or 611 or grad standing or permission of instructor.

**648 Essentials of Food Plant Operation U G 3**

An in-depth presentation of the special factors affecting food plant organization, production, procurement, distribution, and the interaction required to develop plant operations.

Wi Qtr. 3 cl. Prereq: 401.

**649 Food Packaging U G 4**

A discussion of terminology and literature of commercial packaging, principal methods of packaging, and principles of selecting packaging materials.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 401 or grad standing or permission of instructor.

**650 Food Product Development U G 4**

Development of a new food product including generation of concepts, consumer panel testing, development of prototypes, process optimization and consumer testing.

Sp Qtr. 2 cl, 2 3-hr labs. Prereq: 401 and 621 or permission of instructor.

**H683 Honors Projects U 1-10**

Conducting and reporting the honors project.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in honors program, and permission of honors project supervisor. Repeatable to maximum as H683 or in combination with 293,593,H593,H599,693 or H693. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**693 Individual Studies U G 3-5**

Individual project studies of current problems; planning, conducting, and reporting research.

Su, Au, Wi, Sp Qtrs. 9, 12, or 15-hr lab. Prereq: 2.50 CPHR and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Selected topics in food science and technology.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**696 Technical Problem Solving U G 5**

Analysis of technical problems in food science; fostering creative thinking to the approach and solution of problems; preparation and oral presentation of papers.

Sp Qtr. 3 cl, 2 2-hr labs. Prereq: Grad or rank 4 standing, second writing course, 15 cr hrs in food science or related area. GEC course.

**697 Study at a Foreign Institution**

An opportunity for students to study at a foreign institution and receive Ohio State credit for the work.

Prereq: Written permission of program coordinator. Repeatable to a maximum of 10 cr hrs. Decimal subdivisions not repeatable. Students pay Ohio State fees and any fees in excess of Ohio State tuition as well as travel and subsistence costs.

**697.01 Irish Food and Culture U G 3**

Study abroad to Dublin, Cork, and the southern countryside of Ireland touring production facilities, meeting government, industry and interest group representatives, sampling local food and drink and learning about its impact on culture.

Sp Qtr. Prereq: 694 (Irish Food and Culture), 3rd or 4th yr undergrad or grad standing, 21 yrs of age, minimum CPHR of 2.50. 12-day program during Spring break.

**736 Advanced Food Microbiology G 3**

Microbiological aspects of food preservation, detection of microbiological contaminants, hazards, and microorganisms of public health significance.

Wi Qtr. 3 cl. Prereq: 636 or Micrbiol 636, and Chem 123. Cross-listed in Microbiology.

**761 Carbohydrate and Lipid Metabolism U G 5**

In-depth treatment of digestion, absorption, transport, and utilization of dietary carbohydrates and fat for energy production and fat deposition in humans and other higher animals.

Wi Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; Humn Ntr 610 or Anim Sci 630.01 OR grad standing or permission of instructor. Not open to students with credit for Anim Sci 761 or Humn Ntr 761. Cross-listed in Animal Sciences and Human Nutrition.

**762 Principles of Nutrient Metabolism U G 5**

In-depth examination of the cellular and molecular mechanisms responsible for regulation of nutrient transport and metabolism with focus on the utilization of dietary protein.

Au Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; Humn Ntr 310 or Anim Sci 330 OR grad standing or permission of instructor. Not open to students with credit for Anim Sci 762 or Humn Ntr 762. Cross-listed in Animal Sciences and Human Nutrition.

**763 Vitamin and Mineral Metabolism U G 5**

In-depth treatment of biochemical functions, absorption, transport, utilization, interrelationships and nutritional requirements of the vitamins and minerals in humans and other higher animals.

Sp Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; EEOB 232 or Anim Sci 310; Humn Ntr 610 or Anim Sci 630.01 or 630.02 or grad standing. Not open to students with credit for Anim Sci 763 or Humn Ntr 763. Cross-listed in Animal Sciences and Human Nutrition.

**799 Teaching Experience in Food Science and Nutrition G 1**

Teaching at the higher education level, instructional development under faculty guidance, experience in testing and evaluation of students, and analysis of teaching performance.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing. Repeatable to a maximum of 10 cr hrs. Provides teacher training and evaluation which is recognized on transcript. This course is graded S/U.

**820\* Flavor Chemistry G 3**

Chemical properties, formation mechanisms, isolation, separation, identification and food applications of flavor compounds.

Wi Qtr. 3 cl.

**821\*\* Food Lipids G 3**

Chemical, physical, and biological properties of food lipids.

Wi Qtr. 3 cl.

**822\*\* Food Proteins G 3**

Sources of chemical, physical, and biological properties of food proteins; effect of food composition, handling, and processing of protein characteristics and functionalities.

Sp Qtr. 3 cl. Prereq: one course in physical chemistry or permission of instructor.

**823 Functional Properties of Food Carbohydrates G 3**

Chemical, physical, biological and functional properties of food carbohydrates and their interaction with food components.

Sp Qtr. 3 cl. Prereq: One course in food chemistry and one course in biochemistry or permission of instructor.

**830 Advanced Studies in Nutrition**

Advanced concepts in nutrition.

Au, Wi, Sp Qtrs. 3 or 5 cl. Prereq: 761 and 762 or Anim Sci 761 and 762 or Humn Ntr 761 and 762; Anim Sci 530 or Humn Ntr 610; 10 grad cr hrs in physiology. Not open to students with credit for Anim Sci 830 or Humn Ntr 830. Cross-listed in Animal Sciences, and Human Nutrition.

**830.01\* Energy/Lipids G 5**

Wi Qtr. 5 cl. Prereq: Fd Sc&Te 761.

**830.09 Food and Nutritional Toxicology G 3**

Basic principles in food and nutrition toxicology focused on interactions of nutrients and food toxins, role of diet in mutagenesis and carcinogenesis and safety assessment.

Au Qtr. Prereq: 761, 762, Humn Ntr 610 or Anim Sci 630.01 or 630.02.

**830.10 A Comprehensive Approach to Food Safety G 3**

Course provides a comprehensive overview of food safety issues, challenges and solutions across the food chain from farm to table.

Wi Qtr. 1 3-hr cl. Prereq: Micrbiol 509 and introductory level course in nutrition or food science or permission of instructor.

**830.11 Nutrition-Endocrine Interactions in Women's Health G 4**

Examination of the historical and emerging research in the area of diet-endocrine interactions and women's health.

2 2-hr cl. Prereq: 761, 762 or Humn Ntr 761, 762 or Anim Sci 761, 762 or grad standing or permission of instructor.

**833 Advanced Instrumental Analysis G 4**

Methods of analysis of foods including chromatography, spectroscopy, electrophoresis, thermal and gravimetric techniques, and rheology.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: Permission of instructor.

**850 Seminar**

Graduate student-staff participation in a study of teaching and research trends and opportunities; critical analysis of research approaches, findings, and publications.

**850.01 Food Science Seminar G 1**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**868\* Molecular Biology Techniques G 5**

Combined lecture/laboratory in the techniques of nucleic acid isolation, analysis, hybridization, sequencing, cloning, expression, and associated biotechnologies.

Su Qtr. 5 cl, 5 3-hr labs. Prereq: Biochem 521 or 613 or equiv. Not open to students with credit for Anim Sci 868. Cross-listed in Animal Sciences.

**898 Interdepartmental Seminar in Nutrition G 1**

A seminar in nutrition and related fields.

Sp Qtr. Repeatable to a maximum of 5 cr hrs. Cross-listed in Animal Sciences, and Human Nutrition. This course is graded S/U.

**993 Individual Studies G 1-5**

Research experience and preparation of technical paper.

Su, Au, Wi, Sp Qtrs. Prereq: 15 cr hrs of grad level courses in food science or technology. For Plan B, MS degree students only. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**998 Research: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Food, Agricultural and Biological Engineering**

200 Agricultural Engineering Building, 590 Woody Hayes Drive, 292-6131

**225 Introduction to Food, Agricultural and Biological Engineering U 3**

Principles of engineering problem solving and communications, statistical description and inference applied to agricultural, food and environmental problems.

Au Qtr. 2 cl, 1 2-hr lab. Prereq: Soph standing in eng. Third writing course component. GEC course.

**325 Transfer Processes in Food, Agricultural and Biological Systems U 3**

Material and energy balances in food, agricultural and biological systems. Introduction to heat, mass, momentum transfer. Psychrometrics and applications in conditioning of air.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: Enrollment as engineering major; prereq or concur: Math 153 or 162.

**373 Principles of Soil and Water Engineering U 3**

Applications of level and chain surveying, hydrology, and soil dynamics to problems in food, agricultural and biological engineering.

Sp Qtr. 2 cl, 1 4-hr lab. Prereq: Mech Eng 410. Some survey/data gathering labs for specific course projects will be conducted away from campus though completed within lab period.

**425 Analysis of Elementary Biological-Physical Systems U 4**

Mathematical model formulation and analysis techniques developed and applied to elementary biological and physical systems.

Wi Qtr. 3 cl, 2-hr lab. Prereq: Math 255 or 415.

**481 Introduction to Food Process Engineering U 4**

Introduction to engineering operations in food processing, process control and instrumentation, emphasizing heat transfer and fluid flow.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: Math 148 and Physics 106 or 111. Open to non-engineering majors only. Offered in cooperation with Food Science and Technology.

**489 Professional Practice U 2**

Preparation and submission of a comprehensive report based on a pre-assigned outline of actual co-op employment in industry.

Su, Au, Wi, Sp Qtrs. Prereq: Admission to Co-op Program in Food, Agricultural and Biological Engineering. Open only to dept majors. Repeatable to a maximum of 10 cr hrs.



## 525 Electrical Power Systems for Agriculture U 4

Design and specification of systems and components essential for the distribution of electrical power and for the control of electrical systems for agricultural production units.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 425.

## 545 Agricultural Structures U G 4

Analysis and design of frames and members for agricultural structures.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: Mech Eng 410.

## 565 Utilization of Energy in Agriculture U G 4

Study of motive and stationary power needs of agriculture, mechanics of traction, characteristics of power sources, morphology of off-the-road vehicle design.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 425 and Mech Eng 501.

## 584 Food Process Engineering U G 4

Principles of food process engineering with emphasis on design of freezing and drying equipment and thermal sterilization processes.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: Mech Eng 501 or CHBE 509.

## 593 Individual Studies U G 1-5

Advanced study of problems not included in regular courses of this department.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## 605 Measurement and Instrumentation U G 4

Analysis and design of measurement systems; data acquisition, signal conditioning, error and noise control and transducers used in food, agricultural and biological systems.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 525 or Elec Eng 300 or grad standing in engineering.

## 618 Ecological Engineering and Science U G 4

Definition, classification, and practice of Ecological Engineering. Course describes ecological systems and the design of natural systems to provide societal services and benefits to nature.

Wi Qtr. 2 2-hr cl. Prereq: Jr standing with at least one course in one of the following subject areas: biology, ecology, engineering, or geology. Not open to students with credit for Civil En 618 or ENR 618 or Nat Res 618 or Env Eng 618. Cross-listed in Environment and Natural Resources and Environmental Engineering.

## 625 Modeling and Design of Biological Systems U G 4

Application of transport processes, enzyme kinetics and the simulation of plant and animal growth to the analysis and design of biological systems and processes.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: 425, Civil En 413 or Chem Eng 420 or CHBE 420 or equiv or grad standing.

## 645 Environmental Controls for Agricultural Structures U G 4

Functional requirements and principles involved in housing animals and crops; analysis of factors and properties affecting energy exchanges with the environment.

Sp Qtr. 4 cl. Prereq: 325, Civil En 413 or CHBE 420 or Chem Eng 420 or grad standing.

## 650 Design of Waste Management Systems U G 4

Application of bioengineering principles of pollution control in the design of management systems for wastes from food and fiber production, storage, and processing operations.

Sp Qtr. 3cl, 1 2-hr lab (includes 2 field trips). Prereq: Sr standing in ENG, or permission of instructor. Civil Eng 413 and 420 or CHBE 420 and FA&B Eng 373.

## 652 Ecosystems for Waste Treatment U G 4

Through a design project and case studies, students will integrate ecological and engineering principles to design ecosystem-based systems to purify water and air.

Sp Qtr. 2 1.5-hr cl, 1 3-hr lab. Prereq: EEOB 413, or Nat Res 725, or FA&B Eng 625, or Civil En 520, or permission of instructor. Sr in ENG or grad standing in ENG or science required. Field trips to Oberlin College Living Machine and wetland treatment systems in central Ohio.

## 673 Design of Agricultural Water Management Systems U G 4

Basic knowledge of water management principles and introduction to agricultural drainage and irrigation methods and their applications.

Sp Qtr. 2 2-hr cl. Prereq: 373 and Civil En 413 or equiv or grad standing in ENG or permission of instructor.

## 684\*\* Food Extrusion Processing U G 3

Principles of food extrusions processing including extruder design, transport phenomena, chemical/physical changes during extrusion, product quality, automation. Economics discussed in relation to food industry.

Sp Qtr. 1 2-hr cl; 1 3.5-hr lab. Prereq: Senior standing for undergraduates, grad standing or permission of instructor. Lab time includes travel time for plant visits.

## 693 Individual Studies U G 1-5

Work on problems not included in regular courses; practice in development, organization, solution, and report on problems of student's choosing.

Su, Au, Wi, Sp Qtrs. Prereq: 15 cr hrs of 300 level or higher in Food, Agricultural and Biological Engineering courses. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

## 694 Group Studies U G 1-5

Advanced studies in Food, Agricultural and Biological Engineering with principal emphasis on design.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

## 695 Professional Development U G 1

Needs and programs for professional development in engineering related to food, agriculture, and environment; communication for professional advancement, engineering ethics, and responsibilities to society.

Au Qtr. 1 1-hr cl. Prereq: 3rd yr standing in Food, Agricultural and Biological Engineering. GEC course.

## 697 Study at a Foreign Institution U G 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

## 723 Capstone Design I U G 2

Methodology of engineering design in a team environment; practice in the design and communication of a specific system within the student's area of specialization.

Au Qtr. 2 1-hr cl. Prereq: 525, Mech Eng 430, and Civil En 413 or Chem Eng 420 or CHBE 420, or sr or grad standing in engineering. GEC requirement (for technical writing). FA&B Eng 723, 724 and 725 must be taken in sequence in same academic year.

## 724 Capstone Design II U G 2

Continuation of 723.

Wi Qtr. 2 1-hr cl. Prereq: 723. GEC third writing course. FA&B Eng 723, 724, and 725 must be taken in sequence in the same academic year.

## 725 Capstone Design III U G 2

Complete design project, produce final design report, oral presentation, short introductory video, build and test prototype.

Sp Qtr. 2 1-hr cl. Prereq: 724. GEC third writing course. FA&B Eng 723, 724, and 725 must be taken in sequence in the same academic year.

## 732\*\* Agroecosystems U G 4

Holistic analysis of agricultural systems. Application of emergy analysis to evaluate and design sustainable agroecosystems.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Offered in winter quarters of odd-numbered years.

## 735 Probabilistic Methods in Engineering Design U G 4

Application of concepts of probability, random variables, statistical inference, multiple regression and correlation analysis to making reliable engineering design decisions.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: Stat 427 or permission of instructor.

## 773 Engineering Soil-Water Management U G 4

Engineering design of systems with high potential for negative environmental impacts; livestock waste, rural landfills, and strip mine reclamation; related water storage and conveyance structures.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 373 and Civil En 413 or equiv.

## H783 Undergraduate Honors Program Research U 1-3

Individually supervised research and project work for Honors program students. Student presentations and thesis writing included.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Honors standing; permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

## 784 Advanced Food Process Engineering U G 3

Application of heat and mass transfer, fluid flow, food properties, and food processing constraints in the design and selection of food process equipment.

Sp Qtr. 3 cl. Prereq: Chem Eng 521 CHBE 521 or Mech Eng 510 or equiv. Offered in cooperation with Food Science and Technology.

## 801 Research Methods in Food, Agricultural and Biological Engineering G 3

Research problem selection, mathematical models, errors, proposal development and peer review.

Wi Qtr. 1 3-hr cl.

**810 College Teaching in Engineering G 3**

Preparation for instruction in engineering at the college level. Focuses on skills, strategies and issues common to university teaching and engineering instruction more specifically.

Sp Qtr. 1 3-hr cl. This course is graded S/U.

**850 Departmental/Graduate Seminar G 1**

Lecture and discussion of current topics related to food, agricultural and biological engineering presented by faculty, staff, graduate students, and guest speakers.

Au, Wi, Sp Qtrs. 1 cl. Repeatable. This course is graded S/U.

**894 Group Studies G 1-5**

Graduate studies in Food, Agricultural and Biological Engineering.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**999 Research G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Food, Agricultural, and Environmental Sciences

100 Agricultural Administration Building, 2120 Fyffe Road, 292-6891

**100 Food, Agricultural, and Environmental Sciences Survey U 1**

Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of academic areas of study.

Au, Wi, Sp Qtrs. 2 cl. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 101, Arts Col 100, Arts&Sci 100, Engineer 100, Home Ec 100, Nat Res 100, or UVC 100 or H100.

**200 Exploring Careers in Food, Agriculture, and Natural Resources U 3**

Designed to acquaint students with some of the many and varied career opportunities available to them through a major in CFAES.

Wi Qtr. 2 1.5-hr cl.

**294 Group Studies U 1-5**

Group study classes or projects in selected interdisciplinary topics in Agriculture.

Su, Au, Wi, Sp Qtrs. Arr.

**351 Planning a Career in Food, Agricultural, and Environmental Sciences U 1**

Discussion of personal career objectives in agriculture and conducting an effective employment campaign through resumes, cover letters, interviewing, and job offer evaluation.

Au, Wi Qtrs. 1 cl.

**H590 Agriculture Honors Colloquium**

1 cl.

**H590.01 Honors Research Colloquium U 1**

Preparation of honors programs, design of honors research projects, and writing of research proposals.

Au Qtr. 1 cl. Prereq: Enrollment in AGR honors program and jr standing or permission of instructor.

**694 Group Studies U G 1-5**

Study in interdisciplinary topics in agriculture.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 25 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**797 Interdepartmental Seminar U G 1-2**

Two or more departments or colleges may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable. Repeatable by permission. This course is graded S/U.

typically take the sequence of courses numbered 101-102-103-104 (including the decimal subdivisions such as 101.51, etc.) or, for those with high school French, 102.66-103-104 or 103.66-104 and then move on to advanced courses. Students who need to satisfy the Arts and Sciences foreign language requirement must demonstrate competence through the 104 level.

**101 Elementary French I**

Introduction to French; development of listening, reading, speaking, and writing skills.

Su, Au, Wi, Sp Qtrs. Not open to students with credit for 100.02 or to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**101.51 Individualized Track U 1-5**

Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 hours before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**102 Elementary French II**

Continuation of 101, further development of listening, reading, speaking, and writing skills.

Su, Au, Wi, Sp Qtrs. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

Prereq: 101.01 or 5 cr hrs of 101.51. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**102.51 Individualized Track U 1-5**

Prereq: Grade of B- or above in 101.01 or 5 cr hrs in 101.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students may register for 101.51 and 102.51 concurrently with permission of instructor. Students who complete 5 hrs before the end of the qtr may proceed to 103.51. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement.

**102.66 Intensive French for Review I U 1-5**

Classroom track; review of basic structures, vocabulary, and skills needed for entry into 103.

Prereq: 2 or more years of high school French and placement in 101 by placement exam. Not open to native speakers of French through regular course enrollment or EM credit or to students with credit for 101.01, 101.51, 102.01, or 102.51. Repeatable to a maximum of 5 cr hrs. Students must register for and complete 5 cr hrs during the qtr. Students may register for and complete 102.66 for 1-5 cr hrs. Progress is sequential, for each hour, with a proficiency of 80% required to move to the next credit hour.

**103 Intermediate French I**

Continued study of French; development of listening, reading, speaking, and writing skills; readings based on contemporary French culture and literature.

Su, Au, Wi, Sp Qtrs. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**103.01 Classroom Track U 5**

Prereq: 102.01, or 102.66, or 5 cr hrs of 102.51. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**103.51 Individualized Track U 1-5**

Prereq: Grade of B- or above in 102.01, or 102.66, or 5 cr hrs of 102.51 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students may register for 102.51 and 103.51 concurrently with permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**103.66 Intensive French for Review II U 1-5**

Classroom track; intensive review of basic structures, vocabulary, and skills needed for entry into 104.

Prereq: 101.01 or 5 cr hrs of 101.51, or 3 or more yrs of high school French and placement into 102 by placement exam. Not open to native speakers of French through regular course enrollment or EM credit or to students with credit for 102.01, 102.51, 102.66, 103.01, or 103.51. Repeatable to a maximum of 5 cr hrs. Students must register for and complete 5 cr hrs during the qtr. Students may register for 103.66 for 1-5 cr hrs. Progress is sequential, for each hour, with a proficiency of 80% required to move to the next credit hour.

## French

200 Hagerty Hall, 1775 College Road, 292-4938

Students studying foreign languages at the elementary and intermediate levels

**104 Intermediate French II**

Prereq: 103.01 or 103.66 or 5 cr hrs of 103.51 or 112. Not open to students with credit for 104; or to native speakers of this language through regular course enrollment or EM credit. Only one of the decimal subdivisions may be taken for credit. GEC for lang courses.

**104.01 Conversation and Composition U 5**

Continued development of listening, speaking, reading, and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary.

Su, Au, Wi, Sp Qtrs. H104.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Highly recommended for majors and minors. Course conducted in French. This course is available for EM credit.

**104.02 Conversation U 5**

Emphasis on speaking and aural comprehension with special attention to practical situations.

**104.03 Contemporary French Society U 5**

Emphasis on various aspects of contemporary French cultures; readings and discussion in French.

Su, Au, Wi, Sp Qtrs.

**104.04 Civilization U 5**

Aspects of French civilization: geography, history, social developments, and the arts; readings and discussion in French.

Au, Wi, Sp Qtrs.

**104.51 Conversion and Composition U 1-5**

Continued development of listening, speaking, reading, and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary.

Su, Au, Wi, Sp Qtrs. Prereq: Grade of B- or above in 103.01, 103.66, or 5 cr hrs in 103.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Proficiency at the level of 80% is required for advancement from 1 cr hr to the next.

**112 Intensive French U 5,10,15**

Elementary and intermediate French; intensive drill in form, syntax, vocabulary, and idiom; reading of short stories, novels, and plays.

Su Qtr. 15 cl. Prereq: Permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. Enrollment limited to 20 students. Full-time fees required regardless of number of cr hrs. Equiv of 101, 102, and 103. Students may not register for any other course if they enroll in 112. Students with credit for 103 or equiv may not register for credit. Students with credit for 101 and 102 will enroll for 5 cr hrs. Students with credit for 101 only will enroll for 10 cr hrs. Students with no credit in French will enroll for 15 cr hrs. Regardless of cr hrs enrolled a student will attend class throughout entire qtr. Withdrawal from the course means forfeiture of all cr hrs. No audit. GEC for lang course. FL Admis Cond course.

**150 French Literary and Cultural Works in Translation: From Renaissance to Enlightenment and Revolution U 5**

Important issues in 16th to 18th-century French literature and culture; focus on Humanist, Classical, and Enlightenment writings of such authors as Montaigne, Moliere, Voltaire, Rousseau.

Taught in English. GEC arts and hums lit course.

**151 French Literary and Cultural Works in Translation: from Romantic Passion to Existential Doubt U 5**

Traces the growth of modernism and postmodernism out of romantic, realist, and symbolist currents of the nineteenth century in narratives, plays, poetry, films, art and music.

Taught in English. GEC arts and hums lit and western (non-US) course.

**152 Introduction to Francophone African and Caribbean Literatures in Translation U 5**

Introduces students to the literatures and cultures of important non-Western regions of the Francophone world and develops their analytical reading and writing skills.

Taught in English. GEC arts and hums lit course.

**153 Issues in French or Francophone Culture U 5**

Exploration of a particular issue of a specific French or Francophone culture. 2-2-hr cl. Taught in English; GEC arts and hums cultures and ideas course.

**201 Introduction to French Studies**

Techniques for reading and interpreting different French texts: stories, poetry, plays, films, music, and ads while building vocabulary, comprehension, speaking and writing skills.

Prereq: 104 or 5 cr hrs of 104.51 or permission of instructor. Conducted in French

**201.01 Classroom Track U 5**

2-2-hr cl. H201.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 104.01,104.02,104.03,104.04 or 5 cr hrs of 104.51 or permission of instructor. Course conducted in French.

**201.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Proficiency at the

level of 80% is required for advancement from 1 cr hr to the next.

**206 Introduction to French Media and Visual Culture U 5**

Introduction to French media and visual culture based on texts from the electronic press, interior design and fashion magazines, multimedia documents, television, radio, and film.

Prereq: 104 or 5 cr hrs of 104.51 or permission of instructor. Not open to native speakers of French through course enrollment or EM credit. Conducted in French.

**250 Topics in French Literature and Culture in Translation U 5**

Examination of selected topics through a study of French literary works in the context of culture and the arts. Topic varies.

2-2-hr cl. Prereq: English 110 recommended. Repeatable to a maximum of 10 cr hrs. Conducted in English. GEC arts and hums lit course.

**293 Individual Studies U 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**294 Group Studies U 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 30 cr hrs.

**401 French Grammar Review U 5**

Oral and written review of French grammar.

Prereq: 201 or 206.

**402 Intermediate French Conversation U 3**

Practice in speaking French, building of practical vocabulary; emphasis on comprehension and oral expression.

Prereq: 201 or 206. Not open to native or near-native speakers of this language through regular course enrollment or EM credit.

**403 Intermediate French Writing U 5**

Basic kinds of French prose and techniques of composition; practice in writing letters, essays; descriptive, narrative, and personal compositions.

Prereq: 401. Not open to native speakers of this language through regular course enrollment or EM credit.

**404 French Pronunciation U 5**

Formation of French sounds, rules of pronunciation and diction; lectures and practical exercises; use of phonetic symbols.

Prereq: 401.

**406 Business French I U 5**

An introduction to business French with emphasis on basic business terminology, commercial correspondence, similarities and differences in business transactions, and international procedures.

Prereq: 206 or any 400-level course or permission of instructor.

**418 French Language and Cultures U 5**

Exploration of an aspect of French culture through the use of varied texts and multimedia tools (e.g., CD-ROMs, music, film, internet); topics vary.

Prereq: 201 or 206 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**425 French Literature and Society U 5**

Readings and analysis of the relationship between literature and society represented in different genres and periods of French literature.

H425 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 201; 401 recommended.

**426 French Literature and the Self U 5**

Readings and analysis of various concepts of the self as represented in different genres and periods of French literature.

H426 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 201; 401 recommended.

**427 Francophone Literature: from Empire to Nation U 5**

Readings and analysis of French-language literary texts as these relate to issues of empire, nation, and identity.

H427 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 201; 401 recommended.

**440 Introduction to the Study of Contemporary French Culture U 5**

Introduction to ways of studying major aspects of French culture by means of lectures, readings, research projects, in-class presentations, and research reports.

Prereq: 201 or 206. Conducted in French.

**470 Introduction to French Cinema U 5**

Introduction to the study of French cinema, of French film history, and the art of the cinema.

2-2-hr cl. Prereq: 401. Conducted in French.

**506 French-Speaking Cultures in a Business Context U 5**

Designed to provide students with a basic hands-on knowledge of principles of social and business interactions within the French-speaking world.

Taught in English. Course cannot be used for the major or the minor.

**571 Basic French for Graduate Students G 5**

Designed primarily for students who have no formal preparation in French; covers basic grammar and vocabulary.

Prereq: Grad standing. Credit does not apply to the minimum number of hours required for the master's or doctoral degrees. No audit.

**572 French for Research I G 3**

Prereq: Grade of C or above in 571, or equiv preparation demonstrated by a placement test. Repeatable to a maximum of 6 cr hrs. Credit does not apply to the minimum number of hours required for the master's or doctoral degrees. No audit. Satisfactory completion of this course (grade of A or B) may be accepted by the student's dept as evidence of a dictionary reading knowledge in fulfillment of PhD language requirement.

**573 French for Research II G 3**

Prereq: Grade of A or B in 572, or equiv preparation demonstrated by a placement test. Repeatable to a maximum of 6 cr hrs. Credit does not apply to the minimum number of hours required for the master's or doctoral degrees. No audit. Satisfactory completion of this course (grade of A or B) may be accepted by the student's dept as evidence of a dictionary reading knowledge in fulfillment of PhD language requirement.

**601 Advanced French Grammar U G 5**

Systematic review of French grammar with composition and other exercises based on contemporary authors; modern tendencies in syntactic analysis.

Prereq: 401, 403, and another 400-level language, literature, or culture course other than 404.

**602 French Translating U G 5**

An introduction to the theory of translation and practice of translation (French to English and English to French) based on texts reflecting different types of written communication.

Prereq: 601 or equiv.

**603 Advanced Spoken and Written French U G 3**

Intensive practice in speaking and writing French; based on contemporary usage.

Prereq: 402, 403, and 601 or equiv. Not open to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 15 cr hrs.

**604^ Advanced French Pronunciation, Styles, and Francophone Accents U G 5**

Training in auditory and oral aspects of advanced French pronunciation; analysis of different styles of spoken French and different francophone accents.

2 1.5-hr cl. Prereq: 404 or permission of instructor.

**631 Topics in French Cultures and Literatures U G 2-5**

Intensive study of an aspect of French culture or literature; topic varies.

Prereq: 401 and either 425, 426, 427, or 440; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**643 From Absolute Monarchy to WWII U G 5**

Political and cultural history of France from Absolute Monarchy to World War II.

Prereq: 401 and 440, or permission of instructor.

**644 French Civilization since WWII U G 5**

The transformation of French society since WWII as a result of changing social and political structures.

Prereq: 401 and 440, or permission of instructor.

**650 Survey of Medieval French Literature U G 5**

Survey of French literature of the Middle Ages from its inception to Villon, with emphasis on different literary genres (epics, narrative fiction, poetry, theatre).

Prereq: 401 and either 425, 426, or 427. Not open to students with credit for 721.

**652 Early Modern French Literature U G 5**

Major early modern French literary movements and authors.

Prereq: 401 and either 425, 426, or 427.

**653^ French Literature of the Enlightenment U G 5**

Major ideas and authors of the 18th century in France; emphasis on such writers as Montesquieu, Voltaire, Diderot, and Rousseau.

Prereq: 401 and either 425, 426, or 427.

**655 French Literature of the 19th Century U G 5**

Major 19th-century French literary movements and authors from romanticism to symbolism and naturalism.

Prereq: 401 and either 425, 426, or 427.

**656 French Literature of the 20th and 21st Centuries U G 5**

Major intellectual and literary currents in France from the early 20th century to the present.

Prereq: 401 and either 425, 426, or 427.

**657 Literature of the Francophone World**

Prereq: 401 and either 425, 426, or 427.

**657.01 Francophone Literature from Black Africa and the Caribbean U G 5**

Major intellectual and literary currents in black Africa and the Caribbean.

**657.02^ Literature from North Africa U G 5**

Major intellectual and literary currents in francophone North Africa.

**657.03^ Quebec Literature U G 5**

Major intellectual and literary currents in Quebec.

**663^ Women in French Literature U G 5**

Examination of representations of women and writing by women in selected works of French literature.

Prereq: 401 and either 425, 426, or 427.

**670 Studies in French Cinema U G 5**

The history and esthetics of French cinema from its beginnings to 1945.

Prereq: 470. Not open to students with credit for 671. Taught in French.

**672 French Cinema, 1945 to Present U G 5**

The history and aesthetics of French cinema from 1945 to the present.

Prereq: 10 cr hrs in literature and/or cinema above 200 level or permission of instructor. Taught in English.

**690 Business French Internship U 1-15**

Supervised training in international (French-speaking) business coordinated by student's advisor and internship training director.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 406 or permission of instructor. Repeatable to a maximum of 15 cr hrs. Notify Department Chair no later than six months (2 quarters) before the start of the internship. This course is graded S/U.

**692 The Romance Languages U G 5**

Examines the socio-historical factors and the linguistic processes that contributed to the formation of the Romance languages and to their divergences.

3 1.5-hr cl. Prereq: One year of a Romance language or permission of instructor. Not open to students with credit for Italian 692 or Linguist 692. Cross-listed in Italian and Romance Linguistics. Offered bi-annually. Taught in English. This course counts toward: the Italian major (as one of the two courses taught in English), the French major (as an elective for all the major tracks), the Linguistics major or minor, the Spanish major (as an elective and the one course taught in English permitted to count for the major).

**693 Individual Studies U G 1-15**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-15**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**699 Undergraduate Research in French U 1-15**

Undergraduate research or creative activities in variable topics.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**701^ Advanced French Language Usage U G 5**

Advanced study of present-day French language, with emphasis on more complex and finer morphological, syntactic, semantic, and stylistic distinctions, as well as on idiomatic expression.

Prereq: 601.

**702 Advanced Translation and Comparative Stylistics U G 5**

Theory of translation and a comparative study, through specific exercises and intensive translation, of the stylistic resources of French and English.

Prereq: 602 or permission of instructor.

**706 France: Geographical Setting and Socio-economic Structures U G 5**

A study of the French geographic, economic, and social environment as it relates to business; parallel emphasis on advanced language skills.

Prereq: 406 or permission of instructor. Taught in French.

**710^ Contrastive Structures of French and English U G 5**

Comparison of the linguistic structures (phonology, morphology, syntax, and semantics) of French and English with special emphasis on the problems of English-speaking students.

Prereq: 601 or permission of instructor.

**712^ French Phonology and Morphophonemics U G 5**

The organization of the French sound system, its evolutionary tendencies, and its role in the articulation of the morphemes of the language.

Prereq: 601 or permission of instructor.

**714 Aspects of Morphology, Syntax, and Semantics of French U G 5**

Selected aspects of the morphological, syntactic, and lexical organization of modern French and the role of these subsystems in the communication of meaning.

Prereq: 601 or permission of instructor.

**716 Survey of Medieval French Literature****716.01^ Introduction to Medieval French U G 5**

Introduction to medieval French grammar and vocabulary, using a medieval text as vehicle.

Prereq: 601 or permission of instructor. Not open to students with credit for 811.

**716.02^ Introduction to Medieval Occitan U G 5**

Introduction to the language and literature of medieval Occitan, especially to that of the troubadours.

Prereq: 716.01 or permission of instructor.

**741 Topics in French Culture and Civilization U G 5**

Analysis of French culture through the study of selected topics in literatures, film, and social thought; topic varies.

Prereq: 643 or 644 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**751^ Studies in Genre and Mode U G 5**

Intensive study of the history and/or aesthetics of a specific literary genre or mode such as theatre, poetry, irony, humor.

Prereq: One 600 level course and permission of instructor for undergraduates. Repeatable to a maximum of 10 cr hrs.

**H783 Honors Research U 3-5**

Offers undergraduates with special aptitudes a greater opportunity to do independent study than is possible in the ordinary course; work in conference, library, or phonetics laboratory.

Prereq: 4th yr standing with a grade of A in at least half of the French courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs.

**801 Teaching French at the College Level G 5**

Methods and techniques for teaching French language at the college level.

Au Qtr. Two wks intensive workshop previous to qtr followed by a 2-hr wkly cl. Prereq: Teaching associate in the Dept of French and Italian or permission of instructor. Not open to students with credit for Ed-T&L 801.01 or Ed-T&P 801.01. For students enrolled in this course, the minimum number of credit hours required for graduation is increased by 5 hrs. Cross-listed in Educational Teaching and Learning as 801.01.

**821^ Masterworks of Medieval French Literature G 5**

Intensive study of influential authors and anonymous masterpieces of French literature between 1100 and 1500.

**822^ Topics and Problems in Medieval French Literature G 5**

Intensive exploration of a special topic or problem, with readings in relevant criticism and scholarship.

Prereq: 821. Repeatable to a maximum of 15 cr hrs.

**823 Topics and Problems in 16th-Century French Literature G 5**

Intensive exploration of a special topic or problem, with readings in relevant criticism and scholarship.

Prereq: 652 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**824 Topics and Problems in 17th-Century French Literature G 5**

Intensive exploration of a special topic or problem, with readings in literary works and in relevant criticism and scholarship.

Prereq: 652 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**825 Topics and Problems in 18th-Century French Literature G 5**

Intensive exploration of a special topic or problem, with readings in literary works and in relevant criticism and scholarship.

Prereq: 653 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**826^ Topics and Problems in 19th-Century French Literature G 5**

Intensive exploration of special topics or problems with readings in literary works in relevant criticism and scholarship.

Prereq: 655 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**827 Topics and Problems in 20th-Century French Literature G 5**

Intensive study of a specific topic or problem with readings of selected literary and critical works.

Prereq: 656 or equiv. Repeatable to a maximum of 15 cr hrs.

**828^ Topics in Francophone Literature G 5-15**

In-depth study of a theme, genre, movement, or author from a non-European area of the francophone world.

Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.

**831 Seminar in French Literature G 2-5**

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**833^ Seminar in French Literature G 3-5**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**850^ Seminar in French Linguistics G 5**

Detailed exploration of selected topics in French linguistics with extensive analysis of French language data relevant to the topic.

Sp Qtr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**870 Seminar in French Cinema G 3-5**

Detailed exploration of particular topics or periods in French cinema with extensive analysis of individual films and readings in relevant theory and criticism.

Prereq: 671 or 672 or permission of instructor. Repeatable to a maximum of 15 cr hrs. PhD candidates may repeat to a maximum of 15 cr hrs.

**883 Introduction to Graduate Study in French G 5**

Basic tools for literary research and history and major areas of literary criticism.

Repeatable to a maximum of 30 cr hrs.

**885\* Introduction to Contemporary Critical Theory G 5**

Selected readings covering the range of critical approaches to literature.

**887 Problems of Textual Analysis G 5**

Intensive work in literary and linguistic analysis of texts from various periods and genres.

Repeatable to a maximum of 15 cr hrs. including cr hrs earned in 884.

**890 Interdepartmental Studies in Critical Theory G 5**

Interdisciplinary study of a movement (phenomenology, deconstruction, etc.) or problem (intentionality, evaluation, etc.) in literary theory.

Prereq: Background in critical theory recommended. Repeatable to a maximum of 10 cr hrs. Cross-listed in Comparative Studies, English, German, Spanish, and Women's Studies.

**893 Individual Studies G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies G 1-15**

Investigation of minor problems in the various fields of French literature and language.

Prereq: Written permission of instructor. Repeatable to a maximum of 30 cr hrs.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Prereq: Permission of instructor(s). Repeatable to a maximum of 15 cr hrs. Permission from dept required to repeat.

**903 Graduate Teaching Apprenticeship G 5**

An apprenticeship for advanced doctoral students to work with faculty members on the design and teaching of upper-level French language, literature, and culture courses.

Au, Wi, Sp Qtrs. Prereq: Two years previous teaching experience, permission of instructor, and Graduate Studies chair. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**990 International (French-Speaking) Business Internship G 5**

Supervised training in international (French-speaking) business, coordinated by student's adviser and internship training director.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 706 or equiv. and permission of adviser and internship director. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**999 Research in French Language or Literature G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Geodetic Science**

470 Hitchcock Hall, 2070 Neil Avenue, 292-2771

General Prerequisites for all 600-Level Courses

Prerequisites for all 600-level courses are Math 153 and Physics 131.

**294 Group Studies U 2-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**400 Introduction to Geomatics**

A introduction to geomatics, with an emphasis on basic data collection using ground-based measurement techniques and basic photogrammetry.

Prereq: Acceptance into Geomatics Engineering major or written permission of Department Chair. Not open to students with credit for Survey 203, 506, Civil En 402. Needs both Geod Sci 400.01 and 400.02 to complete.

**400.01 Introduction to Surveying U 2**

An introduction to geomatics, with an emphasis on basic data collection using ground-based measurement techniques.

Au Qtr. 3 cl, 1 3-hr lab for 5 weeks. Course runs first half of quarter, for 5 weeks.

**400.02 Introduction to Photogrammetry U 2**

An introduction to geomatics, with an emphasis on basic data collection using analog photogrammetry measurement techniques.

Au Qtr. 3 cl, 1 3-hr lab for 5 weeks. Course completed second 5 weeks of quarter.

**410 Spatial Data Analysis U 4**

Measurement theory, analysis of measurements, computation and adjustment of spatial data, in a computer-oriented geomatics environment.

Wi Qtr. 4 cl. H410 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Acceptance into Geomatics Engineering major or written permission of Department Chair. Not open to students with credit for Survey 301. H410 not open if 410 completed. All classes to be run in Region 1 computer lab.

**450 Spatial Data Adjustment I U 4**

An introduction to adjustment theory in geomatics, propagation of variances and covariances; least squares adjustment in geomatics; analysis of adjustment results; hypothesis testing.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 410, Math 568, Stat 245. Not open to students with credit for 650 or Survey 450.

**494 Group Studies U 1-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**502 Engineering Surveying U G 4**

Surveying applications for engineering, construction, mining and transportation work. Route surveying and geometric design; topographic site surveys and mapping; earthwork computations.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 410; or permission of instructor. Not open to students with credit for Survey 407 or 511.

**521 Geodetic Measurement U G 4**

Fundamentals of geodetic measurements; astronomical observations; geodetic control surveying; 3-D measurement systems.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 450. Not open to students with credit for Survey 509 or 511.

**540 Senior Project I U 1**

First part of a project to be taken by students in their final year in the program, running from Autumn to Spring quarters.

Au, Wi, Sp Qtrs. Arr. Prereq: 550. Geod Sci H783 may be available for students in the Honors program.

**541 Senior Project II U 1**

Second part of a project to be taken by students in their final year in the program, running from Autumn to Spring quarters.

Au, Wi, Sp Qtrs. Arr. Prereq: 540. Geod Sci H783 may be available for students in the Honors program.

**542 Senior Project III U 2**

Third part of a project to be taken by students in their final year in the program, running from Autumn to Spring quarters.

Au, Wi, Sp Qtrs. Arr. Prereq: 541. Geod Sci H783 may be available for students in the Honors program.

**550 Spatial Data Adjustment II U G 3**

Continuation of 450: phased adjustment; 3-D adjustment; adjustment applications in photogrammetry and high-precision metrology; network design and analysis; error analysis.

Sp Qtr. 3 cl. Prereq: 450. Not open to students with credit for 650 and 651. Geod Sci H551 may be available for students in the Honors program.

**H551 Honors Spatial Data Adjustment II U 3**

Continuation of 450: phased adjustment; 3-D adjustment; adjustment applications in photogrammetry and high-precision metrology; network design and analysis; error analysis.

Sp Qtr. 3 cl. Prereq: 450; enrollment in Honors program. Not open to students with credit for 550, 650, 651. At least one class to be held in Region 1 computer lab.

**560 History of Surveying U G 3**

History of earth measurement and methods; historical connections with other sciences; history of land survey systems in the US; milestones in technology.

Au Qtr. 3 cl. Prereq: 410. Not open to students with credit for Survey 403.

**561 Boundary Surveying U G 4**

Land surveyor's role; analysis of evidence and procedures for boundary location; retracement principles for sequence; simultaneous and public land surveys; laws on surveying practices.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 560. Not open to students with credit for Survey 524.

**562 Subdivision Design U G 3**

Process of subdividing and platting land; analysis of soils, topography, terrain, earthwork, geometry and other variables for land subdivision; plat preparation; layout of development plans.

Sp Qtr. 3 cl. Prereq: 561. Not open to students with credit for Survey 507.

**563 Land Information Management U G 4**

Land information as a resource in an information society, land information systems (LIS), and issues related to the implementation and development of LIS.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 410. Not open to students with credit for 626.

**575 Professional Practice U G 2**

Application of geomatics from the points of view of the practitioner and the consumer of land-related data. Professional responsibility and ethics.

Sp Qtr. 1 2-hr cl. Prereq: 450. Not open to students with credit for Survey 510.

**H595 Honors Seminar U 1-2**

Study of selected problems in Geomatics Engineering, for Honors students.

Au, Wi, Sp Qtrs. Arr. Prereq: Enrollment in Geomatics Engineering Honors Program. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

**597\*\* Mapping the World U 5**

Scientific and technological bases of modern mapping science and its contribution to contemporary world issues.

4 cl. 1-3-hr lab. Prereq: Sr standing. GEC/LAR course.

**597\*\* Mapping the World U 5**

Scientific and technological bases of modern mapping science and its contribution to contemporary world issues.

Au Qtr. 4 cl. 1-3-hr lab. Prereq: Sr standing. GEC/LAR course.

**601 Introduction to Mapping and Photogrammetry U G 5**

Introduction to mapping and photogrammetry; modern methods and instrumentation; basic analytical procedures.

Au Qtr. 4 cl. 1-3-hr lab Prereq: Math 153 and Physics 131.

**603 Remote Sensing of Environment U G 4**

The energies of the natural and cultural environment, current remote sensing systems, and case histories of applications in measuring the environment.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 410 and Math 254; or written permission of instructor. Not open to students with credit for Civil En 603. Cross-listed in Civil Engineering.

**604 Terrain Analysis U G 4**

Principles and applications of photo pattern analysis, geologic and geomorphologic patterns, terrain studies, and land use suitability and capability mapping.

Au Qtr. 3 cl. 1 3-hr lab. Prereq: Civil En 405 or Survey 450 or equiv with written permission of instructor. Not open to students with credit for Civil En 604. Cross-listed in Civil Engineering.

**607 Fundamentals of Geographic Information Systems U G 5**

Basic principles of geographic and land information systems and their use in spatial analysis and information management.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: Sr standing. Not open to students with credit for Geog 685; or 607 in C&R Plan, Civil En, Geog, Not Not open to students with credit for Geog 685; or 607 in C&R Plan, Civil En, Geog, Geol sci, Geodscim or ENR. Cross-listed in City and Regional Planning, Civil Engineering, Geography, Geological Sciences, and Environment and Natural Resources.

**607\*\* Fundamentals of Geographic Information Systems U G 5**

Basic principles of geographic and land information systems and their use in spatial analysis and information management.

3 cl, 1 3-hr lab. Prereq: Sr standing. Not open to students with credit for Geog 685; or 607 in C&R Plan, Civil En, Geog, Geol sci, Geodscie or ENR. Cross-listed in City and Regional Planning, Civil Engineering, Geography, Geological Sciences, and Environment and Natural Resources.

**608 Introduction to GPS: Theory and Applications U G 3**

Introduction to reference systems; types of GPS observable; principles of GPS operations; GPS error analysis; field procedures; data collection, processing and GPS applications.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 550. Not open to students with credit for 609.

**609 Surveying with Satellites U G 4**

Surveying with Earth artificial satellites, global positioning system, relative positioning using interferometric techniques, kinematic surveying.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: 450 or 650, and 601. Not open to students with credit for Survey 609.

**612 Topics in Geodesy U G 4**

Geometry of the ellipsoid; geodetic coordinates computations for short and medium lines; geodetic datums; Earth's gravity field; artificial geodetic Earth satellites; and figure of the Earth.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 601 or Survey 511 or written permission of instructor. Not open to students with credit for Survey 612 or for grad credit to students with credit for 658, 776 or 777, or Survey 612.

**623 Topics in Photogrammetry U G 4**

Techniques, equipment for mapping and point determination; concept, methods, results of block adjustment; image based maps; computer-assisted and controlled-data processing; terrestrial and space photogrammetry.

Sp Qtr. 3 cl. Prereq: 601 and 650; or permission of instructor. Not open to students with credit for 628, 725, 726, 727, or 728.

**624 Advanced Topics in Photogrammetry U G 4**

Photogrammetric aerotriangulation; analytical point positioning, applications in terrestrial photogrammetry and camera calibration; data capture for digital elevation models; orthophotography.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 450 or 650; and 623; or permission of instructor. Not open to students with credit for Survey 515.

**625 Cadastral Information Systems U G 4**

Land tenure, evolution of the cadastre and its relation to land rights; principles and applications.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 450. Not open to students with credit for Survey 625.

**628 Analytical Photogrammetry I U G 4**

Analytical photogrammetry and mathematical models; measurement and reduction of image coordinates; bundle adjustment; analytical camera calibration; aerotriangulation; analytical plotters.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 650 or permission of instructor. Not open to students with credit for 623.

**629 Digital Photogrammetry I U G 4**

Introduction to digital photogrammetry; digital image processing for photogrammetry; computer vision; human visual system; data acquisition, hardware and software.

Sp Qtr. 3 cl. Prereq: 450. Not open to students with credit for 728.

**630 Fundamentals of Computer-Assisted Cartography U G 5**

Basic principles of cartographic methods as applied to computer-assisted topographic mapping systems and their use in land information management.

Au Qtr. 4 cl, 1 3-hr lab. Prereq: CS&E 230 or written permission of instructor.

**632 Large Scale and Topographic Mapping U G 4**

The concepts, theories, and principles of large scale mapping with emphasis on design, production, and use of digital topographic maps.

Wi Qtr. 3 cl, 1-3 hr lab. Prereq: 630 or permission of instructor.

**633^ Digital Surface Models U G 4**

Principles of digital surface modeling and their applications with the aid of computer-based techniques. Sp Qtr. 3 cl, 1 3-hr lab.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 630 and 632, or permission of instructor; and 650; or prereq or concur Geog 883.02. Not open to students with credit for 631.

**634 Digital Mapping Systems U G 4**

Survey and evaluation of digital mapping systems with respect to components, accuracy, and efficiency.

Sp Qtr. 1 cl, 3 3-hr labs. Prereq: 633 or permission of instructor.

**636 Map Projections U G 4**

The principal map projections of the sphere; their distortions, properties, and usage.

Wi Qtr. 3 cl, 1 3-hr lab.

**636 Map Projections U G 4**

The principal map projections of the sphere; their distortions, properties, and usage.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 450.

**637 Topics in Mapping U G 4**

A survey of cartographic fundamentals in the context of contemporary developments.

Sp Qtr. 3 cl, 1 3-hr lab Prereq: 630 or equiv. Not open for grad credit to students with credit for 632, 633, or 732.

**637 Topics in Mapping U G 4**

A survey of cartographic fundamentals in the context of contemporary developments.

3 cl, 1 3-hr lab Prereq: 630 or equiv. Not open for grad credit to students with credit for 632, 633, or 732.

**638^ Topics in Land Information Management U G 3**

Overview of topics in geographic and land information systems (GIS/LIS) and land information management (LIM).

Sp Qtr. 3 cl. Prereq or concur: 630 or written permission of instructor. Not open to students with credit for 626 or Survey 625.

**638 Topics in Land Information Management U G 3**

Overview of topics in geographic and land information systems (GIS/LIS) and land information management (LIM).

3 cl. Prereq or concur: 630 or written permission of instructor. Not open to students with credit for 626 or Survey 625.

**640 Decision-Making with GIS U G 3**

Examination of decision-making processes; examination of GIS functionality to assist decision-making processes; practical examples and case studies.

Su Qtr. 2 1-hr cl, 1 3-hr lab. Prereq: 630 or 607; or 607 in C&R Plan, Civil En, Geog, or Nat Res; or permission of instructor. Not open to students with credit for 694D. Practical aspects of using GIS in a decision-making environment. Emphasis is on working in a multi-disciplinary team-based environment, using GIS as a support and analysis tool.

**650 Adjustment Computations I U G 5**

Classification of errors; measures of dispersion; variance and covariance; propagation of errors, weights, observation and normal equations, algorithms, and examples; statistical tests; error ellipses.

Au Qtr. 4 cl, 1 3-hr lab Prereq: Math 153 or equiv.

**651 Adjustment Computations II U G 4**

A posteriori variances; representation of residuals; condition equations with and without parameters; stochastic or weighted constraints; datum parameters; prior information; special test statistics; algorithms and examples.

Wi Qtr. 3 cl, 1 3-hr lab Prereq: 650 or equiv.

**658 Geometric Geodesy U G 4**

Historical development; geometry of the reference ellipsoid; reductions/use of ellipsoid as a reference surface; major geodetic control; introduction to advanced geometric geodesy; principal conformal projections.

Wi Qtr. 4 cl. Prereq: Survey 511 or equiv.

**660 Geometric Reference Systems U G 5**

Geodetic and astronomic coordinates, ellipsoidal geometry, geodetic datums, terrestrial and celestial reference systems, reduction of celestial coordinates, polar motion, time systems.

Wi Qtr. 4 1-hr cl, 1 3-hr lab Prereq: 650 or equiv.

**664 Geodetic Astronomy U G 4**

Stellar coordinate systems; stellar positions and motions; time; star catalogues; principles of position determination.

Wi Qtr. 3 cl, 1 3-hr lab Prereq: 650 or equiv.

**693 Individual Studies U G 2-9**

Assigned reading laboratory or field work, under the guidance of a staff member, arranged to meet the requirements of individual students.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor Repeatable to a maximum of 60 cr hrs. This course is graded S/U.

**693 Individual Studies U G 2-9**

Assigned reading laboratory or field work, under the guidance of a staff member, arranged to meet the requirements of individual students.

Prereq: Permission of instructor Repeatable to a maximum of 60 cr hrs. This course is graded S/U.

## 202 Geodetic Science

### 694 Group Studies U G 1-9

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 60 cr hrs.

### 694 Group Studies U G 1-9

Prereq: Permission of instructor. Repeatable to a maximum of 60 cr hrs.

### 697 Study at a Foreign Institution U 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

### 697 Study at a Foreign Institution U 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

### 699 Undergraduate Research in Geomatics Engineering U 1-5

Opportunity for undergraduate student to conduct research in Geomatics Engineering.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 699 Undergraduate Research in Geomatics Engineering U 1-5

Opportunity for undergraduate student to conduct research in Geomatics Engineering.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 725 Analytical Photogrammetry II U G 4

GPS controlled aerotriangulation; quality control and network design; on-line triangulation. DEMs and orthophotography. Mapping from space. Multi-media photogrammetry.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 628 or permission of instructor. Not open to students with credit for 622 and 724.

### 728 Digital Photogrammetry II U G 4

Fundamental processes and major applications of digital photogrammetry. Advanced DEM and orthophoto methods. Computer vision applications in digital photogrammetry.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 628, 629, 650. Not open to students with credit for 829, 830, or 831.

### 732 Generalization of Topographic Maps U G 4

Principles and advanced applications of the generalization of topographic maps.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 633 and 651; or written permission of instructor.

### 745\* Inertial Navigation/Positioning Analysis U G 5

Coordinate frames; inertial measurement units--mechanizations, system error dynamics; linear estimation theory with application to initialization and calibration; system integration with GPS; geodetic applications.

Sp Qtr. 4 cl, 1 3-hr lab. Prereq: 651, Geod Sci 609; or equiv and permission of instructor. Course covers the operation and performance of inertial navigation systems, the theory of linear estimation, including the Kalman filter, as applied to INS and its integration with the Global Positioning System, and specific problems in geodetic science appropriate for and/or benefitting from INS implementation.

### 760\* Advanced Geometric Geodesy U G 5

Solution of long line problems on the ellipsoid; datum transformations; determination of the size and shape of the reference ellipsoid; fundamentals of three-dimensional geodesy.

Wi Qtr. 4 cl, 1 3-hr lab. Prereq or concur: 658, 776, and 777.

### 762 Advanced Adjustment Computations U G 4

Large patterned systems, Gauss-Markoff model and mixed models; techniques of collocation and its robustification; generalized matrices in geodetic science; estimable and projected parameters; error ellipsoids.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 651 or equiv.

### 765 Analysis and Design of Geodetic Networks G 3

Geodetic network definition; invariant quantities; geodetic datum; measures of accuracy and reliability; model tests; outlier detection; network design; optimality criteria; introduction to geodetic deformation analyses.

Sp Qtr. 3 cl. Prereq: 651 or equiv.

### 774\* Spectral Methods and Raster Geometry in Digital Mapping G 4

Spectral analysis techniques and raster geometry as applied in digital photogrammetry and digital cartography; pattern recognition theories.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: Geol Sci 642.

### 776 Gravimetric Geodesy U G 5

The gravity and its potential; the disturbing potential and its representation; applications and current methods.

Sp Qtr. 4 cl, 1 3-hr lab. Prereq: 651 and 658; or equivs.

### 777 Satellite Geodesy U G 4

Geometric and dynamic applications of artificial satellites in geodesy; determination of station positions and the gravity field of the Earth.

Au Qtr. 4 cl, 1 3-hr lab. Prereq: 664 and 776; or equivs.

### 781\* Topics in Geodynamics U G 3

Theory of Earth rotation; determination of Earth orientation parameters; precession; nutation, polar motion and time, and radio interferometry of extragalactic radio sources; and Earth tides.

Wi Qtr. 3 cl. Prereq: 664.

### H783 Honors Research U 1-4

Supervised research and project work arranged individually for honors students.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 450, enrollment in the honors program and permission of instructor. Not open to students with credit for 540, 541, 542, H783.01. Repeatable to a maximum of 4 cr hrs. This course is used by Honors students instead of the 540-542 Senior Project sequence. Students must take a minimum of 4 credit hrs to count for their Honors Research Project.

### H783 Honors Research

Supervised research and project work arranged individually for honors students. This course is used by Honors students instead of the 540-542 Senior Project sequence.

Arr. Prereq: 450; enrollment in Honors program. Not open to students with credit for 540, 541, 542. This course is completed by successfully completing all three decimal subdivisions in sequence.

#### H783.01 Honors Research I U 1

First part of Honors Research Project sequence.

This is a Progress course. Credit will be awarded upon completion of H783.03.

#### H783.02 Honors Research II U 1

Second part of Honors Research Project sequence.

This is a Progress course. Credit will be awarded upon completion of H783.03.

#### H783.03 Honors Research III U 2

Third and final part of Honors Research Project sequence.

This is a Progress course. This is the final course in the 'Progress' graded sequence H783.01-H783.02-H783.03.

### 786 Managing Spatial Data Structures for Computer Mapping G 4

Introduction to spatial data structures for computer mapping; implementation of domain-specific data structures using Avenue scripting and C++.

Au, Sp Qtrs. 3 1-hr cl, 1 3-hr lab. Prereq: Cptr/Inf 222 or equiv; Geod Sci 634 or permission of instructor. The course will introduce spatial data structures and illustrate their management in an object-oriented programming environment. Labs will implement domain-specific computer programming exercises using Avenue scripting and C++ programming languages.

### 787 Advanced Spatial Database Systems G 4

Spatial feature generation, 3-D spatial modeling; spatial relational operators and algebra, Peano relations and map data, normalization and confirmation; spatial indexing and consistency, distributed map databases; octree and subsurface modeling, animation for GIS.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 630, 634 and Cptr/Inf 670; for Geography grad students Geog 685 and Cptr/Inf 670; or permission of instructor.

### 828\* Advanced Photogrammetric Applications G 4

Design, application, and analysis of advanced analytical photogrammetric techniques to a variety of measurement tasks.

Wi Qtr. 2 cl, 2 3-hr labs. Prereq: 728 or permission of instructor.

### 829\* Advanced Digital Image Acquisition in Photogrammetry G 3

Methods and systems of acquiring digital imagery; theory and applications of error corrections; assessment of image quality.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: 774.

### 830\* Advanced Methods of Processing Digital Imagery in Photogrammetry G 3

Utilization of advanced methods of image processing and computer vision techniques as it pertains to digital photogrammetry.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 829 or written permission of instructor.

### 831\* Advanced Pattern Recognition and Interpretation Methods in Digital Mapping G 3

Methods of pattern recognition, feature extraction, feature and object classification, as it pertains to digital photogrammetry and digital cartography.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: 830.



**835\* Advanced Cartography G 4**

A review and examination of current research, development, and thinking in cartography with particular attention to mapping from space platforms.  
Wi Qtr. 3 cl, 1 1-hr lab. Prereq: 732 or written permission of instructor.

**837 Computational Cartography G 4**

Computational techniques and computational complexity of various operations of digital mapping will be examined.  
Sp Qtr. 3 1-hr lec, 1 3-hr computer lab. Prereq: 786 or Cptr/Inf 680 or permission of instructor.

**838\* Algorithms in Map Generalization G 2**

Classical and recent map generalization algorithms will be presented, compared, and analyzed in class. Students will assess benefits and limitation of all algorithms presented.  
Au Qtr. 1 2-hr cl. Prereq: 732 and 786 or Cptr/Inf 680; or permission of instructor. Offered odd numbered years.

**862 Adjustment Computations for Random Processes G 3**

Random Effects Model, optimal and robust prediction, weak hypothesis testing, spatial processes, covariance function, variogram, homeogram, Kriging and alternative interpolators, quality measures.  
Sp Qtr. 3 cl. Prereq: 650 or equiv.

**871\* Advanced Gravimetric Geodesy G 4**

Boundary-value problem; use of spherical harmonics; statistical application; appropriate representations; computations in space; combination of gravimetric and satellite data.  
Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 762 and 777; or equivs.

**873\* Advanced Satellite Geodesy G 4**

Dynamics of earth orbiting satellites; equations of motion and their solutions; advanced data acquisition method; analysis for the gravity field and station positions.  
Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 762 and 777; or equivs.

**875\* Spectral Methods in Gravimetric Geodesy G 4**

Spectral analysis theory and techniques in gravimetric geodesy. Covers Fourier, Hankel, Legendre transforms; convolutions, discrete techniques, correlation and psd estimation, and frequency-domain lsc.  
Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 871 or permission of instructor.

**885 Research Principles and Techniques G 2-9**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 60 cr hrs. This course is graded S/U.

**885 Research Principles and Techniques G 2-9**

Prereq: Permission of instructor. Repeatable to a maximum of 60 cr hrs. This course is graded S/U.

**887 Seminar G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**887 Seminar G 1-5**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**888\* Advanced Topics in GPS G 3**

Advanced GPS positioning and ambiguity resolution; GPS for low earth orbiter orbit determination; remote sensing, integration with navigation and imaging sensors (digital cameras, LIDAR).  
Sp Qtr. 2 1-hr cl. Prereq: 608 or 609, 777 and 650, or permission of instructor. An individual project is required. Offered odd numbered years.

**894 Group Studies G 2-9**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 30 cr hrs.

**894 Group Studies G 2-9**

Prereq: Written permission of instructor. Repeatable to a maximum of 30 cr hrs.

**899 Interdepartmental Seminar G 1-5**

Topics to be announced each quarter offered.  
Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**899 Interdepartmental Seminar G 1-5**

Topics to be announced each quarter offered.  
Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**998 Research in Geodetic Science: Thesis G 1-18**

Research for thesis purposes only.  
Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

**998 Research in Geodetic Science: Thesis G 1-18**

Research for thesis purposes only.  
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

**999 Research in Geodetic Science: Dissertation G 1-18**

Research for dissertation purposes only.  
Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Geodetic Science: Dissertation G 1-18**

Research for dissertation purposes only.  
Repeatable. This course is graded S/U.

**Geography**

1036 Derby Hall, 154 North Oval Mall, 292-2514

Antarctic Marine Ecology and Policy  
See EEOB/Int Stds/Nat Res 597.02.

Atmospheric Sciences Seminar  
See Atmos Sc 881.

**120 Earth Systems II: Atmospheric Environment U 5**

Introduction to the characteristics and processes of the Earth's atmosphere and their linkage with other physical systems of the planet and with human activity.  
Su, Au, Wi, Sp Qtrs. 2 1 1/3-hr lec, 1 1 1/2-hr lab. H120 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 220 or 520, or Atmos Sc 230. GEC phys sci course.

**200 World Regional Geography U 5**

An examination of the human and physical geographic structure of all world regions; defined primarily at the continental scale and classified by their level of development.  
Su, Au, Wi, Sp Qtrs. 3 1 1/3-hr cl. H200 (honors) may be available Au Qtr to students enrolled in an honors program or those approved by ASC Honors office. GEC soc sci human, natural, and economic resources course. SS Admis Cond course.

**210 Physical Geography and Environmental Issues U 5**

Introductory physical geography from an environmental perspective, including the interaction of physical and social factors in the causes of and strategies for ameliorating environmental problems.  
Wi, Sp Qtrs. 2 1 1/3-hr lec., 1 1 1/3-hr lab. Not open to students with credit for 120. GEC phys sci course.

**220 Introduction to Physical Geography U 5**

The elements and processes of the natural environment, their characteristics, distribution, and implications in the human habitat.  
5 cl. NS Admis Cond course.

**240 Economic and Social Geography U 5**

Geographic analysis of selected economic and social issues at global, national, and metropolitan scales; locational, spatial interaction, and map analysis of population, urbanization, and development issues.  
Su, Au, Wi, Sp Qtrs. 5 cl. H240 (honors) may be available Wi or Sp Qtr to students enrolled in an honors program or by permission of dept. GEC soc sci human, natural, and economic resources course. SS Admis Cond course.

**280 Map Reading and Interpretation U 5**

An introduction to reading topographic and thematic maps; map interpretation, analysis, and use.  
3 cl, 2 labs.

**294 Group Studies U 3-5**

Students are given the opportunity to pursue special studies not otherwise offered.  
H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Repeatable to a maximum of 10 cr hrs.

**400 Geography of United States and Canada U 5**

Geographical analysis of North America; spatial patterns and processes associated with resources, economic structure, population, urbanization, income, and ethnicity at national, regional, and urban scales.  
Su, Au, Wi, Sp Qtrs. 3 1.5-hr cl. H400 (honors) may be available to students enrolled in an honors program or by permission of instructor. GEC social diversity course.

**401 Geography of Ohio U 3**

An appraisal of geographic factors in the settlement and development of Ohio; an overview of the evolution of the Ohio economy.  
3 cl. Prereq: Either 200, 220, or 240, or equiv.

**H410 Global Climate and Environmental Change U 5**

Examines both natural and social factors that force changes in our climate and environment and explores strategies for a sustainable environment in the future.

Sp Qtr. 2 1.5-hr cl, 1 2-hr cl. Limited to honors or scholars students. GEC soc sci human, natural, and economic resources and phys sci course.

**430 Geographical Perspectives on Environment and Society U 5**

Geographical approaches to environmental change, with emphasis on interaction between society and environment, geographical differences, issues at different scales, and relationships between places.

Au, Sp Qtrs. 2 1.1-hr cl, 1 1.6-hr lab. Prereq: 210. GEC soc sci human, natural, and economic resources course.

**445 The Geography of Transportation Security U 5**

Geographic aspects of transportation security. Spatial analysis of transportation linkages. Relationships between transportation and spatial organization; selected analytical models dealing with threats to transportation security.

2 2-hr cl.

**450 The Making of the Modern World U 5**

The geographies of modernity and their formation: the world market, the global polity, diasporas and constructing difference, colonialism, the transformation of nature, Eurocentricity, post-modernity.

Wi Qtr. 2 2-hr cl. Prereq: Soph standing or above. GEC soc sci organizations and politics and global focus course.

**460 Political Geography U 5**

The global economy, spatial integration, and uneven development; states, spatial fragmentation, and uneven development; and the politics of space of nations, regions, and localities.

Au, Wi, Sp Qtrs. 2 2-hr cl. H460 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci organizations and politics course.

**490 Introduction to Biogeography U 5**

The patterns and processes responsible for the global distribution of Earth's flora and fauna; the inter-relationship between biota and soils; climate and topography will be emphasized.

Au Qtr. 2 2-hr cl.

**505 South America U G 4**

Geographic analysis of South America emphasizing the interrelationships of the resource base, cultural characteristics, and outside influences upon economic development.

3 cl. Prereq: Either 200, 220, or 240, or equiv; or permission of instructor. Not open to students with credit for 505.02.

**510 Geography of Western Europe U G 5**

Geographic factors in the economic, social, and political progress of the nations of Western Europe; major problems of the area in the light of their geographic background.

3 cl. Prereq: Either 200, 220, 240, or equiv; or permission of instructor.

**511 Geography of Eastern Europe U G 5**

Resources, their assessment, and development, and related problems in Eastern Europe; the geographic significance of each state to the Communist bloc and to the West.

2 2-hr cl.

**512 Geography of the Former Soviet Union U G 5**

A survey of the human geography of the area defined by the successor states to the Soviet Union with an emphasis on ongoing transformations.

Au Qtr. 2 2-hr cl.

**513 South Asia: Ecology, Economy, Polity U 5**

Survey of the region of South Asia (India, Pakistan, Afghanistan, Bangladesh, Sri Lanka) in terms of environment, society, and politics.

**520 Climatology U G 5**

The elements and the controls of climate; types of climate and their distribution; climates and their effects on the economic and other activities of humans.

Au, Wi Qtrs. 5 cl. Not open to students with credit for Atmos Sc 230.

**580 Elements of Cartography U G 5**

A study of the cartographic techniques of map compilation and presentation including generalization, symbolization, reproduction, and simple computer mapping with an emphasis on thematic mapping.

Au, Sp Qtrs. 2 cl, 2 2-hr labs.

**597 Issues of the Contemporary World**

Prereq: Jr or sr standing. GEC contemporary world courses.

**597.01 World Urbanization U 5**

An examination of geographic aspects of the urbanization process in the world's major regions; interrelationships between urbanization and economic development.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for 450 or

597.

**597.02 Integrated Earth Systems: Confronting Global Change U 5**

Introduction to numerous global change issues through the exploration of the integrated Earth system; problem-solving strategies within an interdisciplinary team environment.

Wi Qtr. 2 1.5-hr cl, 1 1.5-hr lab.

**605 Special Problems in the Geography of Latin America U G 5**

The analysis of selected topical problems in Latin American geography; typical problem areas are urbanization, industrialization, transportation, agricultural development, and regional development.

Wi Qtr. 2 2-hr cl. Repeatable to a maximum of 10 or hrs.

**607 Fundamentals of Geographic Information Systems U G 5**

Basic principles of geographic and land information systems and their use in spatial analysis and information management.

Au Qtr. 3 cl, lab arr. Prereq: Geog major or permission of instructor. Not open to students with credit for 685; or 607 in C&R Plan, Civil En, Geod Sci, Geol Sci, or Nat Res. Cross-listed in City and Regional Planning, Civil Engineering, Geodetic Science, Geological Sciences, and Natural Resources.

**608 South Africa: Society and Space U G 5**

South Africa's racialized geographies, patterns of urbanization and uneven development, and the role of social struggle in their production.

2 2-hr cl.

**620 Synoptic Meteorology Laboratory U G 3**

Introduction to reading and interpretation of synoptic weather maps and diagrams- and data-communications systems.

Au Qtr. 2 cl, 1 lab hr. Prereq or concur: 520 or Atmos Sc 230. Not open to students with credit for Atmos Sc 620. Cross-listed in Atmospheric Sciences.

**622 Microclimatology****622.01 Boundary Layer Climatology U G 5**

Theory of exchanges of energy and mass at the Earth-atmosphere interface as it relates to microclimates with particular emphasis upon radiation and climate.

Wi Qtr. 5 cl. Prereq: 520 or Atmos Sc 230 or permission of instructor, and Physics 132.

**622.02\*\* Microclimatological Measurements U G 5**

Practical experience in the fabrication of instruments, deployment of measurement systems in the field, and recording of data related to microclimates.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 622.01.

**623 Synoptic Meteorology**

The theory and practice of weather forecasting.

**623.01 Synoptic Analysis and Forecasting U G 5**

Theory and practice in synoptic weather analysis and forecasting.

Wi Qtr. 5 cl. Prereq: 520 or Atmos Sc 230 or Physics 503, and Atmos Sc 620 or Geog 620; and prereq or concur: Physics 132. Not open to students with credit for 623.

**623.02 Severe Storm Forecasting by Radar and Satellite U G 5**

The theory and application of radar and satellite imagery in weather forecasting; emphasis on severe thunderstorms, tornadoes, and hurricanes; analysis of their evolution and structure.

Sp Qtr. 2 2-hr cl. Prereq: 623 or 623.01.

**630 Conservation of Natural Resources U G 5**

Philosophy of resource use; appraisal of resource base; costs of resource development and conservation; resource perception, utilization, and alternatives.

2 1.5-hr cl.

**635 Globalization and Environment U G 5**

Transnational dimensions of changes to the natural environment; ways that global economic activity, international institutions, and global environmentalism contribute to environmental problems and solutions.

Wi Qtr. 2 2-hr cl.

**640 Economies, Space and Society U G 5**

A substantive and theoretical introduction to topics in economic geography.

Au Qtr. 2 2-hr cl.

**642 Geography of Development U G 5**

Spatial aspects of economic development; spatial analysis of traditional economics, industrial regions, transport linkages, and migration patterns in developing countries.

3 cl.

**643 Geographies of Governmentalities U G 5**

Governance and society from a geographic perspective using Foucault's governmentality framework.

Sp Qtr. 2 2-hr cl. GEC soc sci organizations and politics course.

**645 Geography of Transportation U G 5**

Relation between transportation and spatial organization; selected analytical models dealing with traffic demand, network configuration, and allocation of transport facilities; application to selected problems.

Au Qtr. 3 cl.

**647 Locational Analysis U G 5**

Historical review of major location theories and evaluation of application of such theories to geographic problems.

3 cl.

**650 Urban Geography U G 5**

Origin and growth of cities; structure and function of urban centers, their areal expansion, and intertrade center relations, each examined in relation to city planning.

Sp Qtr. 3 cl.

**652 Cities, Cultures, and the Political Geography of Difference U G 5**

Geographies of meaning and difference in cities: meanings of the built environment, situated cultural politics, geographies of race, gender, and sexual identities, multicultural cities.

Sp Qtr. 2 2-hr cl.

**655 Theory and Methods of Regional Analysis U G 5**

Issues addressed focus on regional economic systems, and include regional definition and identification, measurement and classification, quantification in regional analysis, regional economic data and modeling.

2 2-hr cl. Prereq: 240 or permission of instructor.

**660 Urban Political Geography U G 5**

The changing politics of space in cities: class, neighborhood, and workplace in the industrial and the post-industrial city.

2 2-hr cl. Prereq: 460.

**670 Population Geography U G 5**

Analysis of population distributions, locational arrangements of growth, densities, and migration flows; spatial relationships between population variables and social, economic, and environmental factors.

3 cl. Prereq: 240.

**680 Numerical Cartography U G 5**

An examination of the theory and methods of machine-oriented numerical cartography.

Wi Qtr. 2 2-hr cl. Prereq: 580 and Math 150; or equivs.

**682 Individual Studies in Cartography U G 3-5**

Individual study of cartographic subjects; map compilation, cartographic classification, regionalization, and multi-dimensional representation, computer mapping and real-time computer cartographics.

Conf and lab. Prereq: Permission of instructor. This course is graded S/U.

**683 Introduction to Geographic Analysis U G 5**

An introduction to data analysis in geography; fundamental methods used in quantitative geographic research.

Au Qtr. 2 2-hr cl, 1 1.5-hr lab. Prereq: Stat 145 or 245, or equiv; or grad standing in geog.

**685 Intermediate Geographic Information Systems U G 5**

Designed to provide a background in GIS-based spatial analysis approaches and develop an understanding of the operational basis of modern GIS technology.

Wi Qtr. 2 2-hr cl, 1 3-hr lab. Prereq: 607, or 607 in one of the following depts: C&R Plan, Civil En, Geod Sci, or Nat Res; or permission of instructor.

**686 GIS in Social Science and Business Research U G 5**

Application of GIS technology to the analysis of small area statistical data is illustrated through laboratory exploration of social science and business research problems.

Sp Qtr. 2 1.5-hr cl, 1 3-hr lab. Prereq: One course at the 300 level or above in human geography, marketing, or planning; prereq or concur: 685; or permission of instructor.

**687 Design and Implementation of Geographic Information U G 5**

Introduction to the design of geographic information systems (GIS), institutional context of geographic information systems; design; role of data base design; and evaluation of GIS.

Sp Qtr. 2 2-hr cl. Prereq: 685 or Nat Res 745 or permission of instructor.

**689 Student Intern Program in Geography U 3-10**

An opportunity for work experience and on-the-job learning in geography-related employment.

Su, Au, Wi, Sp Qtrs. Prereq: 20 hours of major program courses and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**693 Individual Studies U G 1-15**

Individual study of a special problem or of a particular region.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

**694 Group Studies U G 3-5**

Group study of special topics in various fields of geography.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**695 Undergraduate Seminar in Applied Geography U 5**

The practical application of theoretical geographical concepts to problems in the local area.

2 2-hr cl. Prereq: 20 cr hrs in geog.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Student will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**740 Advanced Locational Analysis U G 5**

Advanced problems in location analysis, application of programming techniques and spatial equilibrium analysis.

3 cl. Prereq: 647 or permission of instructor.

**780 Analytical Cartography U G 5**

An examination of the theory and methods of analytical cartography.

Sp Qtr. 2 2-hr cl, 2-hr lab. Prereq: 680, 795 or equiv, and Math 152 or equiv; or prereq or concur: Geod Sci 631.

**782 Interactive Cartographic Systems U G 5**

An examination of the theory and methods of developing, building, and implementing interactive cartographic systems.

Au Qtr. 2 2-hr cl. Prereq: 780.

**H783 Honors Research U 3-5**

A program of individual study arranged for students enrolled in the honors program with individual conferences and reports; requires presentation and oral defense of an honors thesis.

Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the geog courses taken and an average of at least B in the remainder; written permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 2 qtrs are required of candidates for the degree BA with distinction in geog. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**787 Advanced Applications in Geographic Information Systems U G 5**

Examination of selected problems relating to the application of geographic information system technology to various topical areas; the topic varies each time course is offered, and topics may include climatology, urban geography, and biogeography.

2 3-hr cl. Prereq: 685 and 687, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**789 Survey Research Practicum G 5**

Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.

1 3-hr cl. Prereq: Admission to grad interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 789 in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, Sociol, or Stat. Cross-listed in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, Sociol, and Stat.

**795 Seminar in Geography U G 5**

Introduction to research procedures, problem formulation, and application of research techniques in geography.

2 2-hr cl. Repeatable to a maximum of 20 cr hrs.

**800 Seminars in Regional Geography**

The development of theory in regional development and its application to selected problems.

**800.01 Theory of Regional Development G 3-5**

Repeatable to a maximum of 20 cr hrs.

**800.02 Problems in Regional Development G 3-5**

Repeatable to a maximum of 20 cr hrs.

**820 Seminars in Physical Geography**

**820.01 Problems in Climatology G 3-5**

Repeatable to a maximum of 20 cr hrs.

**820.03 Special Problems G 3-5**

Repeatable to a maximum of 20 cr hrs.

**821 Dynamic Climatology G 5**

Dynamics, thermodynamics, energy conservation, flows, conversion processes; large scale circulation patterns with particular emphasis upon turbulence at the synoptic scale; weather processes; regional climates.

2 2-hr cl. Prereq: 622.01 or permission of instructor.

**822 Microclimatology G 5**

Radiation and turbulence processes, conduction; variation in wind, temperature, humidity, soil moisture, evaporation, soil temperature; influence of vegetation and artificial structures.

2 2-hr cl. Prereq: 620 or 622.01 or permission of instructor.

**823 Applied Climatology G 5**

Analysis of climatic and environmental change on various time scales; human impact on climate; theory and application of long-range and climate forecasting.

2 2-hr cl. Prereq: 623.01 or permission of instructor.

**840 Seminars in Location Analysis**

The development of theory in location analysis and its application to selected problems.

**840.01 Location Theory G 3-5**

Repeatable to a maximum of 20 cr hrs.

**840.02 Problems G 3-5**

Repeatable to a maximum of 20 cr hrs.

**840.03 Approaches and Issues in Economic Geography G 3-5**

Current issues and problems in economic geography.

2 2-hr cl. Repeatable to a maximum of 20 cr hrs.

**845 Theory of Transportation Geography G 3-5**

The development of theory in transportation geography.

Not open to students with credit for 845.01. Repeatable to a maximum of 30 cr hrs.

**850 Seminars in Urban Geography**

The development of theory in urban geography and its application to selected problems.

**850.01 Spatial Organization of the City G 3-5**

Intra-urban analysis, density and land value gradients, residential differentiation, neighborhood and community, and the urban development process.

Repeatable to a maximum of 10 cr hrs.

**850.02 Urban Systems Analysis G 3-5**

Inter-urban analysis; theory of the evolution of urban systems, structural characteristics of sets of cities, recent processes of change, notably deconcentration.

Repeatable to a maximum of 10 cr hrs.

**850.03 Third World Urbanization G 3-5**

Examination of role of cities in development processes and their characteristics, historical evolution, related policies, and other aspects such as migration, innovation diffusion, and labor markets.

Repeatable to a maximum of 10 cr hrs.

**860 Seminars in Political Geography**

The development of theory in political geography and its application to selected problems.

Prereq: 660 or permission of instructor.

**860.01 Theory of Political Geography G 3-5**

Repeatable to a maximum of 30 cr hrs.

**860.02 Problems in Political Geography G 3-5**

Repeatable to a maximum of 30 cr hrs.

**870 Seminars in Population and Social Geography**

The development of theory in population and social geography and its application to selected problems.

**870.01 Theory of Population and Social Geography G 3-5**

Repeatable to a maximum of 30 cr hrs.

**870.02 Problems in Population and Social Geography G 3-5**

Repeatable to a maximum of 30 cr hrs.

**880 Seminars in Cartography G 3-5**

Readings and research in cartography.

Prereq: 780 or written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**882 Development of Geographic Thought G 5**

The evolution of concepts concerning the nature, scope, and methodology of geography; present focus and trends as reflected in current literature.

2 2-hr cl.

**883 Application of Quantitative Methods in Geography**

Application of quantitative methods to geographic problems; spatial statistics, area sampling, maps of residuals, regionalization methods, and simulation maps.

2 cl, 2 lab hrs. Prereq: Course in introductory statistics and permission of instructor. Decimal subdivisions to be taken in sequence.

**883.01 Applications I G 5**

Wi Qtr.

**883.02 Applications II G 5**

Sp Qtr.

**889 Seminars in Geography G 1**

Topics to be announced each quarter.

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**896 Interdepartmental Seminar in Polar and Alpine Studies G 1-3**

A seminar on selected topics involving anthropology, biology, climatology, exploration, geology, glaciology, microbiology, and soils.

1 3-hr cl. Prereq: Permission of instructor. Given cooperatively by the Byrd Polar Research Center, the College of Biological Sciences, and the departments of Geography, Geological Sciences, and Plant Biology.

**899 Interdepartmental Seminars G 1-5**

Two or more departments may collaborate in presenting seminars on subjects of mutual interests; topics to be announced each quarter.

**983 Special Topics in Quantitative Geography G 5**

Applications of advanced mathematical and statistical models to problems in geographical analysis.

1 3-hr cl. Prereq: 883.01 and 883.02. Repeatable to a maximum of 15 cr hrs.

**999 Research in Geography: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## German

498 Hagerty Hall, 1775 College Road, 292-6985

**Placement and Proficiency Examinations**

In order to insure proper registration, placement tests are required of all students who continue their study of German in the dept after beginning their language in high school. Such tests are given during Summer Orientation and daily Monday-Friday each quarter. Consult the College of Humanities section of the Colleges of the Arts and Sciences Bulletin or the dept. Students who are given advanced standing in the dept as a result of the placement and proficiency examination become eligible for University credit.

**Excess Entrance Credits in German**

Freshmen who have excess credits in a foreign language are eligible for examination for advanced standing. The examination is given at the same time as the placement tests mentioned above.

Students studying foreign languages at the elementary and intermediate levels typically take the sequence of courses numbered 101-102-103-104 (including the decimal subdivisions such as 101.51, etc.) and then move on to advanced courses. Students who need to satisfy the Arts and Sciences foreign language requirement must demonstrate competence through the 104 level.

**General Prerequisites for Courses Numbered 600**

Unless otherwise indicated, the prerequisites for all 600-level courses taught in German are: 201, 301, 401. Exceptions may be allowed by instructors for students with special qualifications.

**General Prerequisites for Courses Numbered 700**

Prerequisites for 700-level courses are grad standing, or 10 cr hrs in German at the 400-level or above.

**General Prerequisites for Courses Numbered 800**

Prerequisites for 800-level courses are graduate standing and permission of chairperson.

**101 Elementary German I**

Development of aural comprehension, speaking, reading, and writing skills in cultural context.

Su, Au, Wi, Sp Qtrs. Open to students with no prior instruction in German and to those with a maximum of one year of high school German and a placement test score from 0-12.1. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

5 cl. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**101.51 Individualized Track U 1-5**

Students register for and complete from 1 to 5 cr hrs during the qtr. Repeatable to a maximum of 5 cr hrs. Students who complete 5 hrs before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**102 Elementary German II**

Development of aural comprehension, speaking, reading, and writing skills in cultural context.

Su, Au, Wi, Sp Qtrs. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

5 cl. Prereq: 101.01 or 5 cr hrs in 101.51. Also open to students with a maximum of two years of high school German and a placement test score from 12.2-20.5. This course is available for EM credit.

**102.51 Individualized Track U 1-5**

Students register for and complete from 1 to 5 cr hrs during the qtr. Prereq: 100.02, or grade of B- or above in 101.01, or 5 cr hrs in 101.51, or permission of instructor. Also open to students with a maximum of two years of high school German and a placement test score from 12.2-20.5. Repeatable to a maximum of 5 cr hrs. Students may register for 101.51 and 102.51 concurrently with permission of instructor. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**102.66 Intensive German for Review I U 5**

Review of basic structures, vocabulary, and skills needed for entry into German 103.01.

Only open to students with 2 or more years of high school German and placement test score of 0-12.1. Not open to native speakers of German through regular enrollment or EM credit. Not open to students with credit for 101.01, 101.51, 102.01, 102.51.

**103 Intermediate German I**

Reading; oral and written practice; grammar review; students may select from among the following subdivisions which emphasize specific skills and subject matter.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 102.01, or 5 cr hrs in 102.51, 102.66 or equiv. Not open to native speakers of this language through regular course enrollment or EM credit. (Not all decimal subdivisions offered every qtr.) GEC for lang courses.

**103.01 Basic U 5**

Balanced use of the basic language skills: reading, aural comprehension, speaking, and writing.

5 cl. This course is available for EM credit.

**103.51 Individualized Track U 1-5**

Prereq: 102.01, or 5 cr hrs in 102.51, or 110, or equiv. Not open to students with credit for any decimal subdivision of 103. Repeatable to a maximum of 5 cr hrs. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement.

**103.66 Intensive German for Review II U 5**

Intensive review of basic structures, vocabulary and skills needed for entry into German 104.

Open only to students with 101.01 or 5 cr hrs of 101.51, or 3 or more yrs of high school German and placement test score of 12.2-20.5. Not open to students with credit for German 102.01, 102.51, 103.01, 103.51. Not open to native speakers of German through regular enrollment or EM credit. Students who test into 103.66 during Sp Qtr may audit 102.01.

**104 Intermediate German II**

Reading; oral and written practice; vocabulary building; students may select from among the following subdivisions which emphasize specific skills and subject matter.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 103 or 112. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**104.01 Basic U 5**

Balanced use of the basic language skills: reading, aural comprehension, speaking, and writing.

5 cl. H104.01 (honors) may be available to students in an honors program or by permission of instructor. Prereq for 104.01: Any decimal subdivision of 103, or 112, or by placement test. This course is available for EM credit.

**104.51 Individualized Track U 1-5**

Arr. Prereq: 103.01 or 5 cr hrs in 103.51. Not open to students with credit for any decimal subdivision of 104. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from 1 cr hr to the next with proficiency at the level of 80% required for advancement.

**112 Intensive German U 5,10,15**

Elementary and intermediate German for students desiring comprehensive knowledge of German in the shortest possible time; students will devote their entire time to this course.

Su Qtr. Prereq: Permission of dept. Not open to native speakers of this language through regular course enrollment or EM credit. Students with credit for 103 or equiv may not register for credit. Enrollment limited to 20 students. Full-time fees required regardless of number of cr hrs. Equiv of 101, 102, and 103. Students may not register for any other course if they enroll in 112. Students with credit for 101 and 102 will enroll for 5 cr hrs. Students with credit for 101 only will

enroll for 10 cr hrs. Students with no credit in German will enroll for 15 cr hrs. Regardless of cr hrs enrolled a student will attend class throughout entire qtr. Withdrawal from the course means forfeiture of all cr hrs. No audit. GEC for lang course. FL Admis Cond course.

**115 Intermediate German U 10**

Intensive 10-week summer course taught in Dresden, Germany, combining the skill development in 103 and 104 with the cultural experience of living abroad.

Su Qtr. 5 3-hr cl. Prereq: 102 or 102.51. GEC for lang course.

**201 Intermediate German III: Texts and Contexts from 1945 to the Present U 5**

Development of reading, writing, listening, speaking skills through interaction with cultural and historical materials; trends/ideas in politics, society, culture of postwar and contemporary periods.

Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: 104 or equiv. Not open to native speakers of this language through regular course enrollment or EM credit. No audit.

**202\*\* Business German I U 5**

Development of business-related cultural knowledge and communication skills in German; introduction to the world of German business through audio, video, print materials; four-skills course.

Wi Qtr. 3 1.5-hr cl. Prereq: 201 or equiv, or permission of instructor. No audit.

**203\*\* Intermediate German Conversation U 3**

Practice in spoken everyday idiomatic German, based on texts concerning German life today.

Prereq: 104 or permission of instructor.

**230 Introduction to German Prose U 5**

Reading and discussion of German literary texts representing significant prose forms, authors, and periods including fairytale, fable, diary, short story, novella, essay, and novel.

Prereq: 201 or equiv or permission of instructor.

**231 Introduction to German Poetry U 5**

Reading and discussion of selected German poetry, introducing major German poets and poetic forms; these include the folksong, ballad, sonnet, and religious and political poetry.

Prereq: 201 or equiv or permission of instructor.

**232 Introduction to German Drama U 5**

Reading and discussion of German dramatic texts, representing influential forms, authors, and traditions: folk comedy, classical tragedy, the tragi-comedy, the radio play, and documentary theatre.

Prereq: 201 or equiv or permission of instructor.

**250 German Literature and Popular Culture U 5**

Study of popular culture forms in relation to the artistic, intellectual, historic, and literary traditions of the German-speaking world.

Au, Wi, Sp Qtrs. 2 2-hr cl. Repeatable to a maximum of 15 cr hrs. Taught in English; GEC arts and hums lit course.

**261 German Classics in Translation U 3**

Social and intellectual forces in Germany as reflected in German literature from the Enlightenment to the middle of the 19th century; masterpieces from Goethe to Gottfried Keller.

3 cl. Credit does not apply toward a major in German. Taught in English.

**262 Modern German Literature in Translation U 3**

Intellectual forces and literary trends in German literature from the end of the 19th century to the present; masterpieces from Gerhart Hauptmann to Bertolt Brecht.

3 cl. Credit does not apply toward a major in German. Taught in English.

**H263 The Faust Theme U 5**

Major versions of the Faust story, their socio-cultural context, and their symbolic expression of recurring human concerns.

2 2.5-hr cl. Prereq: English 110 or 111 or equiv. Taught in English. GEC arts and hums lit course.

**275 Development of Contemporary Germany: Dresden Yesterday and Today U 5**

Introduction to German life and culture, past and present, including the new federal states; taught within summer study abroad program with students experiencing German culture first hand.

Su Qtr. 2 2.5-hr cl. Prereq: 102 and concur 115. GEC arts and hums cultures and ideas course.

**291 Early German Literature in Cultural Context U 5**

Origins and highlights of German culture and life as reflected in literary and poetic works, Germanic mythology, religion, and the arts.

Taught in English. Supplemented by audio-visual aids. GEC arts and hums lit course.

**292 Modern German Literature in Cultural Context U 5**

Two hundred years of German literature, arts, philosophy, and social thought, as they reflect cultural and social life in German-speaking countries.

Taught in English. Supplemented by audio-visual aids. GEC arts and hums lit course.

**293 Individual Studies U 2-5**

Individual investigation of minor problems in German language and literature.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of chairperson. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**294 Group Studies U 2-5**

Investigation of minor problems in German literature and language.

Au, Wi, Sp Qtrs. Prereq: Written permission of chairperson. Repeatable to a maximum of 10 cr hrs.

**298 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**298.01 Domestic U 1-15**

Repeatable.

**298.02 Foreign U 1-15**

Repeatable.

**299 Weimar and the Third Reich in German Literature and Film U 5**

Culture of the Weimar Republic and Nazi Germany in literature, film, the other arts; the roots of fascism and its echoes in postwar Germany.

2 2-hr cl. Taught in English. GEC arts and hums cultures and ideas course.

**301 Advanced German I: Texts and Contexts from 1848 to 1945 U 5**

Practice of advanced language skills and development of cultural and historical knowledge through interaction with various materials trends/ideas in politics, society, culture.

Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: 201 or equiv or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit.

**302\* Business German II U 5**

Continued development of cultural knowledge and communication skills in German; study of business trends, traditions, and structures through audio, video, print texts; four-skills course.

Sp Qtr. 3 1.5-hr cl. Prereq: 202 or equiv or permission of instructor.

**303 The Practice of Translation U 3**

German-English and English-German translation; texts from diverse areas; emphasis on improvement of German grammar, syntax, idiom, and style; discussion of common translation techniques.

3 cl. Prereq: 201 or equiv or permission of instructor.

**367 German Literature and American Culture U 5**

German perspectives on and in 20th-century American culture. Influence of German thought and writings on American culture; German views of American culture.

Au Qtr. 2 2-hr cl. Prereq: English 110 or 110.01 or 110.02 or 110.03. Taught in English. GEC second writing course.

**399 The Holocaust in Literature and Film U 5**

Reading, analysis, and discussion of representative works pertaining to the Holocaust from the perspectives of the German and Ashkenazic traditions.

2 2-hr cl. Not open to students with credit for Yiddish 399. Cross-listed in Yiddish. Taught in English. GEC arts and hums lit course.

**401 Advanced German II: Texts and Contexts to 1848 U 5**

Continued practice of advanced language skills particularly pertaining to written texts and formal speech; broadening of cultural and historical knowledge from the Middle Ages to 1848 through interaction with various materials.

Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: 301 or equiv or permission of instructor. Not open to students with credit for 410.

**409\* Advanced German Conversation U 3**

Practice in spoken German on topics of general interest and current events.

3 cl. Prereq: 301 or equiv or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit.

**420 Studies in German Literature I (750-1700) U 5**

Development of German literature in its historical, social, and philosophical context from earliest times to the Age of Enlightenment.

3 1.5-hr cl. Prereq: 201 or equiv, and one German literature course; or permission of instructor. Taught in German.

**421 Studies in German Literature II (1700-1870) U 5**

Development of German literature in its historical, social, and philosophical

context from the Age of Enlightenment to German unification.

3 1.5-hr cl. Prereq: 201 or equiv, and one German literature course; or permission of instructor. Taught in German.

**422 Studies in German Literature III (1870-Present) U 5**

Development of German literature in its historical, social, and philosophical context from 1870 to the present.

3 1.5-hr cl. Prereq: 201 or equiv, and one German literature course; or permission of instructor. Taught in German.

**463 German Culture of the 19th and 20th Centuries U 5**

Intellectual, artistic, and social trends in the German-speaking countries from 1815 to the present.

3 1.5-hr cl. Prereq: 10 cr hrs beyond 104 of courses taught in German or permission of instructor. Taught in German.

**530 German Language Past and Present U G 5**

Understanding the German language in its historical development and its contemporary manifestations.

Prereq: 401 or equiv. Not open to students with credit for 705.

**540 Literature and Life in German-Speaking Countries U G 3**

Discussion of significant literary and cultural developments reflecting aspects of life in German-speaking countries: Austria, Switzerland, and Germany; topic varies.

3 cl. Prereq: 201, 301, and one German literature course; or permission of instructor. Repeatable to a maximum of 9 cr hrs. GEC third writing course. Taught in German.

**550 Current Events in German-Speaking Countries U G 5**

Studies and intensive discussion of current cultural and social issues in the German-speaking world; newspaper readings, internet material, guest lectures, films, music and student presentations; topic varies.

2 2-hr cl. Prereq: 401 or equiv or permission of instructor. Repeatable to a maximum of 10 cr hrs. Taught in German.

**571 Basic German for Graduate Students G 5**

The fundamentals of German grammar, as required for the reading of German texts in the sciences, social sciences, and humanities.

Su, Au Qtrs. 5 cl. Prereq: Grad standing. No audit. Credit does not apply to the minimum hours required for the master's or doctoral degrees.

**572 German for Research I G 3**

Satisfactory completion of this course (grade of A or B) may be accepted by the student's dept as evidence of a dictionary reading knowledge in fulfillment of PhD language requirement.

Au, Wi Qtrs. 3 cl. Prereq: Grade of C or above in 571 or equiv preparation demonstrated by a placement test. Open only to grad students. No audit. Repeatable to a maximum of 6 cr hrs. Credit does not apply to the minimum hours required for the master's or doctoral degrees.

**573 German for Research II G 3**

Reading of difficult material at a reasonable rate of speed and with only infrequent use of dictionaries. Completion of this course with a grade of A or B may be accepted by the student's dept as evidence of a thorough reading knowledge of German.

Au, Wi Qtrs. 3 cl. Prereq: Grade of A or B in 572, or equiv preparation demonstrated by a placement test and permission of instructor. Open only to grad students. No audit. Repeatable to a maximum of 6 cr hrs. Credit does not apply to the minimum hours required for the master's or doctoral degrees.

**630 Introduction to Stylistics U G 5**

Composition on assigned topics, intensive translation, and comparative study of usage designed to develop a sophisticated expository style in the writing of German.

2 2-hr cl. Prereq: 401, or 301 and written permission of instructor.

**635\* Practical German Pronunciation U G 5**

Standard German pronunciation; oral and written drill.

2 2-cl. Prereq: 401 or 301 and permission of instructor.

**640 Topics in German Literature and Culture U G 5**

Intensive study and discussion of selected important issues, themes, trends, or individual authors; topic varies.

3 cl. Prereq: 201, 301, and one 400-level German literature course, or permission of instructor. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in 560. Taught in German.

**H670 Cinema and the Historical Avant Garde U 5**

Historicizes cinema's political and artistic roots, concentrating on the perceived and real possibilities of the medium. Fosters critical awareness of "film culture" historically and currently.

Prereq: German course at the 300 level or above and honors standing. Not open to students with credit for Film Std H670. Cross-listed in Film Studies. Taught in English.

**671 German Cinema to 1945 U G 5**

Development of film from the late nineteenth century to the end of WWII; fundamental elements of film and film analysis, film as an art form, and other aspects of film.

2 3-hr cl. Prereq: Jr standing or above or permission of instructor.

**672 German Cinema from 1945 to the Present U G 5**

Development of film in Germany from 1945 to period after reunification; fundamental elements of film and film analysis; developments in German film in light of cultural and historical frameworks.

2 3-hr cl. Prereq: Jr standing or above or permission of instructor.

**693 Individual Studies U G 2-5**

Investigation of problems in various fields of Germanic studies.

Su, Au, Wi, Sp Qtrs. Prereq: Signature of undergraduate adviser or Graduate Studies Committee chair as applicable. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-15**

Investigation of minor problems in the various fields of German literature and philology.

Au, Wi, Sp Qtrs. Prereq: Permission of chairperson. Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**702 Introduction to the Methods and Tools of Literary Analysis U G 5**

Introduction to standard bibliographical aids, the MLA style for seminar and research papers, and the fundamental aspects of poetics, rhetoric, editorial principles, and stylistic analysis.

2 cl. Prereq: Grad standing or permission of instructor.

**703 Introduction to Contemporary Critical Approaches to Literature U G 5**

Primary current methodological and theoretical approaches to German literary study and brief consideration of their history: positivism, hermeneutics, formalism, Marxism, structuralism, post-structuralism.

2 cl. Prereq: Grad standing or permission of instructor.

**705 Structure and Description of Modern Standard German U G 5**

Phonological, morphological, and syntactic systems of modern German; lexical changes, non-standard varieties of the language.

2 cl. Prereq: Grad standing or permission of instructor. Taught in German.

**706 Forms of Contemporary German Usage U G 5**

Analytical and practical study of the ways in which German is written and spoken today (colloquial speech, business and scholarly German, etc.); emphasis on oral and written practice.

2 cl. Prereq: Grad standing or permission of instructor or 401. Taught in German.

**740 Development of German Narrative Prose U G 5**

The novel, Novelle, short story, and other forms of German prose: historical overview, theory, and selected primary texts as illustration.

2 cl. Prereq: Grad standing or permission of instructor.

**741 Development of German Drama U G 5**

History and theory of the drama in Germany; methods of drama analysis; interrelationship of drama, theatre, and audience; study of selected texts.

2 cl. Prereq: Grad standing or permission of instructor.

**742 Development of German Poetry U G 5**

Elements of German poetry; close study of representative poets and poems since the Baroque.

2 cl. Prereq: Grad standing or permission of instructor.

**750\* Periods of German Literary History: 800-1400 U G 5**

Study of major works chosen to present prominent themes and problems and/or important developments within the period; topic varies.

2 cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**751 Periods of German Literary History: 1400-1700 U G 5**

Study of major works chosen to present prominent themes and problems and/or important developments within the period; topic varies.

2 cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**752 Periods of German Literary History: 1700-1850 U G 5**

Study of major works chosen to present prominent themes and problems and/or

important developments within the period; topic varies.

2 cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**753 Periods of German Literary History: 1850-Present U G 5**

Study of major works chosen to present prominent themes and problems within the period; topic varies.

2 cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**777 Colloquium in German Literature U G 2-5**

Selected topics, problems, and works in the various fields of German literature.

Arr. Prereq: Permission of chairperson. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**H783 Honors Research U 3-5**

Offers undergraduates with special aptitudes a greater opportunity for independent study than is possible in ordinary courses.

Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a grade of A in at least half of the German courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**790 Foundations of Contemporary Critical Theory U G 5**

Interdisciplinary survey of the theoretical bases of the major contemporary approaches to the study of literature; readings in Marx, Freud, Derrida, Cixous, and others.

2 2-hr cl. Prereq: Jr or sr or grad standing.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs.

**801 Middle High German G 5**

Intensive introduction to Middle High German; comprehension and application of grammatical principles; selected texts for linguistic analysis.

2 cl.

**806 History of the German Language G 5**

Basic concepts of historical linguistics; the major factors of change in the history of German from Proto-Germanic to the present.

2 cl. Prereq: 801.

**810 German Literary Criticism and Theory G 5**

Historical overview and evaluation of critical methods; introduction to contemporary literary theories; the use-value of literary criticism.

2 cl.

**840 College Teaching of German G 5**

Methods and techniques for teaching German at the college level.

2 cl. Prereq: Permission of instructor. Intended for grad students in German.

**850 German Proseminar G 5**

Selected topics in German literature, language, and culture; seminar discussion format with oral and written reports.

Repeatable to a maximum of 20 cr hrs.

**890 Interdepartmental Studies in Critical Theory G 5**

Interdisciplinary study of a movement (phenomenology, deconstruction, etc.) or problem (intentionality, evaluation, etc.) in literary theory.

22-hr or 4 cl. Prereq: Background in critical theory recommended. Repeatable to a maximum of 10 cr hrs. Cross-listed in Comparative Studies, English, French, Spanish, and Women's Studies.

**893 Individual Studies G 2-5**

Investigation of specific issues in German literature, culture, linguistics, and philosophy.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of chair of Graduate Studies Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Prereq: Permission of instructor(s). Repeatable to a maximum of 15 cr hrs.

**903 Graduate Student Teaching Apprenticeship G 5**

Opportunity for advanced graduate students to plan and teach in conjunction with faculty member a course at 200 or higher level.

Au, Wi, Sp Qtrs. Prereq: A minimum of one year experience as GTA. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**960 Seminar in Modern German Literature: G 5**

Topics vary in focus and methodology; emphasis may range from individual authors, works, or themes to theoretical or interdisciplinary issues; major research papers.

1 3-hr cl. Repeatable to a maximum of 45 cr hrs.

**970 Seminar in Older German Literature to 1700 G 5**

Topics vary in focus and methodology; emphasis may range from individual authors, works, or themes to theoretical or interdisciplinary issues.

3 cl. Repeatable to a maximum of 45 cr hrs.

**980 Seminar in Germanic Philology G 5**

Topics from historical and comparative studies of older Germanic dialects; structure of New High German and contemporary German.

3 cl. Repeatable to a maximum of 45 cr hrs.

**993 Individual Studies G 1-5**

With the approval of the Graduate Studies Committee chair, doctoral students preparing for the candidacy exam may register for independent study.

Su, Au, Wi, Sp Qtrs. Prereq: Signature of Graduate Studies Committee chair. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

**998 Research in German: Thesis G 1-18**

Research for master's thesis.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**999 Research in German: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Graduate School**

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**501 Graduate Study and Academic Careers U 1-5**

Exploration of graduate study and academic careers.

Su Qtr. 1 4-hr cl. Open only to SROP students. This course is graded S/U.

**594 Group Studies U 1-5**

Su Qtr. Arr. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**701 Preparing Future Faculty G 1-3**

Mentorship and professional development activities in conjunction with partner institutions.

Su, Su Term 1, Su Term 2, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Students must successfully complete application process and be admitted. Mentor matches are contingent upon availability. Repeatable to a maximum of 3 cr hrs. Students will make 2-4 visits to partner institution to meet with assigned mentor. In addition, are required to participate in 3 on-campus workshops and 2 meetings. This course is graded S/U.

**999 Research: Interdisciplinary G 1-18**

Interdisciplinary doctoral dissertation research approved by the Graduate School for one-of-a-kind programs.

Repeatable. This course is graded S/U.

**Greek**

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See also Classics and Modern Greek.

General Prerequisites for Courses Numbered 800 and Above

Prerequisites for admission to courses numbered 800 and above are graduate standing and permission of the chairperson.

**101 Elementary Ancient Greek I U 5**

Introduction to the language of the ancient Greek authors and the New Testament.

Au Qtr. 5 cl. Not open to students with 3 or more years of study in this language in high school, except by permission of dept. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**102 Elementary Ancient Greek II U 5**

Wi Qtr. 5 cl. Prereq: 101. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**103 Intermediate Ancient Greek I U 5**

Sp Qtr. 5 cl. Prereq: 102. This course is available for EM credit. GEC for lang course.

**104 Intermediate Ancient Greek II U 5**

5 cl. Prereq: 103 or permission of instructor. This course is available for EM credit. GEC for lang course.

**210^ The Greek New Testament U 5**

Wi Qtr. 5 cl. Prereq: Greek 104 or permission of instructor.

**221 Attic Prose U 5**

Readings in Plato, Lysias, Xenophon, for example.

Au Qtr. 5 cl. Prereq: Greek 104.

**222 Euripides U 5**

One tragedy will be read.

Wi Qtr. Prereq: Greek 104 or permission of instructor.

**223^ Homer U 5**

Selections from the Iliad or Odyssey.

Sp Qtr. Prereq: Greek 104 or permission of instructor.

**224 The Greek Historians U 5**

Readings from Herodotus, Thucydides or Xenophon.

Sp Qtr. Prereq: Greek 104 or permission of instructor.

**225^ Sophocles U 5**

Readings from the tragedies of Sophocles.

5 cl. Prereq: Greek 104 or permission of instructor.

**293 Individual Studies U 1-6**

Intermediate readings in Greek literature.

Su, Au, Wi, Sp Qtrs. Prereq: 104 or equiv or written permission of dept. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**604 Greek Historians U G 5**

Comparative readings from Greek historical writers such as Herodotus, Thucydides, Xenophon, and Plutarch.

2 2-hr cl. Prereq: 2 courses at 200 level. Repeatable to a maximum of 10 cr hrs. with permission of instructor.

**605 Greek Tragedy U G 5**

Readings in the tragedies of Aeschylus, Sophocles, and Euripides.

2 2-hr cl. Prereq: 2 courses at 200 level. Repeatable to a maximum of 10 cr hrs. with permission of instructor.

**607^ Greek Epic U G 5**

Readings from Greek epic, including works of Homer, Hesiod, or Apollonius.

2 2-hr cl. Prereq: 2 courses at 200 level. Repeatable to a maximum of 10 cr hrs. with permission of instructor.

**608 Attic Oratory U G 5**

Comparative readings in Attic orators, including Lysias, Demosthenes, and Aeschines.

2 2-hr cl. Prereq: 2 courses at 200 level. Not open to students with credit for 608.01. Repeatable to a maximum of 10 cr hrs. with permission of instructor.

**609 Readings in Plato U G 5**

5 cl. Prereq: 2 courses at 200 level.

**610 Greek Comedy U G 5**

Comparative readings in Greek comic authors, including Aristophanes and Menander.

2 2-hr cl. Prereq: 2 courses at 200 level. Repeatable to a maximum of 10 cr hrs. with permission of instructor.

**611 Greek Hymn, Lyric, and Elegy U G 5**

Readings in Greek hymns and lyrics, including texts by Hesiod, Sappho, and Pindar.

2 2-hr cl. Prereq: 2 courses at 200 level. Repeatable to a maximum of 10 cr hrs. with permission of instructor.

**612\* Attic Prose Composition U G 5**

Review of elementary syntax leading to composition of sentences and short connected passages; concurrent readings from Lysias or Xenophon.

3 cl, 2 hr arr. Prereq: At least 1 course at 600 level.

**660 Special Topics in Greek Literature U G 5**

Extensive reading from masterpieces of Greek literature; topic varies.

Wi Qtr. 2 2-hr cl. Prereq: Two courses at the 200 level. Repeatable to a maximum of 20 cr hrs.

**693 Individual Studies U G 1-6**

Passages for reading and topics for investigation will be selected to meet the needs of individual students.

Su, Au, Wi, Sp Qtrs. Prereq: 2 courses at 600 level, or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.



**694 Group Studies U G 1-6**

Au, Sp Qtrs. Prereq: 4 courses more advanced than 104, or permission of chairperson. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**701\* Survey of Greek Literature: Epic/Archaic Eras U G 5**

A survey of authors representative of the earliest period of Greek literature, with discussion of historical background and methods of criticism.

Au Qtr. 2 2-hr cl. Prereq: Two 200-level Greek courses and permission of instructor; or grad standing. Not open to students with credit for 601.

**702\* Survey of Greek Literature: Classical Age U G 5**

A survey of authors representative of the Classical period of Greek literature, with discussion of historical background and methods of criticism.

Wi Qtr. 2 2-hr cl. Prereq: Two 200-level Greek courses and permission of instructor; or grad standing. Not open to students with credit for 602.

**703\* Survey of Greek Literature: Hellenistic Era U G 5**

A survey of authors representative of the Hellenistic period of Greek literature, with discussion of historical background and methods of criticism.

Sp Qtr. 2 2-hr cl. Prereq: Two 200-level Greek courses and permission of instructor; or grad standing. Not open to students with credit for 603.

**H783 Honors Research U 3-5**

A program of study arranged for each student with individual conferences, reports, and an honors thesis.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a grade of A in at least half of the Greek courses taken and with an average of B in the remainder; written permission of instructor under whose supervision the work is to be completed and the ASC Honors Committee; at least 2 qtrs are required of candidates for the degree BA with distinction in Greek. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**802\* Advanced Greek Prose Composition G 5**

Weekly exercises in continuous prose composition with concurrent readings from Greek prose authors.

Wi Qtr. 2 cl. Prereq: 612 or permission of instructor.

**813^ Studies in the Greek Orators G 5**

Selected topics in Greek oratory: Lysias, Andocides, Isocrates, or Demosthenes.

2 cl. Repeatable to a maximum of 15 cr hrs.

**818 Studies in the Greek Historians G 5**

Selected topics in Greek historiography: Herodotus, Thucydides, Xenophon, or Polybius.

2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**836^ Studies in Hellenistic Literature G 5**

Critical study of Greek authors of the third to first centuries B.C.

Repeatable to a maximum of 10 cr hrs.

**840 Studies in Greek Drama G 5**

Critical study of one or more of the Greek dramatists: Aeschylus, Sophocles, Euripides, Aristophanes, and Menander.

2 2-hr cl. Repeatable to a maximum of 20 cr hrs.

**842^ Studies in Greek Lyric and Elegiac Poetry G 5**

Selected topics in the lyric and elegiac poets of the seventh through fifth centuries B.C.

Au Qtr. 1 3-hr cl. Repeatable to a maximum of 15 cr hrs.

**844 Studies in the Greek Philosophers G 5**

Selected topics in Greek philosophy: the pre-Socratics, Plato, Aristotle, and the Hellenistic philosophers.

Wi Qtr. 2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**845 Studies in Greek Epic G 5**

Selected topics in Greek epic: Homer, Hesiod, or Apollonius.

1 3-hr cl. Repeatable to a maximum of 20 cr hrs.

**880 Topics in Greek Antiquity G 5**

In-depth examination of issues that are often difficult to address in courses that focus on a single Greek author.

1 3-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**894 Group Studies G 1-6**

Repeatable to a maximum of 20 cr hrs.

**993 Individual Studies G 1-5**

Assigned readings; supervised individual research.

Su, Au, Wi Qtrs. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**995 Seminar G 5**

The seminar completes a two-qtr sequence (Au/Wi, Wi/Sp) begun with an 800-level intensive study of an author or a genre, e.g., Aeschylus, Thucydides, Hellenistic poetry.

Wi Qtr. Repeatable to a maximum of 20 cr hrs.

**999 Research G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Hausa

486 University Hall, 230 North Oval Mall, 292-3700

**101^ Elementary Hausa I U 5**

Introduction to core vocabulary and basic structures of Hausa, focus on oral proficiency.

Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang course. FL Admis Cond course.

**102^ Elementary Hausa II U 5**

Continuation of 101; introduction to core vocabulary and basic structures of Hausa, focus on oral proficiency.

Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

**103^ Intermediate Hausa I U 5**

Continuation of 102; introduction to core vocabulary and basic structures of Hausa, focus on oral proficiency.

Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

**104^ Intermediate Hausa II U 5**

Continuation of 103; introduction to core vocabulary and basic structures of Hausa, focus on oral proficiency.

Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

## Health Information Management and Systems

School of Allied Medical Professions

543 Atwell Hall, 453 West 10th Avenue, 292-0567

**500 Medical Terminology U 3**

Terminology pertaining to the treatment of disease, including standard abbreviations, anatomic, diagnostic, symptomatic, eponymic, laboratory, pathology, radiology, anesthetic, operative, and drug terms.

Au, Wi, Sp Qtrs. 3 cl. Not open to student with credit for Alli Med 500.01 and 500.02. Cross-listed in Allied Medicine.

**520 Clinical Documentation, Storage, and Retrieval Systems U 5**

Introduction to content, format, value and use of clinical information and standards of documentation. Survey of identification, storage and retrieval systems and the preservation and retention of data.

Au Qtr. 4 cl, 1 3-hr lab. Prereq: Written permission of instructor.

**525 Organizational Analysis of Health Care Facilities U 3**

Analysis of administration, governing board, medical staff committees, licensing, accrediting and certifying agencies in relation to health care facilities, and health information requirements.

Au Qtr. 3 cl. Prereq: Written permission of instructor.

**535 Clinical Coding Systems U G 5**

In depth study of clinical coding systems, particularly ICD-9-CM.

Wi Qtr. 4 cl, 1 3-hr lab. Prereq: 520 or written permission of instructor. E535 may be available for honors embedded experience.

**536 Ambulatory Clinical Coding Systems U G 3**

Ambulatory coding systems for facility outpatient and physician services.

Wi Qtr. 2 1.5-hr cl. Prereq: 535 or written permission of instructor. E536 may be available for honors embedded experience.

## 212 Health Information Management and Systems

### 537 Clinical Data Management U G 3

Advanced concepts, applications and management of coded data.

Sp Qtr. 2 1.5-hr cl. Prereq: 535 and 536 or written permission of instructor. E537 may be available for honors embedded experience.

### 540 Health Care Statistics and Data Analysis U 3

Statistical methods for the collection and computation of health care data with emphasis on epidemiology and data analysis.

Sp Qtr. 2 cl. 1 2-hr lab. Prereq: 520 or written permission of instructor.

### 544 Legal Principles for Health Managers U 3

Legal system, hospital and professional liability, and legal requirements affecting the operations of healthcare organizations.

Wi Qtr. 2 1.5-hr cl. Prereq: Enrollment in Health Sciences management track or written permission of instructor. Not open to students with credit for 545. Cross-listed in Allied Medicine.

### 545 Legal Concepts in Health Care and Information Services U 3

Legal system, hospital and staff liability, privacy, confidentiality, and legal requirements affecting the control and release of health information and medical records.

Wi, Sp Qtrs. 3 cl. Prereq: Enrollment in HIMS, AMP or written permission of instructor.

### 589 Clinical Technical Affiliation U 3

Practical applications in health information management.

Su, Au, Wi, Sp Qtrs. 1 cl, 1 8-hr clinical study. Prereq: 520 or written permission of instructor. This course is graded S/U.

### 620 Healthcare Reimbursement Systems U G 3

Principles of clinical and reimbursement based classification systems with emphasis on utilization review in acute and managed care environments.

Sp Qtr. 3 cl. Prereq: Enrollment in HIMS, AMP or written permission of instructor.

### 635 Quality Management in Health Care U 4

History, development and application of quality management including utilization review and outcomes measurement in health care. Survey of tools and techniques.

Au Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: Enrollment in HIMS, AMP or permissions of instructor.

### 640 Management of Health Information Services U 3

Principles of organizational design and behavior with emphasis on the practical aspects of managing health information services.

Au Qtr. 2 cl, 1 3-hr lab. Prereq: 520 or written permission of instructor.

### 645 Management Control Systems for Health Information Services U 3

Application of work measurement, work standards, physical and financial resource management for health information services.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: 520 or written permission of instructor.

### 648 Microcomputer Applications in the Health Sciences U G 3

Overview of microcomputer applications in health sciences with practical applications related to discipline specific needs.

Au, Wi, Sp Qtrs. 2 2-hr cl. Computer programming neither required nor taught. Cross-listed in Allied Medicine.

### 650 Health Care Information Systems U G 3

Survey of patient, administrative and financial information systems in health care, and the technologies and management practices to support them.

Sp Qtr. 2 2-hr cl. Cross-listed in Allied Medicine. E650 may be available for honors embedded experience.

### 654 Health Information Systems I: Planning and Analysis U G 3

Focus on structured systems analysis techniques including database design for health information systems.

Au Qtr. 3 cl. Prereq: 648, Alli Med 650, or written permission of instructor. E654 may be available for honors embedded experience.

### 655 Health Information Systems II: Design and Implementation U G 3

Continuation of HIMS 654, focus is on design and implementation of a prototype health information systems application.

Wi Qtr. 1 3-hr cl. Prereq: 654 or written permission of instructor. E655 may be available for honors embedded experience.

### 660 Healthcare Financial Management U G 3

Overview of major financial issues in healthcare delivery including assessment of financial environment, financial statements, ratio analysis, managed care, payment systems, and capital project analysis.

Wi Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: Enrollment in HIMS, AMP or grad standing in AMP or permission of instructor. Cross-listed in AMP.

### 687 Documentation and Information Services in Non-Acute Care U 3

Study of documentation and information services requirements in cancer registries, long term care, mental health, ambulatory care, and other non-acute care settings.

Wi Qtr. 2 cl. 1 6-hr clinical study. Prereq: 520 or written permission of instructor.

### 689 Clinical Management Affiliation U 1-10

Application of managerial techniques in the organization and administration of health information services.

Su, Au, Wi, Sp Qtrs. 32-40 hrs clinical study wks. Prereq: 589. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

### 693 Individual Studies U G 1-5

Problems in health information management not covered in regular course offerings.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 695 Seminar in Health Information Management and Systems U G 1-4

Selected topics in health information management and systems.

Su, Au, Wi, Sp Qtrs. 1-4 cl. Prereq: Enrollment in HIMS or grad standing. Repeatable to a maximum of 12 cr hrs.

## Health Services Management and Policy

College of Public Health

M-006 Starling-Loving Hall, 320 West 10th Avenue, 293-3907

### 550 Health Care in America U 4

Introduction to the history, organization and politics of the American health care system; critical review of selected issues using different analytic frameworks.

Sp Qtr. 2 2-hr cl.

### 693 Individual Studies U G 1-5

Study of individually designed topics not otherwise available in the curriculum.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

### 694 Group Studies U G 1-5

Group studies of special topics within health services management and policy.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

### 795 Seminar U G 1-3

Investigation of current topics of significance to health services management and policy.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

### 800 Health Care Organization I G 4

Analysis of arrangements for the organization, financing, and delivery of health care services.

Au Qtr. 2 2-hr cl.

### 801 Health Care Organization II G 4

Continuation of 800, with emphasis on managing health services for a defined population.

Sp Qtr. 2 2-hr cl. Prereq: 800 or permission of instructor.

### 802 Economic Analysis of Health Services G 4

Applications of microeconomic analysis to the health services industry, with emphasis on the market structure and managerial decisions.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing in HSMP or permission of instructor.

### 803 Economics of Health Care I G 4

Microeconomic principles of consumer demand with applications to health care use; role of uncertainty and health insurance.

Wi Qtr. 2 2-hr cl. Prereq: 802 or permission of instructor.

### 804 Economics of Health Care II G 4

Microeconomic principles of supply with applications to the provision of health care services; market place for nurses and physicians; assessment of the competitive model.

Sp Qtr. 2 2-hr cl. Prereq: 802 or permission of instructor.

### 805 Introduction to Health Policy G 4

Introduction to public policy concepts and process as they apply to the organization, financing, and delivery of health services.

Sp Qtr. 2 2-hr cl. Prereq: 800 or permission of instructor.

**811 Legal Environment of Health Care G 4**

Law as it affects health care, including malpractice, licensure, professional and business relationships, and legal-ethical decisions.

Au Qtr. 2 2-hr cl. Prereq: Grad standing in HSMP or permission of instructor.

**815 Health Services Organizational Management G 4**

Principles of organizational behavior and management applied to health services organizations; emphasis on professionalism, leadership, and unique problems of health care settings.

Au Qtr. 2 2-hr cl. Prereq: Grad standing in HSMP or permission of instructor.

**817 Leadership in Health Care G 4**

Overview of leadership in health care with an emphasis on theory, leadership development, and leadership styles.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing in HSMP or permission of instructor.

**820 Health Services Finance I G 4**

Principles of finance and accounting applied to health service organizations.

Wi Qtr. 2 2-hr cl. Prereq: An introduction to financial accounting course or permission of instructor.

**821 Health Services Finance II G 4**

Continuation of 820 emphasizing financial analysis, financial planning, and management control.

Sp Qtr. 2 2-hr cl. Prereq: 820 or permission of instructor.

**822 Health Services Financial Decision-Making G 4**

Principles of financial decision-making in health service organizations, with emphasis on applications of decision support systems.

Au Qtr. 2 2-hr cl. Prereq: 821 or permission of instructor.

**823 Financial Management of Public Health Programs G 4**

Principles of accounting and finance applied to the management of public health agencies and programs.

Wi Qtr. 2 2-hr cl. Prereq: Enrollment in MPH Program for Experienced Professionals and an intro to accounting course or permission of instructor.

**824 Economic Evaluation of Health Care Programs and Services G 4**

Overview and appraisal of the state-of-the art in the evaluation of health care programs and services.

Sp Qtr. 2 2-hr cl. Cross-listed in Pharmacy.

**830 Forecasting Methods in Health Services Administration G 4**

Forecasting methods, with special emphasis on topics useful in health services administration, including service area determination, population forecasting, and non-historical methods.

Sp Qtr. 2 2-hr cl. Prereq: 6 cr hr of stat or permission of instructor.

**831 Strategic Management and Program Development G 4**

Techniques and methods for strategic management and project planning in health care organizations and settings.

Sp Qtr. 2 2-hr cl. Prereq: Enrollment in MHA program or permission of instructor.

**840 Disability Policy and Politics G 4**

Investigation of public policy in the area of disability and the politics that is the origin and result of these policies.

Wi Qtr. 2 2-hr cl.

**841 Long-Term Care Management G 4**

Management analysis of long-term health care services for older adults and others requiring specialized services; continuum of long-term care, emphasizing institutional settings.

Wi Qtr. 2 2-hr cl. Prereq: Permission of instructor.

**845 Managed Health Care Programs G 3**

Analysis of the organization, financing, and operation of managed health care programs.

Sp Qtr. 1 3-hr cl. Prereq: 800 or 801 or Permission of instructor.

**850 Seminar in Health Service Management and Policy G 2-4**

Small group seminar with focus on integrative projects in health services management and policy.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Enrollment in MHA program or permission of instructor. Repeatable to a maximum of 4 cr hrs.

**855^ Health Care Policy and Politics G 3**

Political characteristics of the policies and mechanisms for the provision of personal health services, with emphasis on community, state, and federal levels of policy-making.

Au Qtr. 1 3-hr cl.

**860^ Evaluation G 4**

Models of evaluation, including experimental designs, quasi-designs, and case studies with discussion of barriers to effective use of evaluation results

in decision-making.

Wi Qtr. 3 1.5-hr cl. Prereq: Grad level course in stat or permission of instructor.

**861^ Managerial Decision Approaches G 4**

Decisions as made by individuals, groups, and organizations comprising the health delivery system; examination of decision-maker behavior; strategies to improve decisions.

Sp Qtr. 2 2-hr cl. Prereq: Permission of instructor.

**870 Advanced Studies in Health Services Management and Policy**

Seminar in special topics in health services management and policy with content varying from quarter to quarter.

Au, Wi, Sp Qtrs. Prereq: Grad standing in HSMP or permission of instructor.

**870.01 General G 2-4**

Repeatable to a maximum of 14 cr hrs.

**870.02 Clinical Rotations G 2-4**

Repeatable to a maximum of 14 cr hrs.

**870.03 Data Analysis G 2-4**

Repeatable to a maximum of 14 cr hrs.

**870.04 Ethics G 2-4**

Repeatable to a maximum of 14 cr hrs.

**870.05 Human Resources G 2-4**

Repeatable to a maximum of 14 cr hrs.

**870.06 Marketing G 2-4**

Repeatable to a maximum of 14 cr hrs.

**870.07 Quantitative Methods G 2-4**

Repeatable to a maximum of 14 cr hrs.

**871^ Introduction to Health Services Research G 4**

Provides an overview of the field of health services research and the role of health services research in improving health care delivery.

2 2-hr cl. Prereq: Pubh-bio 701 and Pubh-epi 710 or permission of instructor.

**880 Operations Management for Health Service Organizations G 4**

Concepts and techniques for managing operations in health service organizations; emphasis on management perspective and decision-making.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing in HSMP or permission of instructor.

**881 Topics in Health Services Operations Management G 4**

Selected topics in health services operations management, such as operations strategy, quality management, process design, materials management, and facility location.

Sp Qtr. Prereq: 880 or permission of instructor.

**882 Information Systems for Health Services Organizations G 4**

Information systems concepts, issues, and challenges for health services organizations; managerial analysis of information and information technology as organizational assets.

Au Qtr. 2 2-hr cl. Prereq: 880 or permission of instructor.

**900 Advanced Topics in Health Services Management and Policy G 2-4**

Seminar on issues and methods of inquiry in health services management and policy.

Au Qtr. Arr. Prereq: Enrollment in PhD in public health or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**998 Thesis Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

## Hebrew

300 Hagerty Hall, 1775 College Rd, 292-9255

**101 Elementary Hebrew I U 5**

Conversation, reading, writing, vocabulary building, phonetics, and grammar. Au, Wi, Sp Qtrs. 5 cl. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**102 Elementary Hebrew II U 5**

Reading of modified passages from modern Hebrew literature supplemented with additional study of grammar.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**103 Intermediate Hebrew I U 5**

Reading of passages from various periods of Hebrew literature; review of salient points of elementary grammar and introduction to elements of classical Hebrew.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**104 Intermediate Hebrew II U 5**

Reading of modern Hebrew short stories, poems, and essays; special emphasis on oral practice and Hebrew idioms.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**205 Modern Hebrew Grammar, Conversation, and Composition U 5**

Development of communication skills in Modern Hebrew; special emphasis on using new grammatical skills in advanced forms of composition and conversation.

Prereq: 104 or permission of instructor. Not open to native speakers through regular course enrollment or EM credit.

**216 The Medieval Jewish Experience U 5**

A survey of ten centuries of medieval Jewish culture from the rise of Islam to the death of Shabbetai Zvi, the false Messiah (1676).

Not open to students with credit for Medieval 216. Cross-listed in Medieval and Renaissance Studies. GEC arts and hums cultures and ideas course.

**241 Culture of Contemporary Israel U 5**

Introduction to the culture of modern Israel: historical roots, socio-political institutions and developments, and literary and artistic creations reflecting the realities of contemporary Israeli society.

H241 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums cultures and ideas course.

**293 Individual Studies U 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**294 Group Studies U 1-15**

Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 30 cr hrs.

**370 Biblical and Post-Biblical Hebrew Literature in Translation U 5**

Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends.

H370 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or 111 or equiv. Not open to students with credit for 273. GEC arts and hums lit course.

**371^\* Medieval Hebrew Literature in Translation U 3**

Post-biblical and medieval Hebrew literature from the Near East, North Africa, and Europe.

Prereq: English 110 or 111 or equiv. Not open to students with credit for 272.

**372 Modern Hebrew Literature in Translation U 5**

Modern Hebrew literature; works of major writers from the middle of the 18th century to the present; emphasis on European literary influences.

H372 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 372: English 110 or equiv. Prereq for H372: English H110 or equiv. Not open to students with credit for 271. GEC arts and hums lit course.

**373 Prophecy in the Bible and Post-Biblical Literature U 5**

The dynamics of Israelite prophecy and apocalyptic in the context of ancient Near Eastern culture.

GEC arts and hums lit course.

**374 Women in Biblical and Post-Biblical Literature U 5**

An examination of the social, legal, and religious position of women as they appear in the Hebrew scriptures and Rabbinic writings.

Prereq: English 110 or 111 or equiv. Not open to students with credit for 274. Taught in English. GEC arts and hums lit course.

**376 The Jewish Mystical Tradition U 5**

The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience.

H376 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110, 110.01, 110.02, 110.03 or equiv. Not open to students with credit for Rel Stds or Comp Std 376. Cross-listed in Comparative Studies. GEC arts and hums cultures and ideas course.

**378 Biblical and Post-Biblical Wisdom Literature U 5**

An examination of the various ideas, themes, attitudes, implications, and genres

of biblical and post-biblical wisdom literature.

Prereq: English 110 or 111 or equiv. GEC arts and hums lit course.

**379 The World of the Rabbis U 5**

Examination of the origins, literature, and religious values of the movement of intellectuals who remade the culture of Judaism in the 2nd through 6th centuries.

Prereq: English 110 or equiv. GEC arts and hums cultures and ideas course.

**401 Review of Grammar and Composition U 5**

Review of Hebrew grammar; composition on assigned topics and some practice in translation.

Prereq: 104.

**402 Intermediate Hebrew Conversation and Composition U 5**

Vocabulary building, practice in speaking Hebrew, conversation and composition dealing with social and everyday aspects of Israeli life.

Prereq: 104 or permission of instructor.

**403^\* Hebrew Syntax U 3**

Parts of speech, types of sentences, word order, and syntactic analysis.

Prereq: 104 or permission of instructor.

**421 Modern Hebrew Short Story U 5**

Reading and discussion of masterpieces of modern Hebrew short stories in the 19th and 20th centuries.

Prereq: 104 or permission of instructor.

**422 Modern Hebrew Poetry U 5**

Reading and discussion of masterpieces of modern Hebrew poetry in the 19th and 20th centuries.

Prereq: 104 or permission of instructor.

**425 Readings in the Mishnah U 5**

Reading and discussion of the ideas and teachings of the Mishnah as they are reflected in the unique Mishnaic language.

Prereq: 104 or permission of instructor.

**601^\* Biblical Hebrew Grammar U G 5**

Introduction to the phonology, morphology, and syntax of the Biblical Hebrew idiom.

Prereq: 104 or permission of instructor.

**604^\* Hebrew Phonetics and Vocalization U G 3**

Rules of Hebrew phonetics and vocalization; lectures and abundant practical exercises.

Prereq: 104 or permission of instructor.

**605^\* Hebrew Morphology U G 5**

The morphological system of Hebrew; the interrelations between roots and forms.

Prereq: 604 or permission of instructor.

**611^\* History of the Hebrew Language U G 5**

Genealogical and typological relations within the Semitic family, a survey of Biblical, Mishnaic, and modern Hebrew.

Prereq: 104 or permission of instructor. GEC third writing course.

**620 Introduction to Hebrew Literary and Cultural Texts U G 5**

Literary and cultural Hebrew texts from the biblical to the modern period; students will develop the ability to read critically and to build analytical vocabulary.

Prereq: 205 or permission of instructor.

**621^\* The Bible as Literature: Selected Readings U G 5**

Critical study of basic issues in the language and analysis of biblical texts.

Prereq: 421 or 422 or 423. Repeatable to a maximum of 20 cr hrs.

**623 Readings in Rabbinic Literature U G 5**

Study of selected texts and issues in Rabbinic literature, and discussions of the methods by which they are studied.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**671 The Problem of Evil in Biblical and Post-Biblical Literature U G 5**

Study of the vexing problem of evil; the seeming contradiction between tradition and experience; extensive readings and discussions of appropriate biblical and post-biblical materials.

Prereq: 273 or 274 or equiv or permission of instructor. Given in English, but grad students and undergrad Hebrew majors will read the texts in the original Hebrew.

**676 Studies in Biblical Law U G 5**

Examination of the various biblical corpora of laws within the context of a great body of legal collections which extended throughout the ancient Near East.

Prereq: 370, grad standing, or permission of instructor. Taught in English.

**680 Basic Bibliographic and Reference Tools in Hebraica, Judaica, and Semitics U G 5**

A survey of tools which may be used in doing research at all levels in the study of Hebraica, Judaica, and Semitics.

**693 Individual Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-15**

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**721 Studies in Hebrew Poetry U G 5**

Advanced study of specific poetic periods, figures, and/or topics involving extensive readings and discussions of appropriate primary and secondary materials.

Prereq: 10 hrs of Hebrew at the 400 level and above, or equiv. Repeatable to a maximum of 15 cr hrs.

**722 Studies in Hebrew Prose U G 5**

Advanced study of specific periods, authors, and/or genres of prose writing (literary or non-literary) involving extensive reading and discussion of primary and secondary materials.

Su, Au, Wi, Sp Qtrs. Prereq: 10 hrs of Hebrew at the 400 level or above, or equiv. Repeatable to a maximum of 15 cr hrs.

**H783 Honors Research U 3-5**

Offers students with special aptitudes a greater opportunity to do independent study than is possible in the ordinary course; work in conference, library, or phonetics laboratory.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the Hebrew courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**801<sup>A</sup> Teaching Hebrew at the College Level G 5**

Methods and techniques for teaching Hebrew at the college level.

Au Qtr. 2 wk intensive workshop followed by 1 2-hr wkly cl. Prereq: Teaching assoc in NELC or permission of instructor. For students enrolled in this course, the minimum number of hrs required for graduation is increased by 5 cr hrs.

**811 Seminar in Hebrew Studies G 5**

Intensive investigation of a selected topic or problem in Hebrew linguistics, philology, literature, or literary culture.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**998 Research in Hebrew G 1-25**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Hindi

300 Hagerty Hall, 1775 College Road, 292-9255

**101 Elementary Hindi I U 5**

Study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing skills.

Au Qtr. 2 2-hr cl. Prereq: Permission of instructor. Not open to students with credit for NELC 294A (Au 02; Au 03; Au 04). GEC for lang course.

**102 Elementary Hindi II U 5**

Continued study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing skills.

Wi Qtr. 2 2-hr cl. Prereq: 101 or permission of instructor. Not open to students with credit for NELC 294A (Wi 03; Wi 04; Wi 05). GEC for lang course.

**103 Elementary Hindi III U 5**

Continued study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing skills.

Sp Qtr. 2 2-hr cl. Prereq: 102 or permission of instructor. Not open to students with credit for NELC 294A (Sp 03; Sp 04; Sp 05). GEC for lang course.

**104 Intermediate Hindi I U 5**

Continued study on Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing skills.

Au Qtr. 2 2-hr cl. Prereq: 103 or permission of instructor. Not open to students

with credit for NELC 294K (Au 03). GEC for lang course.

## History

106 Dulles Hall, 230 West 17th Avenue, 292-2674

General Prerequisites for Courses Numbered 300

Unless otherwise indicated, the prerequisite for 300-level courses is credit for one 10-hr. GEC Historical Survey sequence or permission of the instructor.

General Prerequisites for Courses Numbered 500

Unless otherwise indicated, the prerequisites for 500-level courses are credit for one 10-hr. GEC Historical Survey sequence and junior or senior standing or permission of instructor. 500-level courses may provide graduate credit only in departments other than History.

General Prerequisites for Courses Numbered 700 and 800

Unless otherwise indicated, the prerequisites for 700- and 800-level courses are graduate standing or permission of instructor

**111 Western Civilization: Antiquity to the Seventeenth Century U 5**

Ancient civilizations (Near East, Greece, Rome); barbarian invasions; medieval civilizations (Byzantium, Islam, Europe); Renaissance and Reformation.

H111 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq or concur: English 110 or 111. Not open to students with credit for 100.01. This course is available for EM credit. GEC historical survey course. SS Admis Cond course.

**112 Western Civilization: Seventeenth Century through Modern Times U 5**

Political, scientific, and industrial revolutions; nationalism; the two world wars; decline of empires; the cold war.

H112 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 111 and prereq or concur: English 110 or 111. Not open to students with credit for 100.02 or 100.03. This course is available for EM credit. GEC historical survey course. SS Admis Cond course.

**121 African Civilizations to 1870 U 5**

Exploration of the political, social, and economic history of precolonial African civilizations, using a variety of interdisciplinary approaches and materials.

Prereq: English 110 or 111 or equiv. Not open to students with credit for AfAm&ASt 121. Cross-listed in African-American and African Studies. GEC historical survey course.

**122 African Civilizations, 1870 to the Present U 5**

Exploration of the political, social, and economic history of the colonial and independent African countries, using a variety of interdisciplinary approaches and materials.

Prereq: 121 or AfAm&ASt 121 or Black St 121. Not open to students with credit for AfAm&ASt 122. Cross-listed in African-American and African Studies. GEC historical survey course.

**141 History of East Asia in the Pre-modern Era U 5**

Introduction to the societies and cultures of pre-modern China, Korea, and Japan; the countries that make up the geographical and cultural unit of East Asia.

Prereq or concur: English 110. Not open to students with credit for 131. GEC historical survey course.

**142 History of East Asia in the Modern Era U 5**

Introduction to the transformation of societies and cultures of modern China, Korea, and Japan from the 17th century to the present.

Prereq: 141 and prereq or concur: English 110. Not open to students with credit for 132. GEC historical survey course.

**151 American Civilization to 1877 U 5**

The political, constitutional, social, and economic development of the United States from the colonial period through the era of Reconstruction.

H151 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq or concur: English 110 or 111. Not open to students with credit for 150.01. This course is available for EM credit. GEC historical survey course. SS Admis Cond course.

**152 American Civilization since 1877 U 5**

The political, constitutional, social, and economic development of the United States from the era of Reconstruction to the present.

H152 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 151 and prereq or concur: English 110 or 111. Not open to students with credit for 150.02. This course is available for EM credit. GEC historical survey course. SS Admis Cond course.

**171 Latin American Civilizations to 1825 U 5**

Latin American political, social, economic, and cultural history from Pre-Columbian times to independence (1825) focussing on imperialism, religion, minorities, war, and rebellion.

H171 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq or concur: English 110 or 111. Not open to students with credit for 150.03 or 161. GEC historical survey course.

**172 Latin American Civilizations since 1825 U 5**

Latin American political, social, economic, and cultural history from independence (1825) to the present focussing on neo-colonialism, instability, underdevelopment, militarism, and minorities.

H172 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 151 and 152, or 171; and prereq or concur: English 110 or 111. Not open to students with credit for 150.03 or 161 or 240. GEC historical survey course.

**181 World History to 1500 U 5**

History of the human community to 1500, primary emphasis on history of civilizations, and secondary emphasis on patterns of regional and hemispheric integration.

Prereq: English 110 or 110.01 or 110.02 or 110.03 or 111 or permission of instructor. Not open to students with credit for 200.01. GEC historical survey course. E181 may be available for honors embedded experience at the regional campuses.

**182 World History, 1500 to Present U 5**

History of the human community from 1500 to the present, primary emphasis on processes of global integration, and secondary emphasis on comparative civilization.

Prereq: 181 or 200.01, and prereq or concur: English 110 or 111. Not open to students with credit for 200.02. GEC historical survey course.

**301 Introduction to Ancient Mediterranean Civilizations U 5**

Comparative historical analysis of ancient Mediterranean civilizations: emphasis on Greek and Roman societies, urbanism, empires, literature, arts; from the Bronze Age to Fall of Rome.

Not open to students with credit for 110.01 or 201. SS Admis Cond course.

**306 Classical Archaeology U 5**

Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites.

Not open to students with credit for 240, Classics 240, or Hist Art 240. Cross-listed in Classics and History of Art as 240. GEC arts and hums cultures and ideas course.

**307 World War II U 5**

Survey of the causes, conduct and consequences of the Second World War. Not open to students with credit for 281. SS Admis Cond course.

**308 The Vietnam War U 5**

An examination of the causes, conduct, and effects of the revolutionary war in Vietnam from 1945 to 1975.

Not open to students with credit for 282.

**309 The Sixties U 5**

Studies tumultuous period involving U.S. economic and social change, liberal and conservative politics, civil rights, social movements, counter-culture, and Vietnam in historical and world contexts.

**310 History of Ohio U 5**

A general survey of state history-social, economic, religious, and political-from the Indian period to the present time.

Not open to students with credit for 683.

**311 World War I, 1914-1918 U 5**

Exploration of the causes, conduct, and consequences of the First World War in a global context.

Prereq: English 110 or 111.

**312 Introduction to Modern Europe U 5**

Examination of selected major themes in European history from the French Revolution to the present.

**323 History of African-Americans**

Cross-listed in African-American and African Studies.

**323.01 History of African-Americans in the Age of Slavery U 5**

Origins of modern slavery; its development in the US: the evolution of African-American life and culture from 1619 to the end of the Civil War.

Not open to students with credit for 223 or 260; or AfAm&ASt 223 or 323.01.

**323.02 History of African-Americans from Emancipation to the Present U 5**

The rise of debt peonage among blacks; the formation of the northern ghetto; the Civil Rights Movement and beyond.

Not open to students with credit for 224 or 260; or AfAm&ASt 224, 238, or

323.02.

**325 Introduction to Women's History: The American Experience U 5**

American women from pre-European-settlement to the present; experiences of Native American, African American, Mexican American, Puerto Rican, Asian American, Jewish, Appalachian, working-class; and lesbian women.

H325 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 237. SS Admis Cond course. GEC social diversity course.

**326 History of Modern Sexualities U 5**

Introduction to the major issues associated with the ways different cultures have identified, regulated, and thought about sexuality from the eighteenth century to the present.

**330 Introduction to Jewish Civilization****330.01 Ancient and Medieval Jewish Civilization U 5**

Jewry and Judaism from remote antiquity to the 15th century A.D.

Not open to students with credit for 251. SS Admis Cond course. GEC arts and hums, cultures and ideas course.

**330.02 Modern Jewish Civilization U 5**

Jewry and Judaism from the 15th century to the present.

Not open to students with credit for 252. SS Admis Cond course.

**331 The Holocaust U 5**

The historical background of the holocaust; dimensions of destruction; world response; post war trials; moral and philosophical issues.

Not open to students with credit for 254. SS Admis Cond course.

**332 Jews in American Film U 5**

A study of how modern Jews appear in film compared with historical reality.

**333 History of Antisemitism: From the Enlightenment to the Present Day U 5**

Examines the role of antisemitism in history. Considers the comparative historical contexts that shaped intolerance and exclusionary violence towards Jews and minorities.

Au Qtr. 2 2-hr cl.

**336 Introduction to Russian Civilization U 5**

A survey of Russian civilization from earliest times to 1917; geography, peoples, culture, social, political, and religious institutions, and the impact of Westernization.

Not open to students with credit for 220. SS Admis Cond course.

**340 Islam, Politics, and Society in History U 5**

Elaboration of prophetic message of Islam into governing principles of Islamic polity and society; evolution of these principles over the centuries.

Not open to students with credit for 258. SS Admis Cond course.

**342 Foundations of Chinese Civilization U 5**

A history of early China, this course surveys Confucian, Daoist, and Buddhist teachings and the foundational institutions of Imperial China through the Tang (618-907).

**346 Introduction to Asian American History U 5**

A survey of the Asian American experience in the United States, from the mid-19th century to the present.

GEC arts and hums cultures and ideas, and social diversity course.

**350 History of Modern Africa U 5**

General survey of political, economic, and social developments in colonial and post-independence Africa.

Not open to students with credit for AfAm&ASt 350. Cross-listed in African-American and African Studies.

**360 Scientific Revolutions in Their Social Context U 5**

Models of scientific innovation and study of selected examples of the great scientific revolutions: Copernican, Chemical, Darwinian, Quantum, Genetic, and others.

Not open to students with credit for 233. SS Admis Cond course.

**362 History of Technology U 5**

Provides an introduction to the history of technology, by examining critical technological developments which have shaped the modern world, from railways to biotechnology.

Wi Qtr. 2 2-hr cl.

**366 Environmental History****366.01 Global Environmental History U 5**

Global overview of the ecological circumstances of the human condition in past time, stressing the relations among climate change, earth systems, technology, demography, and human cultural-economic revolutions.

Not open to students with credit for 236 or 366. GEC soc sci hum, nat, econ resources and international issues course.

**366.02 American Environmental History U 5**

The history of American ecosystems from the last Ice Age to the present; focuses on historical debates over the causes and consequences of environmental change.

Not open to students with credit for 567.

**368 Native Peoples of the Western Hemisphere****368.01 Introduction to Native American History U 5**

An examination of selected events and issues in Native American history.

Not open to students with credit for 368.

**368.02 Native American Peoples of the Andes U 5**

Introductory survey of the history of the Native American peoples of the Andes from the Pre-Columbian period to the present.

Au Qtr. 2 2-hr cl.

**375 History of American Criminal Justice U 5**

History of crime, criminal law, law enforcement agencies, prisons, and juvenile courts.

Not open to students with credit for 286. SS Admis Cond course.

**380 The History of War U 5**

A survey of the main concepts and issues involved in the study of war in world perspective using case studies from prehistoric times to the present.

**381 Wars of Empire U 5**

This course examines the means, methods, challenges and results of military encounters between modern imperial powers and indigenous forces they met on the battlefield.

Au Qtr. 2 2-hr cl.

**387 Introduction to Business History: The American Experience U 5**

Study of the evolution of "American capitalism" from pre-capitalist economies of the medieval period to the end of the 20th century.

Not open to students with credit for 564.

**394 Group Studies U 1-5**

Groups of students are given an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. H394 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Repeatable to a maximum of 15 cr hrs.

**398 Introduction to Historical Thought U 5**

Investigation of the methods historians use to understand the past.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H398 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 302. Some classes will visit the Ohio Historical Society. A minimum grade of C in 398 is required for admission to the history major.

**H399 Introduction to Historical Research U 5**

Research strategies and techniques; topics will vary.

Prereq: 302 or 398 or permission of instructor.

**489 Historical Internship U 5**

Internships will provide students with the opportunity to work on historical projects under the supervision of a practicing professional and a professor.

Su, Au, Wi, Sp Qtrs. Arr.

**500 The Ancient Near East U G 5**

The ancient history of Mesopotamia, Egypt, Anatolia, Persia, Israel, and the Levant to the establishment of the Persian Empire; readings from sources in translation.

Not open to students with credit for 600.

**501 Greek History****501.01 History of Archaic Greece U G 5**

History of Greece from the early Stone Age communities to the end of the Greek-Persian conflicts, 479 B.C.; readings in the sources in translation.

Not open to students with credit for 601.01.

**501.02 History of Classical Greece U G 5**

History of classical Greece from the foundation of the Delian Confederacy to the death of Alexander III; reading in the sources in translation.

Not open to students with credit for 601.02.

**501.03 History of the Eastern Mediterranean during the Bronze Age U G 5**

Studies in the civilizations of Minoan Crete and Helladic/Mycenaean Greece in relationship with the Trojans, Hittites, Philistines, Cypriotes, Syrians, and Egyptians.

Not open to students with credit for 601.03.

**502 Hellenistic Near East U G 5**

The cultural history of the Achaemenid and Hellenistic kingdoms from c. 600 to 31 B.C., with emphasis upon Greek and Persian interaction in the Near East.

Not open to students with credit for 602.

**503 Roman History****503.01 Roman Republic U G 5**

A history of Rome from the founding to the fall of the Roman Republic; readings in ancient sources in translation.

Not open to students with credit for 603.01.

**503.02 Early Roman Empire, 31 B.C.-A.D. 180 U G 5**

The Roman Empire at its height; internal politics, imperial administration, and religion; readings from sources in translation.

Not open to students with credit for 603.02.

**503.03 Later Roman Empire, A.D. 180-476 U G 5**

Decline and fall of the Empire in the West; military, social, economic problems; religious conflicts; emergence of Germanic kingdoms; readings from sources in translation.

Not open to students with credit for 603.03.

**504 The Ancient Mediterranean World****504.01 War in the Ancient Mediterranean World U G 5**

An advanced survey of military history from the late Bronze Age to the fall of the Roman Empire in the West.

2 2-hr cl. Not open to students with ccredit for 604.01.

**504.02 The Ancient Mediterranean City U G 5**

Cities in the ancient Near East, Greece, and Rome, with an emphasis on their physical form and historical importance.

Not open to students with credit for 510 or 604.02.

**505 Byzantine History****505.01 Early Byzantine Empire U G 5**

History of Byzantium, A.D. 330-843, with emphasis on internal political and religious developments and the relationship between Byzantium and its neighbors.

Not open to students with credit for 607.01.

**505.02 Later Byzantine Empire U G 5**

History of Byzantium, A.D. 843-1453, with emphasis on internal developments, the Crusades, the Fall of the City, and the legacy of Byzantium.

Not open to students with credit for 607.02.

**506 History of Early Christianity U G 5**

Christian origins and expansion to 600 A.D.; conflict with Roman Empire; internal dissent; basic institutions; Christian intellectuals; the imperial established church; monasticism; papacy; the barbarians and Christianity.

Not open to students with credit for 570.

**507 History of Medieval Christianity U G 5**

The late ancient and early medieval church; the papacy and the Carolingians; the Cluniac reform; the new monasticism; heresy; the problems of late medieval Christianity.

Not open to students with credit for 571.

**508 Medieval Europe****508.01 Medieval Europe I: 300-1100 U G 5**

Europe 300-1100; Roman decline, Christianization of Europe, barbarian invasions; Carolingian renaissance; early feudalism and manorialism; investiture contest; crusades; economic and intellectual revival.

Not open to students with credit for 606.04.

**508.02 Medieval Europe II: 1100-1450 U G 5**

Europe 1100-1500; the 12th-century Renaissance; classical feudalism; rise of Christendom; the great economic revival; universities and scholasticism; religious dissent; and 14th-century crises.

Not open to students with credit for 510 or 606.05.

**508.03 Medieval England U G 5**

England from the Roman conquest to 1485; Anglo-Saxon society and institutions; the Norman conquest; law and Parliament; social, intellectual, and economic growth of the English people.

Not open to students with credit for 630.

**509 Italian Renaissance**

The literary, artistic, and intellectual achievements primarily of Renaissance Italy against the background of economic, political, and social developments in western Europe.

**509.01 1400s, Communal Age to Quattrocento U G 5**

Beginnings and flourishing of the Italian Renaissance, from the era of independent communes to the quattrocento.

Au Qtr. Not open to students with credit for 609.

**509.02 High Renaissance and Beyond U G 5**

Climax of the Italian Renaissance in the era of Michelangelo and Machiavelli, and its eventual decline during the sixteenth century.

Prereq: 10 cr hrs of history.

**511 The Reformation U G 5**

The rise and growth of Protestantism and the Catholic Reformation of the 16th century against the background of economic, political, and social developments in western Europe.

Not open to students with credit for 610.

**512 European History****512.01 Early Modern Europe, 1600-1775 U G 5**

A study of the rise of the absolute state, the changing diplomatic alignments, and the Enlightenment.

Not open to students with credit for 612.

**512.02 French Revolution and Napoleon U G 5**

The background of the Revolution; the social bases and political schisms of the first three Revolutionary governments, 1789-1795; the program and role of Napoleon.

Not open to students with credit for 613.

**512.03 Europe, 1815-1900 U G 5**

Nationalism, the democratic movement, economic growth, imperialism, and cultural advance from the Congress of Vienna to World War I.

Not open to students with credit for 614.

**512.04 Europe 1900-1950 U G 5**

The important events and issues in European history from 1900-1950.

Wi Qtr. 2 2-hr cl.

**512.05 Europe since 1950 U G 5**

Europe since the disaster of the Second World War; recovery, decolonization, integration, creation of a new society, and search for identity.

Not open to students with credit for 634.

**513 European Intellectual and Cultural History****513.01 The Age of Modernity in the 19th Century U G 5**

Intellectual and cultural history in Europe in the 19th century with emphasis on historic events which marked the formation of historical consciousness in the 19th century.

Not open to students with credit for 622.01, or Comp Std 513.01 or 622.01.

**513.02 The Age of Modernity in the 20th Century U G 5**

Intellectual and cultural history in Europe in the 20th century with emphasis on historic events which marked the formation of historical consciousness in the 20th century.

Not open to students with credit for 622.02, or Comp Std 513.02 or 622.02.

**514 English History****514.01 Tudor and Stuart Britain, 1500-1700 U G 5**

The religious, political, economic, imperial, and intellectual development of the English people from 1485 to 1714, with special attention to the constitutional struggles of the 17th century.

Not open to students with credit for 631.

**514.02 England in the 18th and 19th Centuries U G 5**

The course of political, social, and intellectual change, of industrial and commercial growth in Hanoverian and Victorian England.

Not open to students with credit for 632.

**514.03 England in the 20th Century U G 5**

A study of Britain since 1900 with special emphasis on the rise of the Labour party and the development of the social welfare state.

Not open to students with credit for 633.

**515 French History****515.01 France, 1815-1914 U G 5**

France's transformation from a rural, traditional society to a modern, industrial society, and the relation of this transformation to 19th-century political and intellectual movements.

Not open to students with credit for 615.

**515.02 France in the 20th Century U G 5**

The impact on France of two world wars, the depression and decolonization, with emphasis on the breakdown of the political system and the emergence of a new society from the wreckage of the old.

Not open to students with credit for 616.

**516 Modern Italy, 1848-Present U G 5**

Introduction to the history of Italy from the Risorgimento to the present.

**517 Modern Greece U G 5**

Greece from 1453 to the present; Turkish rule, War of Independence, emergence of the modern state; focus on political, social, and cultural developments.

Not open to students with credit for 529.

**518 German History****518.01 Germany in the 19th Century U G 5**

Political, social, economic, and cultural developments from the Prussian reform movement to World War I, with emphasis on German unification and the origins of the war.

Not open to students with credit for 618.01.

**518.02 Germany in the 20th Century U G 5**

World War I; the Weimar period; Hitler and the Third Reich; and the two Germanies after 1945.

Not open to students with credit for 618.02.

**519 East Central Europe****519.01 Habsburg Monarchy and the Polish Lands, 1740-1918 U G 5**

A century and a half of Habsburg history with emphasis on Austria's responses to Enlightenment ideas, the French Revolution, social change, industrialization, and emerging nationalisms.

Not open to students with credit for 626.01.

**519.02 East Central Europe since 1919 U G 5**

Advanced survey of East European history from World War I to the post-communist era.

Not open to students with credit for 626.03.

**519.03 Balkans from the Ottoman Conquest until World War I U G 5**

An historical survey of southeast European history from the Battle of Kosovo; the assassination of Archduke Franz-Ferdinand; political, social, economic, and cultural development; emphasis on Balkan peoples.

Not open to students with credit for 626.02.

**523 Women in the Western World: Ancient Civilization to the Industrial Revolution U G 5**

Women and the economic, social, and political factors responsible for their status in society.

**524 Women in the Western World: The Industrial Revolution to the Present U G 5**

A continuation of 523.

**525 Topics in Women's History U G 5**

In-depth analysis of selected topics in American, European, and/or Third World women's history; topic varies by quarter.

Repeatable to a maximum of 15 cr hrs.

**526 Historical Perspectives on Sexuality: Same Sex Sexuality in the Western World U G 5**

History of same-sex love and sexuality from ancient times to the present.

Not open to students with credit for 620.

**527 History of the Family U G 5**

Evolution of the family, primarily in Europe and the United States, with attention to minorities and cross-cultural comparisons.

Not open to students with credit for 677.

**528 Love in the Modern Western World U G 5**

A survey of love in the literature, art, and philosophy of the Western World concentrating on the years since 1800.

**530 Jewish History****530.01 History of Ancient Israel U G 5**

The rise of the Jewish nation and religion in the Ancient Near East; settlement in Canaan; the Israelite and Judean monarchies until their conquest by Assyria and Babylonia.

Not open to students with credit for 605.06.

**530.02 Second Commonwealth U G 5**

The restoration of Jewish statehood following the first Babylonian Exile and the history of Palestinian Jewry and of the Jewish Diaspora down to the 2nd Century A.D.

Not open to students with credit for 605.01.

**530.03 Jews in the Western World in Modern Times U G 5**

Changing patterns of Jewish life since the Jews' struggle for Emancipation; migration movements and the shift of Jewish centers in Europe and the New World.

Not open to students with credit for 605.04.

**530.04 The American Jewish Experience U 5**

The history of America's Jewish population and American Jewry's interaction with the world in which they lived.

**531 Topics in Jewish History****531.01 Messiahs and Messianism in Jewish History U G 5**

The history of Jewish messianic idea and of Jewish messianic leadership from ancient to modern times.

Not open to students with credit for 605.10.

**531.02 Jews in the World of the Renaissance U 5**

An investigation of Jewish life and thought in the Christian and Muslim worlds during the Renaissance.

**531.03 Jewish Society at the Dawn of the Modern Age, 1600-1750 U 5**

An investigation of Jewish life and thought in the Christian and Muslim worlds during the early Modern era.

**532 History of Spain, 1469-Present U G 5**

Unification of the thrones; the rise and fall of empire; rivalry with Portugal; Napoleon to the Civil War; Franco and the Post-Franco Era.

Not open to students with credit for 650.



**533 Latin American History****533.01 Colonial Latin American History U G 5**

Mayan, Aztec, and Incan Empires; the Spanish and Portuguese conquests and the transplanting of Iberian institutions; the Baroque period; the Bourbon Century and the Enlightenment.

Not open to students with credit for 651.01.

**533.02 South America since Independence U G 5**

Nation-building in the South American republics during the 19th and 20th centuries with special emphasis on Argentina and Brazil.

Not open to students with credit for 651.02.

**533.06 Women in Latin America U G 5**

The history of women in Latin America from the Conquest to the present.

**534 History of Latin American Countries and Regions****534.01 Central America and the Caribbean since Independence U G 5**

Political, economic, and cultural history of West Indies (Cuba, Haiti, Dominican Republic, etc.) and Central America (Panama, Guatemala, Nicaragua, etc.) and relations with United States.

Not open to students with credit for 533.03 or 651.03.

**534.02 History of Brazil U G 5**

History of Brazil during colonial and independence periods with major emphasis on the 19th and 20th centuries.

Not open to students with credit for 533.04 or 651.06.

**534.03 History of Mexico U G 5**

History of Mexico during precolonial, colonial, and independence periods with emphasis on the 19th and 20th centuries.

Not open to students with credit for 533.05 or 651.07.

**534.04 History of Argentina U G 5**

Introduction of the history and problems of contemporary Argentina.

**534.08 The Jewish Experience in Latin America U G 5**

Introduction to issues in the history of Jews in Latin America, including the role of the region as a refuge from source of anti-Semitism.

Prereq: English 110.01, 110.02, 110.03, 110 or 111 and jr or sr standing or honors or scholars or permission of instructor.

**536 History of Russia to 1725 U G 5**

A survey from the origins of the Russian state to the end of the reign of Peter the Great.

Not open to students with credit for 635.

**537 History of Russia****537.01 Imperial Russia, 1725-1914 U G 5**

A survey from the end of the reign of Peter the Great to the outbreak of World War I.

Not open to students with credit for 636.

**538 History of the Soviet Union U G 5**

Beginning with the background and events of the revolution of 1917, analysis of developments in Russian history from World War I to the present.

Not open to students with credit for 637.

**539 Siberia in World History U G 5**

Introduction to the history, geography, culture, ethnic diversity, inter-communal relations, economy and strategic importance of Siberia in Eurasia's past and present.

Prereq: English 110 or 110.01 or 110.02 or 110.03 or 111 and jr or sr standing or honors and scholars or permission of instructor.

**540 Core Regions of Islamic Worlds****540.01 Islamic Society, 610-1258 U G 5**

Origins and early development of selected fundamental Islamic institutions in their historical and cultural context.

Not open to students with credit for 641.

**540.02 History of Iran U G 5**

A history of Iran in the Islamic period, focusing on nomadic-urban interaction and Iranian culture.

2 2-hr cl.

**540.03 Ottoman Empire, 1300-1800 U G 5**

The Ottoman Empire from frontier warrior band to world power to "Sick Man of Europe"; factors in upsurge and decline; cultural interaction with the West.

Prereq: Prior course work on Middle Eastern history or Islamic culture is strongly recommended. Not open to students with credit for 642.

**540.04 Middle East in the 19th Century U G 5**

Modernization of the Middle East, from the early autocratic modernizers to the 19th century; economic, social, political, and intellectual transformations; modern Middle East in world perspective.

Prereq: Prior course work on Middle Eastern history or Islamic culture is strongly recommended. Not open to students with credit for 644.

**540.05 Middle East in the 20th Century U G 5**

Modernization of the Middle East in the 20th century.

Prereq: Prior course work on Middle Eastern history or Islamic culture is strongly recommended. Not open to students with credit for 644.

**541 Wider Islamic World****541.01 Islamic Spain and North Africa U G 5**

Major problems in history and culture of Islamic Spain (712-1492) and North Africa (641-present), including Egypt; special emphasis on nomadism and revivalism.

Not open to students with credit for 640.

**541.02 History of Islam in Africa U G 5**

Examination of the history and spread of Islam in Africa and its impact on African social, economic, and political institutions.

Prereq: 121 or 122, or AfAm&ASt 121 or 122; or grad standing. Not open to students with credit for 643 or AfAm&ASt 643 or 541. Cross-listed with AfAm&ASt 541.

**542 Thematic Courses on Islamic Civilization****542.01 Intellectual and Social Movements in the Muslim World U G 5**

Examination of significant Muslim intellectual and social movements from the advent of Islam until the present.

Prereq: Background courses in Middle Eastern history, culture, or politics are recommended but not required. Not open to students with credit for 654.

**543 History of India****543.01 Ancient India U G 5**

A history of India from 2500 B.C.E. to the Muslim invasion of the 10th and 11th centuries C.E.

**543.02 Islamic India U G 5**

The Sultanate and Mughal Empires (1000-1707 A.D.); emphasis on imperial institutions and the interaction of Hindu and Muslim societies.

Not open to students with credit for 645.02.

**543.03 Colonial India U G 5**

A history of South Asia during the colonial period, from the arrival of Vasco da Gama in 1498 until independence and partition in 1947.

Not open to students with credit for 645.04.

**543.04 Contemporary India and South Asia U 5**

The political, social, economic, and cultural history of contemporary India and the South Asian subcontinent, focusing on India, Pakistan, and Bangladesh.

2 2-hr cl.

**545 Chinese History****545.01 The Chinese Empire, Tenth-Fourteenth Centuries U G 5**

A survey of the first segment of the later Chinese imperial period, the Song (960-1279) and Yuan (1279-1368) dynasties.

**545.02 China in the Early Modern Era: The Ming and Qing Dynasties U G 5**

The major topics in Ming and Qing history.

**545.03 Modern China, 1800-1949 U G 5**

History of modern China with emphasis on cultural contact between China and the West.

Not open to students with credit for 547.03 or 646.

**545.04 History of Contemporary China, 1949-Present U G 5**

A general but analytic introduction to the social, political, and intellectual history of contemporary China, 1949-present.

Not open to students with credit for 344.

**546 Topics in Chinese History U G 5**

Selected thematic topics in Chinese history.

Not open to students with credit for 691. Repeatable to a maximum of 10 cr hrs.

**548 History of Japan****548.01 History of Japan before 1800 U G 5**

History of Japan to 19th century; emphasis on religion, politics, economic development, social structure and culture.

Not open to students with credit for 647.

**548.02 Modern Japan U G 5**

Political, social, and intellectual history of Japan from the beginning of the Meiji Period (1868) to the present.

Not open to students with credit for 648.

**551 Africa before Colonial Rule U G 5**

Examination of pre-colonial political, economic, and social systems, including material culture and agriculture.

Prereq: 122 or AfAm&ASt 122 or grad standing or permission of instructor. Not open to students with credit for 674, or AfAm&ASt 611 or 674.

**552 History of South Africa U G 5**

An examination of the political and social developments in South Africa from the nineteenth century to the present.

Not open to students with credit for 675, or AfAm&ASt 537 or 675 or 575. Cross-listed with AfAm&ASt 575.

**555 Topics in African-American History**

Selected topics in African-American history from the origins of slavery to the present.

Each decimal subdivision repeatable, including cr hrs earned in AfAm&AST 555.01 and 555.02. Cross-listed in African-American and African Studies.

**555.01 Topics in African-American History I U G 5**

Selected topics in African-American history from the origins of African-American culture and slavery to emancipation.

Repeatable to a maximum of 10 cr hrs.

**555.02 Topics in African-American History II U G 5**

Selected topics in African-American history from emancipation through segregation, and the Civil Rights Movement to the present.

Repeatable to a maximum of 10 cr hrs.

**556 Colonial North America to 1763 U G 5**

The history of colonial and native societies in North America from first contacts to the eve of the imperial crisis.

Not open to students with credit for 656.

**557 Early U.S. History****557.01 American Revolution and New Nation, 1763-1800 U G 5**

Analysis of social, economic, cultural, and political changes in 18th century America.

Not open to students with credit for 658.

**557.02 Jeffersonian and Jacksonian Democracy, 1800-1845 U G 5**

A continuation of 557.01 but may be taken separately; primary emphasis on social and political history of postrevolutionary America.

Not open to students with credit for 659.

**557.03 Civil War and Reconstruction U G 5**

The causes, character, and consequences of America's intersectional war and the post-war settlement.

Not open to students with credit for 662.

**559 History of Slavery in North America from Colonial Times to 1860 U G 5**

The social system of the Old South; the various aspects of secession and the impact of war.

Not open to students with credit for 661.

**560 Westward Movement in American History U G 5**

The westward spread of settlement and the influence of the westward movement on American development.

Not open to students with credit for 660.

**561 History of American Science U G 5**

Social and intellectual factors from colonial beginnings to professionalization; Darwinism; American preeminence; the modern scientific crisis.

Prereq: Jr standing. Not open to students with credit for 680.

**562 History of American Medicine U G 5**

Disease, public health, and the profession and practice of medicine in America from colonial times to the present.

5 cl. Not open to students with credit for 684.

**564 Gilded Age to Progressive Era, 1877-1920 U G 5**

Intensive study of the U.S. from 1877 to 1920; subjects include industrialization, Populism, Progressivism, immigration, urbanization, and foreign policy through World War I.

Not open to students with credit for 563.

**565 From the New Era to the New Frontier, 1921-1963 U G 5**

U.S. domestic and foreign policy history, 1921 to 1963 covering New Era, New Deal, World War II, Cold War, Fair Deal, Eisenhower Republicanism, New Frontier.

**566 The Contemporary United States since 1963 U G 5**

Political, economic, social and cultural change since 1963; emphasis on political polarization, post-industrial economy, civil rights movement, feminism, environmentalism, Vietnam War, detente and globalization.

**568 Native American History****568.01 Native American History from European Contact to Removal, 1560-1820 U G 5**

Major issues and events in Native American history from before the European invasion and colonization through the early 1820s.

**568.02 Native American History from Removal to Present U G 5**

Major issues and events in American Indian history from the 1820s to the twenty-first century.

**569 American Labor History U G 5**

Evolution of working-class life, culture, politics, and trade unionism in America from the late 18th century to the present.

Not open to students with credit for 689.01.

**570 The United States Constitution and American Society**

The history of the interaction between American principles of government, equality, liberty, and American society.

**570.01 The United States Constitution and American Society to 1877 U G 5**

The history of the interaction between American principles of government, equality, liberty, and American society through the Civil War era.

**570.02 The United States Constitution and American Society since 1877 U G 5**

The history of the interaction between American principles of government, equality, liberty, and American society from 1877 to the present.

**577 Chicano History from Spanish Colonial to Present Period**

Chicano history from Spanish colonial period to 1900 and from 1900 to the present era.

**577.01 Chicano History, From the Spanish Colonial Period to 1900 U G 5**

Chicano experience from the late 16th century to 1900, with a special emphasis on race, class, and gender relations.

**577.02 Chicano History, From 1900 to the Present Era U G 5**

Chicano experience from 1900 to the present era, with a special emphasis on race, class, and gender relations.

**578 American Religious History U G 5**

Survey of religious history of the United States from colonial times to the present.

**579 American Cultural and Intellectual History**

Major currents in American thought and culture.

**579.01 American Cultural and Intellectual History, 1789-1900 U G 5**

Major currents in American thought of the 19th century.

**579.02 American Cultural and Intellectual History in the 20th Century U G 5**

Major currents in American thought and culture, 1900-present.

Not open to students with credit for 290.

**580 History of European Warfare****580.01 History of European Warfare from the Renaissance to 1870 U G 5**

An analysis of military affairs and of their interaction with political and diplomatic history.

Not open to students with credit for 625.01.

**580.02 History of European Warfare from 1870 through World War II U G 5**

A continuation of 580.01; an analysis of the military and diplomatic events which shaped the world in the 20th century.

Not open to students with credit for 625.02.

**581 European International History****581.01 19th Century U G 5**

History of the international relations and diplomacy of Europe from the Congress of Vienna to the First World War.

Not open to students with credit for 623.01.

**581.02 20th Century U G 5**

History of the international relations and diplomacy of Europe from the First World War to the present.

Not open to students with credit for 623.02.

**582 American Military Policy****582.01 American Military Policy, 1607-1914 U G 5**

American military policy from the colonial period through World War I and America's emergence as a world power; emphasis on war-waging and military institutions.

Not open to students with credit for 668.01.

**582.02 American Military Policy, 1914-1995 U G 5**

Emphasis on collective security, nuclear strategy, and the reciprocal impact of society and military institutions.

Not open to students with credit for 668.02.

**583 U.S. Diplomacy****583.01 U.S. Diplomacy from Independence to 1920 U G 5**

Domestic and international setting of U.S. diplomacy from the Revolutionary War to 1920.

Not open to students with credit for 670.01.

**583.02 U.S. Diplomacy, 1920-Present U G 5**

Domestic and international setting of U.S. diplomacy from 1920 to the present.

Not open to students with credit for 670.02 or 670.03.

**584 Modern Intelligence History U 5**

This course examines the role of diplomatic and military intelligence in the making of policy in modern history.

2 2-hr cl.

**585 History of Literacy U 5**

This course seeks to understand the history of literacy by examining literacy's contributions to making the modern world, and social changes' impacts on literacy.

Prereq: 1 10-hour historical survey sequence. Not open to students with credit for English 585.02 or Comp Std 585.02. Cross-listed with English 585.02 and Comp Std 585.02.

**587 Business History in the World****587.01 Comparative Business History U G 5**

An historical comparison of the development of modern forms of business and business management in Great Britain, the United States, and Japan.

Not open to students with credit for 568.

**587.02 Science, Technology, and Business in Japan U G 5**

An examination of the historical development of business from the early 17th century to the present with attention to the interconnections between business, technology, and science.

Not open to students with credit for 649.

**588 Slavery in Comparative Context U G 5**

Different forms of slavery and other forms of unfree labor in different cultures, focusing mainly on Europe, the Americas, and Africa.

2 2-hr cl. Not open to students with credit for 669 or AfAm&ASt 669.

**589 Marginal Groups in the Non-Western World U 5**

Comparison of the experiences of several marginal and minority groups in the major non-western civilizations from roughly the 16th-20th centuries.

2 2-hr cl.

**593 Individual Studies U G 1-5**

Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**594 Group Studies U G 1-5**

The investigation of particular problems in various fields of history.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 30 cr hrs.

**596 Introduction to Quantitative Methods in History U G 5**

Prepares students to use quantitative methods in historical research and to take intermediate courses in statistics and data analysis.

Not open to students with credit for 681 or 765.01.

**597 Critical Issues of the 20th-Century World U 5**

Contemporary global problems in historical perspectives; war and threat of war; intercontinental, racial, ideological, and economic conflicts; the search for a new world order.

Prereq: Jr or sr standing. Not open to students with credit for 400. GEC contemporary world course.

**598 Seminars**

GEC third writing courses.

**598.01 Senior Colloquium U 5**

The nature of historical judgment and interpretation: the roles of evidence, approach, and presuppositions.

Prereq: Sr history majors or written permission of instructor. Not open to students with credit for 598 or 598.02.

**598.02 Proseminar in History U 5**

Designed to give undergraduate majors experience in the analysis of historical problems through a reading and research program.

H598.02 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 598.02: Sr standing in history or permission of instructor. Prereq for H598.02: Honors history major or permission of instructor. Not open to students with credit for 598 or 598.01. Repeatable to a maximum of 15 crs.

**692 Workshop U G 1-8**

Arr. Repeatable.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different title study tours only.

Prereq: Permission of instructor.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Research in History U 1-15**

Undergraduate research in history.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**700 Studies in World History G 5**

Analysis of seminal works and concepts in the development of global-scaled integrative approaches to world history.

Prereq: Course work at the 600 level or above in history of more than one civilization and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**706 Studies in Medieval History****706.01 Advanced Readings in Medieval History U G 5**

Advanced reading course in sources and monographs on the principal issues and problems in medieval history, with a stress on bibliography.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**706.02 Late Medieval Paleography and Diplomats U G 3**

Cursive hands in literature and diplomas, 1200-1500; the development of chanceries; notariats, secretariats, and the science of diplomatics; exercises with facsimiles, slides, and microfilm.

Prereq: Permission of instructor.

**708 Studies in Ancient History U G 5**

An intensive study of selected problems and sources in ancient history (Near Eastern, Greek and/or Roman); readings in the primary and secondary materials.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**709 Methodology in Ancient History G 5**

Introduction to the methodologies and bibliographies fundamental to graduate study of ancient Greek and Roman history through written papers and oral class reports.

Minimum of 2 hrs weekly in class; other time in library research. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**710 Studies in Renaissance or Reformation History U G 5**

Principal issues in the history of the Renaissance or the Reformation.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**712 Studies in Early Modern European History U G 5**

Selected topics in western European history of the 17th and 18th centuries.

Prereq: 612 or permission of instructor. Open only to grad students and by permission to srs majoring in history. Repeatable to a maximum of 15 cr hrs.

**713 Colloquium in Early Modern Studies G 5**

Readings seminar in topics in early modern (1350-1800) studies; history, literature, arts, and music.

1 2-hr cl. Prereq: Grad standing in history, or permission of instructor. Repeatable to a maximum of 15 cr hrs. Required for grad students in early modern European history.

**714 Studies in French History since 1815 U G 5**

An intensive study, through reading and discussion of standard works and recent scholarship, of the chief interpretative problems of modern French history.

Prereq: Grad standing or by permission to srs majoring in history. Repeatable to a maximum of 10 cr hrs.

**723 Studies in European International History G 5**

Readings in and discussion of the history of European international relations from the late 19th century.

Repeatable to a maximum of 20 cr hrs.

**726 Studies in Jewish History U G 5**

An intensive study of selected issues in Jewish history; emphasis on problems posed by available source material and by current research in the area.

Prereq: Grad standing or by permission to srs majoring in history. Repeatable to a maximum of 15 cr hrs.

**727 Studies in Islamic History U G 5**

Selected topics in Islamic history and historiography.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 25 cr hrs.

**730 Studies in 19th and 20th Century European Thought and Culture G 5**

Selected topics in Western European history of the 19th and 20th centuries.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**731 Studies in European History, 1914 to Present U G 5**

Political, social, and economic developments; World Wars I and II; Communism, Nazism; present-day Europe; emphasis on methods of historical research and documentary analysis.

Open only to grad students and by permission to srs majoring in history. Repeatable to a maximum of 10 cr hrs.

**732 Studies in German History U G 5**

Exploration of selected topics of 19th and 20th century German history; emphasis on methods of historical research and documentary analysis.

Prereq: 618 or equiv. Open only to grad students and by permission to srs majoring in history.

**738 Studies in British History U G 5**

Selected problems in British history since 1485; emphasis on different schools and interpretations, on methods of research, and an analysis of documents.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**739 Comparative Constitutional Politics G 5**

Compares constitutions and constitutionalism across cultures and through different disciplines with special attention to how people make claims to secure their rights and interests.

Prereq: Grad standing or permission of instructor. Not open to students with credit for Comp Std 739. Cross-listed in Comparative Studies.

**740 Studies in Russian and Soviet History U G 5**

An intensive study of problems in selected periods of Russian history.

Open only to grad students and by permission to srs majoring in history. Repeatable to a maximum of 15 cr hrs.

**741 Studies in Eastern European History U G 5**

Selected topics in modern Eastern European political, social, cultural, and intellectual history and historiography; theoretical and comparative emphasis.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**742 African Historiography and Methodology G 5**

The study of sources, research methods, interpretations, and research trends in the field of African history.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs. including or hrs earned in AfAm&ASt 742. Cross-listed in African-American and African Studies.

**743 Studies in African History G 5**

The study of the historical literature of Africa and various aspects of African history; topics vary.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs. including or hrs earned in AfAm&ASt 743. Cross-listed in African-American and African Studies.

**744 African Women: History and Socioeconomic Change G 5**

Focuses on African women's experiences: legal and socioeconomic status, religious and political roles, the impact of colonial and post colonial developments, feminism and representation issues.

Sp Qtr. 1 3-hr cl. Not open to students with credit for Wom Stds 623. Cross-listed with Wom Stds 623.

**751 Studies in Latin American History U G 5**

An intensive study of problems in selected periods of Latin American history.

Prereq: Grad standing or permission of instructor for srs majoring in history or a cognate Latin American field. Repeatable to a maximum of 10 cr hrs.

**752 Readings in African-American History U G 5**

Readings in the evolution of black culture, economics and family life, race relations, and the emergence of class stratification within the black community.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including or hrs in AfAm&ASt 752. Cross-listed in African-American and African Studies.

**753 Studies in the History of Religion G 5**

An intensive readings course in some aspect of the history of religion; specific topic to be announced.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**758 Comparative History of the African Diaspora**

A two-part course on the history and evolution of the African Diaspora worldwide, from ancient times to the present.

Cross-listed in African-American and African Studies.

**758.01 Enslavement and Emancipation G 5**

Examination of the dispersal of Africans, mainly through the slave trade across the Sahara, the Indian Ocean, the Mediterranean, and the Atlantic Ocean.

Prereq: Grad standing or permission of instructor. Not open to students with credit for AfAm&ASt 758.01.

**758.02 Post-Emancipation, Colonial and Post-Colonial Realities G**

5

Examination of social, political and cultural developments and realities in the Black world, from the period of the emancipation to the beginning of the 21st century.

Prereq: Grad standing and 758.01 or AfAm&ASt 758.01; or permission of instructor. Not open to students with credit for AfAm&ASt 758.02.

**761 Studies in Mid-19th Century American History U G 5**

An intensive study of selected topics with emphasis on historiography and bibliography.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**765 Studies in Environmental History G 5**

Analysis of a range of studies in environmental history; chronological and geographical focus will be shaped by students' interests.

Prereq: Grad standing or permission of instructor to students with credit for 567.

**767 Studies in Military History U G 5**

Selected topics and periods in military history; emphasis on recent scholarship.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**768 Studies in Military Thought and Strategy U G 5**

Analysis and comparison of the most influential writers on the theory and practice of warfare including Thucydides, Machiavelli, Clausewitz, Mahan, Fuller, and Liddell Hart.

Prereq: 668 or equiv, and grad standing; or permission of instructor.

**770 Studies in the History of American Foreign Policy U G 5**

Studies in the main problems of American foreign policy with primary emphasis on basic literatures and selected primary materials.

Prereq: 670 and grad standing; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**771 Themes in Recent United States History G 5**

Readings colloquium in selected themes in the history of the United States since 1877.

Prereq: Grad standing. Repeatable to a maximum of 20 cr hrs.

**772 Studies in Recent United States History U G 5**

Readings in selected topics in American history since 1898.

Prereq: Undergrads by permission of instructor. Repeatable to a maximum of 20 cr hrs.

**773 Studies in Business History U G 5**

Readings in the growth of capitalism, the rise of the modern corporation, government-business relations, business and society, and comparative business history.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**774 History of American Law and Society U G 5**

The history of American law and legal institutions, and their relationship to society, from colonial times to the present.

Not open to students with credit for 585 or 687.

**775 History of Literacy G 5**

From the invention of alphabets to the electronic age: literacy's relationships with social, cultural, political, and economic changes; impacts and significance for individuals and collectives.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. Cross-listed with English 884.

**780 Topics in the History of Sexuality G 5**

Designed to give graduate students an interdisciplinary, international background to sexuality history.

Prereq: Grad standing.

**781 Studies in Women's History U G 5**

An intensive reading course designed to prepare graduate students in women's history in a comparative framework.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs. including or hrs earned in Comp Std 781. Cross-listed in Comparative Studies.

**H783 Honors Research U 3-5**

Informal conferences to allow full scope to the initiative of the student; a special topic is assigned and results are tested by papers and special examinations.

Prereq: 4th yr standing and 40 cr hrs in history courses with a grade of A in at least half of the history courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 2 qtrs are required of candidates for the degree BA with distinction in history. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**784 Readings in American Constitutional and Legal History U G 5**

An intensive investigation of standard works as well as influential and seminal articles in American constitutional and legal history.

Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**785 Readings in American History to 1877**

Readings in the basic historical literature of colonial America and the United States through Reconstruction after the Civil War.

Prereq: Grad standing or permission of instructor.

**785.01 Readings in American Colonial History and the American Revolution U G 5**

Readings in the basic historical literature of colonial and revolutionary America through 1783.

**785.02 Readings in the History of the Early Republic U G 5**

Readings in the basic historical literature of the early Republic, the Jacksonian era, and the market revolution from 1776 to 1850.

**785.03 Readings in the History of the United States in the Civil War Era U G 5**

Readings in the basic historical literature of the United States during the era of the Civil War and Reconstruction, from 1845 to 1877.

**786 Colloquium in the Philosophy of History, Historiography, and the Historian's Skills I U G 5**

Colloquium on the principles of historical thought, historiography, and methods of historical research.

Prereq: Grad standing in history or permission of instructor. Required of MA and PhD candidates in history.

**787 Colloquium in the Philosophy of History, Historiography, and the Historian's Skills II U G 5**

Continuation of 786 with emphasis on research methods.

Prereq: 786 or permission of instructor. Required at the discretion of the adviser.

**788 Studies in American Urban History U G 5**

A detailed examination of several themes in the growth of urban America.

Prereq: 688 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**789 Topics in American History to 1877 U G 5**

Readings in selected topics in American history to 1877.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**790 Graduate Colloquium on Historical Writing G 5**

Designed to develop skills in historical writing.

Prereq: Grad standing or permission of instructor.

**791 Topics in History G 1-5**

The investigation of particular problems in various fields of history through individual studies.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing. Repeatable to a maximum of 20 cr hrs.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs.

**795 Professional Development****795.01 Introduction to Teaching College History G 5**

Basic ideas and techniques for effective teaching of college history; emphasis on classroom application.

Prereq: Grad standing in history. Required for history grad associates. Not open to students with credit for 795. This course is graded S/U.

**795.02 Pre-Professional Colloquium for Historians G 5**

This professional development colloquium is designed to help graduate students locate funding sources for their study, research, conferences and other professional activities.

Prereq: Grad standing. This S/U elective can be taken in lieu of History 999 credit only. It does not replace other 700-level requirements for the MA or PhD degree. This course is graded S/U.

**796 Studies in Japanese History U G 5**

An intensive study, through reading and discussion, of major issues and recent scholarship in Japanese history.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**797 Introduction to Graduate-level East Asian Studies G 5**

We explore the origin, development and current state of East Asian Area Studies in the U.S., including its relationship to other intellectual disciplines.

Prereq: Grad standing or permission of instructor. Not open to students with credit for EALL 797 or Hist Art 797. Cross-listed in East Asian Languages and Literatures and History of Art.

**798 Studies in Chinese History U G 5**

Research topic to be announced.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs. Knowledge of Chinese desirable but not required.

**800 Seminar in Renaissance and Reformation History**

Research topic to be announced.

**800.01 Seminar in Renaissance or Reformation History I G 5**

Renaissance and Reformation.

Repeatable to a maximum of 20 cr hrs. This is a Progress course. Credit will be awarded upon completion of 800.02.

**800.02 Seminar in Renaissance or Reformation History II G 5**

Continuation of 800.01.

Repeatable to a maximum of 20 cr hrs. This is a Progress course.

**801 Seminar in German History**

Research topic to be announced.

**801.01 Seminar in German History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 801.02.

**801.02 Seminar in German History II G 5**

Continuation of 801.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**802 Seminar in Russian and Soviet History**

Research topics to be announced.

**802.01 Seminar in Russian and East European History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**802.02 Seminar in Russian and East European History II G 5**

Continuation of 802.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**803 Seminar in British History**

Research topic to be announced.

**803.01 Seminar in British History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 803.02.

**803.02 Seminar in British History II G 5**

Continuation of 803.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**804 Seminar in East Central European History**

Research topic to be announced.

**804.01 Seminar in East Central European History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 804.02.

**804.02 Seminar in East Central European History II G 5**

Continuation of 804.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**805 Seminar in French History**

Research topic to be announced.

**805.01 Seminar in French History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 805.02.

**805.02 Seminar in French History II G 5**

Continuation of 805.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**807 Seminar in Medieval History**

Research topic to be announced.

**807.01 Seminar in Medieval History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 807.02.

**807.02 Seminar in Medieval History II G 5**

Continuation of 807.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**808 Seminar in Ancient History**

Topic to be announced.

Prereq: Permission of instructor.

**808.01 Seminar in Ancient History I G 5**

Repeatable to a maximum of 30 cr hrs. This is a Progress course. Credit will be awarded upon completion of 808.02.

**808.02 Seminar in Ancient History II G 5**

Continuation of 808.01.

Repeatable to a maximum of 30 cr hrs. This is a Progress course.

**810 Seminar in World History**

Research topics to be announced.

Prereq: 700 or permission of instructor.

**810.01 Seminar in World History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 810.02.

**810.02 Seminar in World History II G 5**

Continuation of 810.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**823 Seminar in European International History****823.01 Seminar in European International History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 823.02.

**823.02 Seminar in European International History II G 5**

Continuation of 823.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**824 Seminar in Modern European History**

Seminar in modern European history that develops and applies skills for research papers, masters theses, and dissertations.

Prereq: Grad standing.

**824.01 Seminar in Modern European History I G 5**

Repeatable to a maximum of 40 cr hrs. This is a Progress course. Credit will be awarded upon completion of 824.02.

**824.02 Seminar in Modern European History II G 5**

Continuation of 824.01.

Repeatable to a maximum of 40 cr hrs. This is a Progress course.

**827 Seminar in the History of the Islamic World**

Research topic to be announced.

**827.01 Seminar in the History of the Islamic World I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 827.02.

**827.02 Seminar in the History of the Islamic World II G 5**

Continuation of 827.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**845 Seminar in East Asian History**

Research topic to be announced.

**845.01 Seminar in East Asian History I G 5**

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 845.02.

**845.02 Seminar in East Asian History II G 5**

Continuation of 845.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**850 Seminar in History G 5**

Research topic to be announced.

Prereq: Written permission of grad chairperson. Repeatable to a maximum of 15 cr hrs.

**851 Seminar in Latin American History**

Research topic to be announced.

Prereq: Permission of instructor.

**851.01 Seminar in Latin American History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 851.02.

**851.02 Seminar in Latin American History II G 5**

Continuation of 851.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**862 Seminar in Jewish History**

Research topic to be announced.

**862.01 Seminar in Jewish History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 862.02.

**862.02 Seminar in Jewish History II G 5**

Continuation of 862.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**867 Seminar in Early American History**

Research topic to be announced.

**867.01 Seminar in Early American History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 867.02.

**867.02 Seminar in Early American History II G 5**

Continuation of 867.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**868 Seminar in 19th-Century American History**

Research topic to be announced.

**868.01 Seminar in 19th Century American History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 868.02.

**868.02 Seminar in 19th Century American History II G 5**

Continuation of 868.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**869 Seminar in 20th-Century American History**

Research topic to be announced.

**869.01 Seminar in 20th Century American History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 869.02.

**869.02 Seminar in 20th Century American History II G 5**

Continuation of 869.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**870 Seminar in Selected Topics in American History**

Research topic to be announced.

**870.01 Seminar in Selected Topics in American History I G 5**

Topics will include business, institutional, and public policy, constitutional, cultural, African-American, women, and labor history.

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 870.02.

**870.02 Seminar in Selected Topics in American History II G 5**

Continuation of 870.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**871 Seminar in American Diplomatic History**

Prereq: Permission of instructor.

**871.01 Seminar in American Diplomatic History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 871.02.

**871.02 Seminar in American Diplomatic History II G 5**

Continuation of 871.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**873 Seminar in United States Military History**

Research topic to be announced.

**873.01 Seminar in United States Military History I G 5**

Prereq: 668 or equiv. Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 873.02.

**873.02 Seminar in United States Military History II G 5**

Continuation of 873.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**875 Seminar in African-American History**

A two-quarter seminar designed to provide experience in the research and writing of a scholarly paper based on primary source material in African-American history.

Prereq: Grad standing or permission of instructor.

**875.01 Seminar in African-American History I G 5**

1 3-hr cl. Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 875.02.

**875.02 Seminar in African-American History II G 5**

Continuation of 875.01.

1 3-hr cl. Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**881 Seminar in Women's History**

Research topic to be announced.

Prereq: Permission of instructor.

**881.01 Seminar in Women's History I G 5**

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 881.02.

**881.02 Seminar in Women's History II G 5**

Continuation of 881.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**890 Topical Research Seminar I**

Research topic to be announced.

Prereq: PhD standing or permission of instructor.

**890.01 Topical Research Seminar I G 5**

A two-quarter seminar on topical themes.

Repeatable to a maximum of 10 cr hrs. This is a Progress course. Credit will be awarded upon completion of 890.02.

**890.02 Topical Research Seminar II G 5**

Continuation of 890.01.

Repeatable to a maximum of 10 cr hrs. This is a Progress course.

**891 Topical Research Seminar G 5**

A one-quarter seminar on topical themes.

Prereq: Permission of instructor. This is a Progress course.

**898 Master's Thesis G 1-10**

Research for master's thesis.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**899 Interdepartmental Seminar G 1-5**

Two or more departments may collaborate in pressing seminars on subjects of mutual interest; topics to be announced. Repeatable by permission.

**999 Research in History G 1-18**

Research for thesis or dissertation purposes only.

Repeatable. This course is graded S/U.

## History of Art

100 Hayes Hall, 108 North Oval Mall, 292-7481

**201 History of Western Art I: The Ancient and Medieval Periods U 5**

Examination of the history of Western art from the third millennium BC to the fifteenth century AD.

Not open to students with credit for 210. GEC arts and hums VPA course and historical studies.

**202 History of Western Art II: Europe and the United States, Renaissance to Modern U 5**

Examination of the history of art in Europe and the United States, from about 1500 to the present.

Not open to students with credit for 212. GEC arts and hums VPA course and historical studies.

**H210 Art of the Ancient World U 5**

An investigation of the art of Western civilizations (Mesopotamia, Egypt, Greece, and the Roman and Byzantine empires) in its historical and cultural context.

Su, Au, Wi, Sp Qtrs. 5 cl. Open to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums VPA course. VPA Admis Cond course.

**H211 Art of the Medieval and Renaissance Worlds U 5**

An investigation of Medieval and Renaissance art in its historical and cultural context.

Su, Au, Wi, Sp Qtrs. 5 cl. Open to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums VPA course. VPA Admis Cond course.

**H212 Art of the Modern World U 5**

An investigation of the art of Europe and America in its historical and cultural context from the 17th century to the present day.

Su, Au, Wi, Sp Qtrs. 5 cl. Open to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums VPA course. VPA Admis Cond course.

**213 Asian Art U 5**

Art of Asian cultures from ancient through contemporary times.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 2nd yr standing or 1st yr standing with credit for 111, 210, 211, 212, 216, or 250. GEC arts and hums VPA course.

**216 Introduction to African Art and Archaeology U 5**

The art and archaeology of Africa with emphasis on the historic cultures of the Rock Art (8,000 B.C.), Egypt (3000 B.C.), Nok (900 B.C.), Igbo-Ukwu (695 A.D.), Ife (1200 A.D.), and Benin (1400-1900 A.D.).

5 cl. GEC arts and hums VPA course. VPA Admis Cond course.

**260 Introduction to World Cinema U 5**

Chronological survey of the most influential and recognized film artists and film movements of the world.

5 cl. GEC arts and hums VPA course.

**294 Group Studies U 2-5**

The investigation of particular problems in various fields of the history of art. Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**300 Great Monuments of Western Civilization U 5**

Major buildings of Western civilization from antiquity to the present in their historical and cultural contexts.

Not open to students with credit for 250, Arch 201, or any course from Arch 600-602 sequence, or more than one course from Hist Art 210-212 sequence. GEC arts and hums VPA course.

**301 Christian Art U 5**

An introduction to the wide range of forms and functions of Christian images and spaces from their origin until 1700.

4 cl. Prereq: 2nd yr standing. GEC arts and hums VPA course.

**305 Art and Civilization in the Near East U 5**

An examination of the development of the visual arts and architecture of the Near East from the Neolithic Revolution to the Islamic period.

5 cl. Prereq: 2nd yr standing. GEC arts and hums VPA course.

**306 Classical Archaeology U 5**

Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites.

5 cl. Not open to students with credit for 240, Classics 240 or History 240 or 306. Cross-listed in Classics as 240 and in History as 306. GEC arts and hums cultures and ideas course.

**315 Renaissance Art in Italy U 5**

Art and society in Renaissance Italy.

2 2-hr cl. Prereq: 2nd yr standing. Not open to students with credit for 515, 529, or 530. GEC arts and hums VPA course.

**316 Dante's Divine Comedy and its Visualizations U 5**

An interdisciplinary look at Dante's Divine Comedy and visual responses to it from the 14th century to the present.

2 2-cl hr. Prereq: English 110 and 2nd year standing. GEC arts and hums VPA course.

**340 Aspects of Modernity U 5**

Explores questions of the distinctively "modern" in relation both to particular works of art and to various explicit reflections on broader cultural notions of modernity.

Prereq: English 110 and 2nd yr standing. GEC arts and hums VPA course.

**345 History of Photography U 5**

A thematic overview and critical introduction to the main debates and achievements in the history of photography.

Prereq: 2nd yr standing. GEC arts and hums VPA course.

**350 World Cinema Today U 5**

An introduction to the art of international cinema today, including its forms and varied content.

Prereq: 2nd yr standing. GEC arts and hums VPA course.

**360 Philosophy of African Art U 5**

A thematic examination of theoretical bases of African art and culture.

Prereq: 2nd yr standing. GEC arts and hums VPA course.

**415 Writing Seminar in the History of Art U 5**

Training in writing a variety of assignments commonly undertaken by art historians.

5 cl. Prereq: Jr or sr standing in hist art. GEC third writing course.

**430 Museum Studies Seminar U 5**

This seminar will provide a hands-on exploration of museum exhibitions and how they shape knowledge in the field.

Prereq: Permission of instructor.

**450 An Introduction to Artistic Media and Techniques U 5**

A survey of the major historical and contemporary artistic media and techniques.

2 2-hr cl. Prereq: Hist art major or permission of instructor.

**489 Internship in Art History U 1-5**

A cooperative education or internship assignment conducted under the supervision of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**493 Individual Studies U 2-5**

Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**500 Wexner Center Seminar U G 1-5**

Seminar offered in conjunction with Wexner Center exhibitions, performance series, media series, or symposia; may be taught by visiting artists, performers, or critics.

Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in Comp Std 550. Cross-listed in Comparative Studies as 550.

**503 Architecture of the Middle Ages U G 5**

Cities, monasteries, churches and secular architecture of the Early Christian, Carolingian, Romanesque and Gothic periods in Western Europe within their historical context.

5 cl. Prereq: 210 or 211, or Arch 601, or permission of instructor. Not open to students with credit for 603.

**505 Contemporary African Art: 1920 to Present U G 5**

Survey of the development of 20th-century African art.

5 cl. Prereq: 2nd yr standing. GEC arts and hums VPA course.

**H512 Abstract Art U 5**

A study of the underlying principles of abstraction in modern European art.

5 cl. Prereq: 210 or 211 or 212, and enrollment in an honors program; or permission of instructor.

**H514 Art as Historical Document: Evaluating the Evidence in Early Modern Europe U 5**

An investigation of the functions of art and its role as evidence in historical interpretations of early modern Europe.

Prereq: Enrollment in honors program or permission of instructor.

**519 Great Masters of the 17th and 18th Centuries U G 5**

A study concentrating upon the individual careers of Caravaggio, Bernini, Rubens, Rembrandt, Velazquez, Poussin, Watteau, Tiepolo, and David.

2 2-hr cl. H519 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 2nd yr standing. Not open to hist art majors or to students with credit for 631, 632, or 634. GEC arts and hums VPA course.

**520 19th- and 20th-Century European Art U G 5**

European art from about 1800 to the present, with emphasis on the outstanding masters of painting and sculpture.

5 cl. Prereq: 2nd yr standing. Not open to students with credit for 635 or 636. GEC arts and hums VPA course.

**521 Egyptian Art and Archaeology U G 5**

A specialized study of the architecture, sculpture, painting, and minor arts of ancient Egypt.

5 cl. Prereq: 210 or equiv with permission of instructor. Not open to students with credit for 621.

**522 Art and Archaeology of Ancient Greece U G 5**

Survey of art and architecture of Ancient Greece from the early Bronze Age (c.3000 B.C.) through the Hellenistic period (31 B.C.).

5 cl. Prereq: 210 or permission of instructor. Not open to students with credit for 622.

**523 Art and Archaeology of Ancient Rome U G 5**

Survey of the art and architecture of the Roman Empire, including their Hellenistic origins.

5 cl. Prereq: 210 or permission of instructor. Not open to students with credit for 623.

**524 Early Christian and Byzantine Art U G 5**

Art and architecture of the early Christian and Byzantine world from the 3rd through the 15th centuries with special emphasis on the Mediterranean region.

5 cl. Prereq: 210 or permission of instructor. Not open to students with credit for 624.

**525 Medieval Art U G 5**

Art and architecture of Europe and the Eastern Mediterranean from the 5th to the 15th centuries; focuses on visual culture of monasteries, cathedrals, and castles.

5 cl. Prereq: 2nd yr standing. Not open to students with credit for 603, 625, or 651. GEC arts and hums VPA course.

**527 Northern Renaissance Art U 5**

Art of Northern Europe from the late 14th to the mid 16th century, with emphasis on the major masters.

5 cl. Prereq: 211 or permission of instructor. Not open to students with credit for 627.

**529 Early Renaissance Art in Italy U G 5**

An introduction to the art and architecture of 15th century Italy.

2 2-hr cl. Prereq: 211 or equiv with permission of instructor. Not open to students with credit for 629.

**530 American Art U 5**

A study of architecture, painting, and sculpture in America.

2 2-hr cl. H530 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or 110.01 and 2nd yr standing. Not open to students with credit for 330. GEC arts and hums VPA course.

**531 High Renaissance and Mannerist Art in Italy U G 5**

An introduction to the art and architecture of 16th century Italy.

2 2-hr cl. Prereq: 211 or permission of instructor. Not open to students with credit for 630.01 or 630.02.

**532 Baroque Art in Italy and Spain U 5**

17th century Italian and Spanish art and architecture: focuses on major artists and various functions of art and architecture.

2 2-hr cl. Prereq: 211 or 212 or permission of instructor. Not open to students with credit for 631.

**533 Northern Baroque Art U G 5**

17th Century Dutch and Belgium art: focuses on major artists and various functions of art (propagating religious beliefs, shaping values, defining identities, etc).

Prereq: 211 or 212 or permission of instructor.

**534 18th Century European Art U G 5**

Artistic trends in eighteenth century Venice, Rome, Paris and London.

5 cl. Prereq: 212 or permission of instructor. Not open to students with credit for 634.

**535 Nineteenth-Century European Art U G 5**

A survey of the major developments in European art from the French Revolution until the end of the nineteenth century.

Prereq: 212 or permission of instructor.

**540 Twentieth-Century European Art U G 5**

Historical/conceptual survey of European art of the twentieth century.

Prereq: 212, 340 or permission of instructor.

**541 Contemporary Art since 1945 U G 5**

Visual arts of Europe and the United States from 1945 to the present.

Prereq: 212 or permission of instructor. Not open to students with credit for 640.

**H542 Honors Seminar: Cultural History of the Midwest in the 20th Century U 5**

Will explore the meaning of "midwest" through a range of cultural productions and cultural histories.

Wi Qtr. 2 2-hr cl. Prereq: Jr standing. Honors students only. Cross-listed with History H598.02.

**545 Russian Art U G 5**

A millennium of art and architecture, from the period of Kyiv-Rus through the dissolution of the Soviet Union.

5 cl. Prereq: 2nd yr standing or permission of instructor. Not open to students with credit for 644 or 645.

**546 Classic Film Theories U G 5**

Study of historically important theories of film art.

5 cl. Prereq: 2nd yr standing. Not open to students with credit for 646.

**550 Art of Paris U G 5**

Study of the painting, sculpture, buildings, and public and private spaces created in and for the people and the city of Paris.

5 cl. Prereq: 2nd yr standing.

**558 19th-Century European Architecture U G 5**

An investigation of architecture from the late 18th century to the end of the 19th century, focusing on issues of Modernism.

5 cl. Prereq: 212 or permission of instructor. Not open to students with credit for 607.

**559 Twentieth-Century Architecture U G 5**

A historical and conceptual survey of architecture from the late 19th century to the beginning of the 21st.

Prereq: 212 or permission of instructor.

**561 Art and Architecture of the Ancient Near East U G 5**

A specialized study of the art and archaeology of the ancient Near East focusing on the cultures of the Mesopotamian valley and surrounding areas.

5 cl. Prereq: 210 or permission of instructor. Not open to students with credit for 661.

**576 The Arts of China U G 5**

An overview of the visual arts of China and their cultural context from prehistoric times to the modern era.

5 cl. Prereq: Soph standing or permission of instructor. GEC arts and hums VPA course.



**582 Arts of Japan U G 5**

Major trends in the visual arts of Japan, from prehistory through the 19th century.

Su, Au, Wi, Sp Qtrs. 2-2-hr cl. Prereq: 2nd yr standing or permission of instructor. GEC arts and hums vpa and non-western or global diversity course.

**600 Introduction to Contemporary Art Historical Theory U G 5**

Exploration of new/theoretical paradigms in art history.  
5 cl.

**601 Architecture of the Ancient Orient U G 5**

Survey of architecture of southwest Asia and the Nile Valley from the fourth millennium B.C. to the fourth century B.C.

5 cl. Prereq: 210 or permission of instructor. Not open to students with credit for 621 or 661.

**602 Ancient Greek and Roman Architecture U G 5**

Survey of architecture and architectural decoration in the ancient Greek and Roman worlds (ca. 1000 B.C.-A.D. 350).

5 cl. Prereq: 210 or 10 hrs of ancient history or classics, or permission of instructor. Not open to students with credit for Arch 600.

**604 Renaissance Architecture U G 5**

Survey of 15th- and 16th-century architecture in western Europe.

5 cl. Prereq: 211 or permission of instructor.

**605 Baroque Architecture U G 5**

Survey of late 16th-, 17th-, and early 18th-century architecture in western Europe.

5 cl. Prereq: 212 or permission of instructor.

**606 American Architecture U G 5**

Survey of American architecture from the pre-colonial era to the present day.

5 cl. Prereq: 212 or permission of instructor.

**610 African Art and Archaeology I U G 5**

A study of the art and culture of west Africa with emphasis on stylistic, historic, and archaeological implications.

5 cl. Prereq: 216 or permission of instructor.

**611 African Art and Archaeology II U G 5**

The study of the art and culture of central and southern Africa with emphasis on stylistic, historic, and archaeological implications.

5 cl. Prereq: 216 or permission of instructor.

**614 Comparative Study of African and European Art U G 5**

A critical study of the relationships between African and European art involving theory and practice.

5 cl. Prereq: Permission of instructor or jr standing.

**615 Contemporary Art of West Africa U G 5**

Painting and sculpture of Senegal, Sierra Leone, Liberia, Ivory Coast, Ghana, Dahomey, Nigeria, etc., focusing on history, style, and culture.

5 cl. Prereq: 216 or 505 or 610 or 614 or permission of instructor.

**616 Contemporary Art of Central Africa U G 5**

Painting and sculpture of Camerons, Gabon, Republic of Congo, Democratic Republic of the Congo, Zambia, Sudan, Uganda, etc., focusing on history, style, and culture.

5 cl. Prereq: 216 or 505 or 610 or 614 or permission of instructor.

**617 Contemporary Art of East and Southern Africa U G 5**

Painting and sculpture of Ethiopia, Kenya, Tanzania, Mozambique, Zambia, Zimbabwe, Malawi, South Africa, etc., focusing on history of style and culture.

5 cl. Prereq: 216 or 505 or 611 or 614 or permission of instructor.

**618 Contemporary Art of North Africa U G 5**

20th-century painting, sculpture, and tapestries of Morocco, Algeria, Libya, United Arab Republic, Mauritania, Mali, Niger, and Chad, focusing on history, style, and culture.

5 cl. Prereq: 216 or 505 or 610 or 611 or 614 or permission of instructor.

**619 Ancient Greek Sculpture U G 5**

A study of sculpture in the ancient Greek world during the Archaic and Classical periods (ca. 700-323 B.C.).

Prereq: 210 or 522 or equivalent preparation in Classical Studies.

**620 Ancient Roman Sculpture U G 5**

A study of sculpture in the ancient Roman world from earliest times to the era of Constantine (c. 600 B.C.- A.D. 315).

Prereq: 210 or 523 or equivalent preparation in Classical Studies.

**625 Romanesque and Gothic Art U G 5**

The art of Western Europe from the Carolingian period to the 14th century.

5 cl. Prereq: 210 or 211 or permission of instructor.

**628 Gothic towards Renaissance: The Fourteenth Century U G 5**

Art of the Late Middle Ages in Western Europe in its social context, with new developments and major artists (Giotto, Duccio, Pucelle, Sluter, Parler) emphasized.

5 cl. Prereq: 211 or permission of instructor.

**632 Dutch Art of the Golden Age U G 5**

Major artists, including Rembrandt and Vermeer, and developments of 17th century Dutch art examined with a focus on modes of representation and issues of interpretation.

5 cl. Prereq: 212 or 519 or permission of instructor. Not open to students with credit for 633 prior to Au Qtr 1998.

**635 Neo-Classicism 1760-1815 U G 5**

An examination of antiquarian and progressive impulses that spurred the classical revival of the late 18th and early 19th centuries in architecture, painting and sculpture.

2 2-hr cl. Prereq: 212 or permission of instructor. Not open to students with credit for 635.01.

**636 20th-Century European Art**

5 cl. Prereq: 212 or permission of instructor. Not open to students with credit for 636.

**636.01 20th-Century European Art, 1896-1914 U G 5**

Matisse, Picasso, Art Nouveau, and the Style Moderne; a survey of the foundations of modern art (Expressionism, Cubism, Futurism, and Non-representational).

**636.02 20th-Century European Art, 1914-1945 U G 5**

European art between the World Wars: Post-Cubism, Dada and Surrealism, Bauhaus and Constructivism, and Abstraction.

**637 American Painting and Sculpture to 1900 U G 5**

History of painting and sculpture in America from colonial times to the end of the 19th century.

5 cl. Prereq: 212 or permission of instructor, and English 110 or 111 or equiv.

**638 20th-Century American Art U G 5**

American painting and sculpture in the 20th century.

5 cl. Prereq: 212 or permission of instructor, and English 110 or 111 or equiv.

**641 Postmodernism U G 5**

Exploration of the central issues in the claim to the emergence of a distinctly "postmodern" art in the last part of the 20th century.

2 2-hr cl. Prereq: 540 or 541 or permission of instructor.

**645 Modern Russian Art**

Prereq: 2nd yr standing or permission of instructor. Not open to students with credit for 645.

**645.01 Nineteenth-Century Russian Art U G 5**

A study of the romantic, realist, and symbolist aesthetics of Russian 19th century painting and sculpture.

**645.02 Twentieth-Century Russian Art U G 5**

A study of the theories and practice of the avant-garde, socialist realism, and post-Soviet trends.

**647 Silent Cinema: 1895-1927 U G 5**

A study of development of silent film as an international art form.

5-hr cl. Prereq: 2nd yr standing.

**648 Classical Sound Cinema: 1927-1948 U G 5**

A study of the development of film as an art form from the advent of sound to WW II.

5 cl. Prereq: 2nd yr standing.

**649 Recent Cinema: 1948-Present U G 5**

A study of film as an art form since WW II.

5 cl. Prereq: 2nd yr standing.

**650 Avant-Garde Cinema U G 5**

A survey of significant historical contributions to avant-garde cinema.

2 2-hr cl. Prereq: 3rd year standing.

**651 Romanesque and Gothic Sculpture U G 5**

Development of sculpture from the 11th through the 13th centuries, with emphasis on architectural programs, their contexts, iconography, and style.

5 cl. Prereq: 211 or permission of instructor.

**652 Medieval and Renaissance Manuscript Illumination U G 5**

A chronological survey of medieval and Renaissance illuminated manuscripts in the West.

5 cl. Prereq: 210 or 211 or permission of instructor.

**653 History of Documentary Cinema U G 5**

Historical, chronological survey of significant ideas about and contributions to documentary cinema.

5 cl. Prereq: 3rd yr standing.

**654 Representations of Power and the Power of Representation in 17th Century European Art U G 5**

Examination of art and architecture as instruments of power and persuasion and vehicles for shaping identity and fostering cohesion in 17th century Europe.

Prereq: 532, 533, or sr or grad standing, or permission of instructor.

**655 Modern Art in Eastern Europe U G 5**

Late 19th and early 20th century art in Czechoslovakia, Poland, Romania, Hungary, and Yugoslavia.

Prereq: 2nd yr standing or permission of instructor.

**656 French Art: The Ancien Regime, 1620-1775 U G 5**

The evolution of French classicism, which peaked during the reign of Louis XIV and faded when the sustaining political order collapsed in the 18th century.

2-2-hr cl. Prereq: 212 or permission of instructor.

**657 European Art in the Age of Revolution, 1789-1848 U G 5**

Survey of major trends in European art from the French Revolution until the middle of the nineteenth century.

Prereq: 212, 535, or permission of instructor.

**658 Realism and Impressionism, 1848-1886 U G 5**

Survey of major trends in European art from the 1848 Revolution until the last Impressionist exhibition (1886).

Prereq: 212, 535, or permission of instructor.

**659 Post-Impressionism: Art and Culture in fin-de-siecle France (1880-1900). U G 5**

Survey of artistic developments in France during the last two decades of the nineteenth century.

Prereq: 212, 535, or permission of instructor.

**663 Early Islamic Art U G 5**

Introduction to the history of Islamic art and architecture from its formation through the classical age (i.e. from the 7th through the 13th centuries).

5 cl. Prereq: 210 or 211 or 213 or permission of instructor.

**664 Later Islamic Art U G 5**

Introduction to the history of Islamic art and architecture in the later period (14th through 18th centuries) including the Mongol, Timurid, Mamluk, Ottoman, Safavid, and Indo-Muslim art.

5 cl. Prereq: 210 or 211 or 213 or permission of instructor.

**668 The Buddhist Art of Gandhara and Kashmir U G 5**

Explores the Buddhist art of greater Gandhara and Kashmir, examining in particular its influence on both East Asian and South Asian art.

Wi Qtr. 2-2-hr cl. Prereq: 213 or permission of instructor.

**669 The Art of Newar Buddhism U G 5**

A study of the art of the Newar Buddhist community of Nepal and its contribution to the rest of north Asia.

2-2-hr cl. Prereq: 213 or permission of instructor.

**670 Buddhist Art: Theory and History U G 5**

An analysis of Buddhism and its bearing on the art of India, Nepal, Tibet, China, and Japan.

5 cl.

**671 Art of India I U G 5**

Art and architecture of India from prehistoric times through the Gupta period, ca. 500 C.E. stressing relationship to religious and cultural developments.

5 cl.

**672 Art of India II U G 5**

Art and architecture of India from the Gupta period, ca. 500 C.E. to the Muslim period stressing relationship to religious and cultural developments.

5 cl.

**673 Art of Central Asia U G 5**

An analysis of the cross currents of style and iconography that constitute the pre-Muslim art of Central Asia.

5 cl.

**674 Art of Nepal and Tibet U G 5**

A study and analysis of the major aspects of style, iconography, and historical sequence as found in the arts of Nepal and Tibet.

5 cl.

**675 Art of India III U G 5**

Art and architecture of India in the Islamic, colonial, and contemporary

periods.

**676 Hindu Iconography U G 5**

A survey of Hindu iconography emphasizing the development and meaning of specific deities.

5 cl.

**677 Chinese Art**

5 cl. Prereq: English 110 or 111 or equiv.

**677.01 Pre-Buddhist U G 5**

Examination of archaeological finds in China, ca. 4000 B.C. to the beginning of the 10th century A.D.; with emphasis on recent discoveries.

**677.02 Buddhist U G 5**

Examination of the Buddhist arts of China; with emphasis on religious expression and content.

**678 Chinese Art: Painting**

5 cl. Prereq: 213 or permission of instructor.

**678.01 Chinese Painting to 1368 U G 5**

A survey of Chinese painting from the Han period through the Yuan dynasty, with emphasis on style, subject matter, and cultural context.

**678.02 Chinese Painting from 1368 to the Present U G 5**

A survey of Chinese painting from the Ming dynasty to the present, with emphasis on style, subject matter, and cultural context.

**679 Modern and Contemporary Chinese Art U G 5**

Modern Chinese art (mid-19th century to today) with emphasis on artists, artworks, and their social, artistic, institutional, and theoretical contexts.

Prereq: 213, 576 or permission of instructor.

**681 Japanese Art: Proto-Historic and Buddhist U G 5**

Selected topics in the history of Japanese arts of the Proto-Historic period and the Buddhist religion.

Prereq: English 110 or 111 or equiv.

**682 Japanese Art: Painting and Prints U G 5**

Selected topics in the history of Japanese pictorial art and related subjects.

Prereq: English 110 or 111 or equiv.

**690 Selected Topics**

Topics to be announced.

5 cl.

**690.01 Western Art U G 5**

Repeatable to a maximum of 15 cr hrs.

**690.02 Asian and Non-Western Art U G 5**

Repeatable to a maximum of 15 cr hrs.

**693 Individual Studies U G 2-5**

Advanced study for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Group studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Scholarship: Research and Creative Activity in History of Art U 1-15**

Undergraduate research or creative activities in varying topics.

Su, Au, Wi, Sp Qtrs. Arr. H699 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. H699 is letter graded. This course is graded S/U.

**704 Studies in African Art and Archaeology U G 3-5**

Studies in African art emphasizing problem identification, concept organization, library research, and individual criticism.

3-5 cl. Prereq: 610 or 611 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**705 Studies in Contemporary African Art U G 3-5**

Introduction to research in 20th-century African art.

Arr cl. Prereq: 505 or 615 or 616 or 617 or 618 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**710 Studies in Art Theory and Criticism U G 3-5**

Investigations of theories of art and their applications.

Prereq: 600. Not open to students with credit for 839. Repeatable to a maximum of 15 cr hrs.

**715 Historical and Conceptual Bases of Art History U G 5**

Investigation of intellectual and historical foundations of modern art history.

5-hr cl. Prereq: 20 cr hrs in hist art.

**717 Studies in Medieval Art U G 3-5**

Selected problems in architecture, painting, sculpture, and the minor arts from the Early Christian through the Byzantine and Gothic periods.

Prereq: 624 or 625 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**718 Studies in Italian Renaissance Art U G 3-5**

Selected problems in painting, sculpture, and architecture of Italy in the 14th, 15th, and 16th centuries.

3-5 cl. Prereq: 515 or 629 or 630, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**720 Studies in Near Eastern Art and Archaeology U G 3-5**

Selected problems in the art and archaeology of the Near East.

Prereq: 621 or 661 or 663, or equiv with permission of instructor. Repeatable to a maximum of 15 cr hrs.

**722 Studies in Ancient Greek and Roman Art U G 3-5**

Selected problems in the art of Ancient Greece and Rome, 11th century B.C. to 4th century A.D.

3-5 cl. Prereq: 622 or 623 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**724 Studies in Northern Baroque Art U G 3-5**

Selected problems in the painting, sculpture, and architecture of Belgium, the Netherlands, Germany, and France in the 17th and 18th centuries.

3-5 cl. Prereq: 632. Repeatable to a maximum of 15 cr hrs.

**725 Studies in Italian Baroque Art U G 3-5**

Selected problems in the painting, sculpture, and architecture of the 17th century.

3-5 cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**726 Studies in Spanish Art U G 3-5**

Selected studies in the architecture, sculpture, painting, and minor arts of Spain.

3-5 cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**734 Studies in 18th Century European Art U G 5**

Selected problems in the painting, sculpture, architecture, graphic, and decorative arts of the 18th century in Europe.

1 4-hr cl or 2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**736 Studies in the History and Theory of Architecture U G 5**

Selected studies in the history and theory of architecture.

1 4-hr cl or 2 2-hr cl. Prereq: 558 or 559 or Arch 600-603 or Arch 501-803 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**737 Studies in Modern Art U G 3-5**

Selected studies in the art of the United States or modern Europe.

3-5 cl. Prereq: 635 or 636 or 637 or 638, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**745 Studies in Russian Art U G 3-5**

Selected problems in the painting, sculpture, and architecture of Russia.

Prereq: 645 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**747 Studies in Late Gothic and Northern Renaissance Art U G 3-5**

Selected problems in the art of the Low Countries, Germany, and France from the 14th through the 16th centuries.

3-5 cl. Prereq: 627 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**750 Selected Topics in Cinema Studies U G 5**

Intensive studies of specific movements, artists, periods and theories of cinema.

2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**770 Studies in Buddhist Art U G 3-5**

Introduction to research in Buddhist art and iconography.

3-5 cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**771 Studies in the Art of India U G 3-5**

Research problems in the art of India.

Repeatable to a maximum of 35 cr hrs.

**774 Studies in Inner Asian Art U G 3-5**

Introduction to research in Inner Asian history of art.

Prereq: 673 or 674 or 677 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**776 Studies in Chinese Art U G 3-5**

Introduction to research in Chinese art historical problems.

Prereq: 677 or 678 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**780 Studies in Japanese Art U G 3-5**

Introduction to research in Japanese art historical problems.

Prereq: 681 or 682 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**H783 Honors Research U 3-5**

A program of study arranged for each student, with individual conferences, reports, and honors thesis.

Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the hist art courses taken and with an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 2 qtrs are required of candidates for the degree BA with distinction in hist art. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**793 Individual Studies U G 2-5**

Advanced study for students in specialized programs.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**797 Introduction to Graduate-level East Asian Studies G 5**

We explore the origin, development and current state of East Asian Area Studies in the U.S., including its relationship to the state and other intellectual disciplines.

Prereq: Grad standing or permission of instructor. Not open to students with credit for EALL 797 or History 797. Cross-listed in East Asian Languages and Literatures and History.

**800 Wexner Center Seminar G 1-5**

Graduate seminar offered in conjunction with Wexner Center exhibitions, performance series, media series, or symposia; may be taught by visiting artists, performers, or critics.

Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in Comp Std 850. Cross-listed in Comparative Studies as 850.

**804 Problems in African Art and Archaeology G 5**

Research techniques with emphasis on scholarly methods involving extensive search for available source materials on African art.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**805 Problems in Contemporary African Art G 5**

Advanced study and specialized research on major topical problems in 20th-century African art.

5 cl. Prereq: Two 600-level courses in contemporary African art or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**815 Practicum for Graduate Teaching Associates in the History of Art G 2**

A teacher-training and professional development workshop for new Graduate Teaching Associates in art history.

Au, Wi Qtrs. 2 hr cl, 5 times a quarter. Open only to students with a GTA appointment in the department of history of art. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**816 Museum Problems G 3-5**

An introduction to professional work in museums.

Repeatable to a maximum of 15 cr hrs.

## 230 History of Art

### 822 Problems in Ancient Art G 3-5

Advanced study and specialized research on major topical problems in ancient art.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 824 Problems in Northern Baroque Art G 3-5

Advanced study and specialized research on major topical problems in Northern Baroque Art.

3-5 cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 832 Problems in American Art G 2-5

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 837 Problems in Modern European Art G 5

Specialized topics in European art of the modern era.

Prereq: 737 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 845 Seminar in Russian, Soviet, and East European Art G 5

Advanced research on specialized topics on the art of the region.

Prereq: 644, or 645.01, or 645.02, or 655, or 737, or 745, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 890 Topics in Art History G 3-5

A graduate-level equivalent of a course being offered at the 500-level.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in hist art. Repeatable to a maximum of 20 cr hrs.

### 893 Individual Studies G 1-5

Doctoral students may register for individual study in areas not normally covered by courses.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 894 Group Studies G 1-5

Group studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 917 Seminar in Medieval Art G 2-5

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 920 Seminar in Italian Renaissance Art G 2-5

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 930 Seminar in Modern Art G 2-5

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 970 Seminar in Buddhist Art G 3-5

Advanced research in Buddhist iconographic problems.

Prereq: Two of the following: 670, 671, 673, 677, 681, and 770; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 971 Seminar in the Art of India G 2-5

Research problems in the art of India.

Repeatable to a maximum of 35 cr hrs.

### 976 Seminar in Chinese Art G 3-5

Advanced studies in the history of Chinese art.

Prereq: 677 or 678 or 776 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 980 Seminar in Japanese Art G 3-5

Advanced studies in the history of Japanese art.

Prereq: 681 or 682 or 780 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 999 Research in History of Art G 1-18

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Honors, University

University Honors & Scholars Center, 220 West 12th Avenue, 292-3135

### H296^ University Honors Proseminar U 3-5

Designed to foster an understanding of concepts, issues, and problems which transcend the boundaries of a single discipline; topic varies.

Au, Wi, Sp Qtrs. Arr. Prereq: Fresh or soph standing in an honors program and/or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### H596^ University Honors Seminar U 2-5

Designed to foster appreciation, understanding and/or problem-solving skills related to concepts, issues, or problems that transcend the boundaries of a

single discipline; topic varies.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing in an honors program. Repeatable to a maximum of 15 cr hrs. Repeatable with permission of University Honors director.

## Horticulture and Crop Science

202 Kottman Hall, 2021 Coffey Road, 292-2001

### 150 Introduction to Horticulture U 4

Guide to the applied practices associated with using and raising horticultural plants.

Wi Qtr. 3 cl, 1 2-hr lab. Not open to majors in landscape horticulture. Distance Education course - computer.

### 200 The Science of Growing Plants U 5

Study of environmental, genetic, and cultural factors which influence the cultivation of plants for food, fiber, ornamental and landscape uses.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Biology 101 or 113 or H115 or PCMB 101 or Chem 101 or 121 or H201. This course is available for EM credit. NS Admis Cond course. BER/LAR course. GEC bio sci course. Wooster offering taught winter quarter.

### 204 Design of Gardens and Small Properties I U 5

Design of small-scale residential projects; master planning, use of plants and architectural materials, graphics.

Au Qtr. 3 cl, 3 lab hrs. Not open to students with credit for Larch 204. Cross-listed in Landscape Architecture. VPA Admis Cond course.

### 234 Landscape Plants

Overview of plants used in gardens and landscapes.

Not open to students with credit for H&CS 435, 436.

#### 234.01 Lecture U 3

Au, Wi, Sp Qtrs. 3 cl. Not open to students with credit for 234.

#### 234.02 Lab U 2

Au, Sp Qtrs. 2 2-hr labs. Prereq: 234.01 or concurrent. Not open to students with credit for 234.

### 250 Introduction to Professional Golf Management U 2

Acquaints students with the OSU Professional Golf Management Program which is accredited by the PGA of America. Topics include program overview, components, requirements and facilities/resources available to students.

Au Qtr. 1 1-hr cl, 1 2-hr discussion.

### 260 Data Analysis and Interpretation for Decision Making U 5

Basic concepts of probability and statistics applied to the interpretation of quantitative data.

Au, Wi Qtrs. 4 cl, 1 2-hr rec/lab. Prereq: Math 130 or 148. Not open to students with credit for Anim Sci 260, Agr Econ 205 or AED Econ 205, Agr Educ 387 or AEE 387, Stat 125, 135, 145. Cross-listed in Animal Sciences. GEC course.

### 270 Historical Perspectives on Golf Course Design and Management U 3

A historical survey of golf course design and management and its affect on contemporary design and management.

Au, Wi, Sp Qtrs. 1 3-hr cl.

### 294 Group Studies U 1-5

Special group studies in the areas of crop science, landscape horticulture, and turf science.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

### 300 General Plant Biology U 5

Plant structure and function; growth and development; diversity, reproduction, and evolution of lower and flowering plants; people, the biosphere, and plant diversity.

Au, Wi, Sp Qtrs. 3 cl, 2 2-hr labs. Prereq: Biology 101 or 113 or H115 or PCMB 101 or Plnt Bio 101. Not open to students with credit for Plnt Bio 300 or PCMB 300. Cross-listed in Plant Biology. BER/GEC/LAR course.

### 310 Control of Crop Development U 4

Practices in crop and turf science as related to the physiological manipulation of crops directly or indirectly through modification of the environment.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: 200.

### 320 Plant Propagation: Manipulation of Plant Reproduction U 4

Techniques, equipment, and facilities involved in sexual and asexual multiplication of plants.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: 200 or 300.

**325 Crop Genetic Resources U 4**

Past, present, and future issues in germplasm conservation, ownership, and use for major food and ornamental crops. Includes practical uses of genetics in crop improvement.

Sp Qtr. 2 2-hr cl. Prereq: 200 or 300.

**350 Professional Development in Professional Golf Management**

A series of seven courses which encompass learning objectives and work experience-related materials included in the PGA of America's Golf PGM Program.

Prereq: Students in good standing in the PGM major. Subdivisions are not repeatable.

**350.01 PGA/PGM Rules and Club Design U 1**

Content associated with the PGA of America's level 1 Checkpoint including rules of golf and golf club design and repair.

Wi Qtr. 1 1-hr cl, 1 2-hr discussion.

**350.02 PGA/PGM Tournament Operations and Fleet Management U 1**

Content associated with the PGA of America's level 1 Checkpoint including tournament operations and car fleet management.

Sp Qtr. 1 1-hr cl, 1 2-hr discussion. Prereq: 350.01.

**350.03 PGA/PGM Introduction to Teaching Golf U 1**

Content associated with the PGA of America's level 1 Checkpoint including introduction to teaching golf.

Wi Qtr. 1 1-hr cl, 1 2-hr discussion. Prereq: 350.02.

**350.04 PGA/PGM Business Planning and Customer Relations U 1**

Content associated with the PGA of America's level 2 Checkpoint including business planning and operations and customer relations.

Au Qtr. 1 1-hr cl, 1 2-hr discussion. Prereq: 350.03; only students in good standing in the OSU Professional Golf Management program and who have passed all PGA of America Checkpoint 1 requirements may enroll.

**350.05 PGA/PGM Club Fitting and Swing Analysis U 1**

Content associated with the PGA of America's level 2 Checkpoint including club fitting and analysis of the golf swing.

Wi Qtr. 1 1-hr cl, 1 2-hr discussion. Prereq: 350.04; only students in good standing in the OSU Professional Golf Management program and who have passed all PGA of America Checkpoint 1 requirements may enroll.

**350.06 PGA/PGM Teaching Swing Concepts U 1**

Content associated with the PGA of America's level 3 Checkpoint including swing concepts and teaching.

Au Qtr. 1 1-hr cl, 1 2-hr discussion. Prereq: 350.05; only students in good standing in the OSU Professional Golf Management program and who have passed all PGA of America Checkpoint 2 requirements may enroll.

**350.07 PGA/PGM Supervision, Marketing and Inventory Control U 1**

Content associated with the PGA of America's level 3 Checkpoint including supervising and delegating, merchandising and inventory control.

Sp Qtr. 1 1-hr cl, 1 2-hr discussion. Prereq: 350.06; only students in good standing in the OSU Professional Golf Management program and who have passed all PGA of America Checkpoint 2 requirements may enroll.

**370 Sports Turf Management U 3**

Issues pertaining to sports facility management, field surface playing quality, field renovation and management practices.

Sp Qtr. 1 2-hr cl, 1 2-hr lab.

**401 The Horticulture and Crop Science Industries and Organizations**

Field visits to industries and organizations where theory associated with Horticulture and Crop Science is practiced.

Au Qtr. 2 all-day field trips and 2 2-hr discussion. Prereq: Permission of instructor.

**401.01 The Floriculture Industry U 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**401.02 Environmental Horticulture Organizations in Ohio U 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**411 Grain Crops U 3**

Study of grain crops; classification, distribution, variety selection and improvement, cultural practices, harvesting, and utilization.

Wi Qtr. 3 cl. Prereq: 200 or 300.

**412 Forage Crops U 3**

Growth characteristics, adaptation and utilization of different species for hay, pasture, silage, and land conservation.

Sp Qtr. 3 cl. Prereq: 200 or 300.

**414 Crop Science Laboratory U 2**

Experimental approach to forage and grain crop growth and development with emphasis on the relationship of crop characteristics to management, quality, and utilization.

Sp Qtr. 1 3-hr lab, 1 day field trip. Prereq: 411 or 412.

**420 Seed Science U 4**

A study of the physiological processes of seed formation, dormancy, and

germination; the production and marketing of seed in commerce.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: 200 or 300.

**422 Principles of Weed Science U 4**

A study of weeds, their identification, reproduction, and methods of control; emphasis on various aspects of chemical control measures.

Au, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq: 200 or 300.

**430 Indoor Gardening U 4**

The identification, maintenance, and use of plants for interior decoration in the home, office, public buildings, and related locations.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: Biology 101 or 113 or H115 or PCMB 101 or Plnt Bio 101.

**431 Herbaceous Ornamental Plants for Spring and Early Summer U 3**

Identification, culture and use of herbaceous ornamental plants for spring and summer.

Sp Qtr. 1.5-hr cl, 1 3-hr lab. Prereq: 200 or 300 and 234.

**432 Herbaceous Ornamental Plants for Summer and Fall U 3**

Identification, culture and use of herbaceous ornamental plants for mid- to late-season interest.

Au Qtr. 1.5-hr cl, 1 3-hr lab. Prereq: 200 or 300.

**435 Deciduous Shade Trees and Narrowleaf Evergreens U 6**

Study of deciduous shade trees and narrow leaf evergreens including their identification, growth habits, ornamental features, environmental adaptation, utilization, and management in the landscape.

Au Qtr. 4 cl, 2 2-hr labs. Prereq: 200 or 300 and 234.

**436 Deciduous Flowering Trees and Shrubs, Vines, and Broadleaf Evergreens U 6**

Study of deciduous flowering trees, flowering shrubs, vines, and broadleaf evergreens including their identification, growth habits, ornamental features, environmental adaptation, utilization, and management in the landscape.

Sp Qtr. 4 cl, 2 2-hr labs. Prereq: 200 or 300 and 234.

**438 Theme and Specialty Gardens U 2**

Study of the principles and techniques of theme and specialty gardening.

Wi Qtr. 1 3-hr cl.

**450\* Principles of Vegetable Crop Production U 4**

The production and utilization of vegetable crops with emphasis on environmental factors which influence growing and handling of these crops.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 200. Offered Odd years.

**460\*\* Fruit Crop Physiology and Production U 5**

Contemporary fruit crop production principles/practices and their physiological bases as affected by environmental and economic factors.

Au Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 200 or 310 or permission of instructor. Offered even years.

**470 Principles of Turfgrass Selection and Management U 4**

Adaptation, identification, uses, growth characteristics, growth responses, and fundamental principles essential to the production of quality turf.

Au, Sp Qtrs. 2 cl, 1 2-hr cl. Prereq: 200 or 300.

**488 Professional Development in Horticulture and Crop Science U 1**

Participation in structured co-curricular program leading to professional development (e.g. Weed, Turf, ALCA competition teams, etc.)

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.00 CPHR and permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**489 Internship Experience U 1-5**

Ten or more weeks of supervised practical experience in an approved enterprise. Seminar required.

Su, Au, Wi, Sp Qtrs. 2 cl. Repeatable to a maximum of 10 cr hrs. Class time TBA quarterly. Each student must present a 25 min seminar.

**494 Group Studies U 1-5**

Special group studies in the areas of crop science, landscape horticulture, and turf science.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**501 Landscape Plant Selection U G 5**

Identifying the 'right plant for the right place' to develop ecologically appropriate landscapes.

Sp Qtr. 2 cl, 2 4-hr lab. Prereq: 234 or 431 or 435 or 436; 204 or Larch 204.

**502 Management of Constructed Landscapes U G 5**

Technical (weeds, pests) and business issues (labor, estimation, equipment) typical of landscape maintenance in Ohio, with emphasis on field experience.

Au Qtr. 2 cl, 1 4-hr lab. Prereq: Permission of instructor.

**521 Greenhouse Crop Production U G 5**

Principles and practices for the production of greenhouse crops.

Wi Qtr. 2 2-hr cl, 1 2-hr lab Prereq: 200 and 300 or Plnt Bio 300. Not open to students with credit for 522.

**533 Management of Commercial Nursery Operations U G 5**

Detailed consideration of factors involving commercial nursery site selection, production, harvesting, and marketing of woody ornamentals and related products.

Wi Qtr. 4 cl, 3-hr lab. Prereq: 320.

**560 Computers in Horticulture Management U 4**

Develops an understanding of the applications of computer software to the areas of production planning, control, and electronic marketing for horticultural enterprises.

Wi Qtr. 2 2-hr cl, 1-hr lab.

**570 Turfgrass Management and Science U G 4**

A study of cultural practices and environmental factors affecting the maintenance of quality turf.

Wi Qtr. 2 cl, 1 2-hr cl. Prereq: 470.

**593 Individual Studies U 1-5**

Special studies in the areas of crop science, landscape horticulture, and turf science.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 CPHR and written permission of instructor. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

**597 Issues in Biotechnology U 5**

Issues pertaining to the means and methods, products, prospects, safety, regulation, ethics, and societal effects of biotechnology.

Sp Qtr. 5 cl. Prereq: Biology 101 or 113, or Plnt Bio or PCMB 101 or equiv; and jr or sr standing. GEC/LAR course.

**598 Turfgrass Science Seminar U G 1**

Academic and industry experts present information and lead discussion on current issues facing the turfgrass industry.

Sp Qtr. 1 cl. Prereq: Jr or sr standing in turf science, crop science, landscape horticulture, or permission of instructor. Repeatable to a maximum of 2 cr hrs.

**600 Issues in Horticulture and Crop Science U 5**

Examination of topical issues in H&CS to prepare students for transition from university to workplace.

Au, Wi, Sp Qtrs. 2 2-hr lecture, 1 hr recitation. Prereq: Sr rank in any H&CS major, H&CS 200, 2nd writing course, H&CS 489. Not open to students with credit for 601.

**602 Field Crop Ecology U G 3**

A study of the agroecosystem; the ecology of managed agricultural systems; the interrelationships of climates, soils, and organisms in crop production.

Sp Qtr. 3 cl. Prereq: 10 cr hrs of crops courses and 5 cr hrs of soils courses at the 300 level or higher.

**604 Research Methods in Plant Science**

2.5-hr cl, 2 3-hr labs. Prereq: 300 or Biology 114 or Plnt Bio 300 or 436 or grad standing or permission of instructor. Not open to students with credit for these courses in Plnt Bio or Plnt Pth. Cross-listed in Plant Biology and Plant Pathology.

**604.01 Whole Plant Research Methods U G 4**

Introduction to scientific skills and modern research methods for the study of plants at the whole plant level.

Au Qtr. Prereq: 300 or Plnt Bio 300 or PCMB 300 or 436 or Biology 114 or 436 or grad standing or permission of instructor. Not open to students with credit for these courses in PCMB or Plnt Bio or Plnt Path.

**604.02 Cell and Tissue Level Research Methods U G 4**

Introduction to scientific skills and modern research methods for the study of plants at the cell and tissue level.

Wi Qtr. Prereq: 300 or Plnt Bio 300 or PCMB 300 or 436 or Biology 114 or 436 or grad standing or permission of instructor. Not open to students with credit for these courses in PCMB or Plnt Bio or Plnt Path.

**604.03 Molecular Level Research Methods U G 4**

Introduction to scientific skills and modern research methods for the study of plants at the molecular level.

Sp Qtr. Prereq: 300 or Plnt Bio 300 or PCMB 300 or 436 or Biology 114 or 436 or grad standing or permission of instructor. Not open to students with credit for these courses in PCMB or Plnt Bio or Plnt Path.

**605\*\* Advanced Vegetable Crops Production and Physiology U G 5**

A physiological study of the principal vegetable crops used for processing and fresh market; cultural practices are also considered.

Wi Qtr. 3 1.5-hr cl. Prereq: Permission of instructor. Offered even years.

**610 Weed Control in Horticultural Crops U G 4**

A study of environmental and cultural factors which influence weed development in horticultural crops and a review of the principles of chemical and mechanical

weed control.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 300 or PCMB 300 or Plnt Bio 300.

**612 Principles of Grassland Management U G 5**

Plant-animal requirements and correlations in the maintenance, management, and utilization of meadows, pastures, and ranges.

Au Qtr. 5 cl and 1 field trip arr per qtr.

**621 Crop Physiology U G 5**

A study of basic physiological processes in plants and how they impact crop production and productivity.

Au Qtr. 5 cl. Prereq: 300 or Plnt Bio 300 or PCMB 300 or grad standing.

**622 Crop Physiology and Production II U G 4**

A study of physiological processes in crops and how they relate to cultural practices with special emphasis on the biochemical aspects that affect productivity.

Wi Qtr. 4 cl. Prereq: Biology 101 or 113 or H115 or Plnt Bio 101 or PCMB 101 or grad standing.

**625\* Crop Breeding U G 4**

Principles of genetics and methods of plant breeding applied to the improvement of crops and the ultimate development of superior varieties.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 200 or 300. Offered odd years.

**630 International Seed Production U G 3**

The study of seed production principles (from flowering/fruit set through seed quality assessment and seedling establishment) from a physiological and ecological perspective.

Sp Qtr. 2 1.5-hr cl. Prereq: 420 or permission of instructor.

**631 Seed Physiology U G 3**

The study of seed development, maturation, storage, dormancy and germination from a physiological perspective.

Au Qtr. 3 1-hr cl. Prereq: 420 recommended or permission of instructor.

**636\* Mineral Nutrition of Plants U G 4**

Process of uptake, transport, and metabolism of mineral nutrients, with emphasis on nitrogen, and on process at the tissue and cellular level.

Sp Qtr. 2 2-hr cl. Prereq: Plnt Bio 630 or H&CS 621 or equiv. Offered odd years.

**665\*\* Environmental Microbiology U G 3**

The role of microorganisms and underlying biological principles in elemental cycles and degradation of natural and man-made compounds.

Au Qtr. 3 cl. Prereq: Chem 251 and Micrbiol 509 or 520. Not open to students with credit for Micrbiol 665. Cross-listed in Microbiology.

**670 Golf Courses and Their Environments U G 3**

Principles and practices of golf course design for sustainability.

Wi Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 270 or permission of instructor.

**H683 Honors Project U 1-10**

Conducting and reporting the honors project.

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Agr H590.01, enrollment in honors program, and permission of honors supervisor. Repeatable to a maximum of 10 cr hrs. Repeatable to a maximum of 10 cr hrs as H683 or in combination with 293, 593, H593, H599, 693, or H693. This course is graded S/U.

**693 Individual Studies U G 1-5**

Special problems in crop science, landscape horticulture or turf science, not included in regular courses and involving library, laboratory, or field studies.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 CPHR and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Special group studies in the areas of crop science, landscape horticulture, and turf science.

Su, Au, Wi, Sp Qtrs. Prereq: Sr or grad standing. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution**

An opportunity for students to study at a foreign institute and receive Ohio State credit for that work.

Prereq: Written permission of program coordinator. Repeatable to a maximum of 45 cr hrs. Decimal subdivisions not repeatable. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as, travel and subsistence costs.

**697.01 The Constructed Landscape I: British and American Contrasts U G 5**

Preparation for study of constructed landscapes in their geographic and social contexts at Myerscough College England.

Su Qtr. 4 2-hr cl, 2 2-hr labs.

**697.02 The Constructed Landscape II: Evolution of English Landscapes U G 5**

Study of the factors that have shaped landscape horticulture in Britain.  
Sp Qtr. Arr. Prereq: 438, 593 (2 cr).

**697.03 The Constructed Landscape III: Landscape Industry and Operations in Britain U G 5**

Study of the structure and operations of landscape industries in Britain.  
Su Qtr. Arr.

**697.04 Agriculture and Agro-Ecosystems in Chile U G 3**

9-day study abroad to introduce students to Chile and the many facets of the agricultural phenomena that has transformed Chile's place in the global market, focusing on the structure of Chilean agricultural system.

Au Qtr. Arr. Prereq: Concurrent registration in 593 or 693, and permission of instructor.

**761 Crop Secondary Products for Survival, Health and Welfare U G 5**

The synthesis, metabolism and agricultural, industrial, medicinal or aesthetic uses of crop secondary products affecting our daily lives.

Wi Qtr. 2 2.5-hr cl. Prereq: 300 or PCMB 300, Chem 231 or equiv course.

**804 Seminar G 1**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**825\*\* Advanced Plant Breeding G 3**

Theory and methods of plant improvement; statistical genetics, methods for self- and cross-fertilizing crops, chromosomal manipulation.

Sp Qtr. 2 1.5-hr cl. Prereq: 625 or 887 or permission of instructor. Offered even years.

**830 Current Topics in Horticulture and Crop Science G 2**

Readings from the current literature will be examined in detail for both technical and conceptual content.

Su, Au, Wi, Sp Qtrs. 1 cl, 1 2-hr discussion. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs.

**887 Techniques of Experimental Design G 5**

A study of experimental designs and their application to agricultural research.

Wi Qtr. 5 cl. Prereq: Mol Gen 650 or Stat 528 or permission of instructor.

**894 Group Studies G 1-5**

Advanced topics in horticulture and crop science.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**993 Individual Studies G 1-5**

Students may select special problems not included in regular courses.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**999 Research G 1-18**

Research for thesis or dissertation research only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Human Development and Family Science

135 Campbell Hall, 1787 Neil Avenue, 292-7705

**289 Introductory Field Experience**

Directed observation/participation in prekindergarten programs or community agencies.

Prereq: 2.00 CPHR; written permission of instructor. Open only to students in HDFS Pre-HDFS CAP code. Application must be filed in dept office the quarter preceding the experience.

**289.01 Introductory Early Education and Care Field Experience U 3**

Directed observation/participation in child care/pre school programs.

Su, Au, Wi, Sp Qtrs. 8-hrs per week practicum. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**294 Group Studies U 2-3,5**

Selected topics in human development and family science.

Prereq: Open to students who meet dept's stated prereqs. Repeatable to a maximum of 10 cr hrs.

**334 Methods in Human Ecology Research U 5**

Introduction to the fundamental elements of human ecology research, using qualitative, quantitative, and historical perspectives.

Au, Wi, Sp Qtrs. 2 2.5-hr cl.

**360 Family Development U 5**

Dynamics of family interaction over the life cycle; emphasis on developmental,

social, and cultural influences on the family experience.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl, 1 hr arr. BER/GEC/LAR course.

**361 Introduction to Child Development U 5**

Study of the nature, nurture, and development of children from conception through the beginning school years.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl, 1 2-hr lab. BER/GEC/LAR course.

**362 Middle Childhood and Adolescence U 4**

Introduces students to the current theory and research on development during the middle childhood and adolescent years.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 hr arr.

**363 Infant-Toddler Development U 5**

Examination of the behavior and development of children and issues of care throughout the periods of infancy and toddlerhood.

Sp Qtr. 2 2-hr cl, 2 hr arr. Prereq: 361 or 364.

**364 Life Span Human Development U 5**

Survey of human development across the life span directed toward an applied understanding of the individual and forces that shape development.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl, 1 hr arr. BER/GEC/LAR course.

**365 Practicum in Infant-Toddler Education and Care U 5**

Participation in infant-toddler laboratory as a student teacher.

Su, Au, Wi, Sp Qtrs. 8 hrs/wk practicum; 1 1.5-hr seminar. Prereq: 363. Open to Human Development and Family Science majors only.

**367 American Family Issues U 5**

Development of writing, presentation, and oral discussion skills while critically examining family and related community issues.

Au, Wi, Sp Qtrs. 2 2.5-hr cl. Prereq: English 110 or 111 or equiv; and soph standing. GEC/LAR course.

**370 Human Sexuality in Context U 5**

Examination of issues in human sexuality across the lifespan in the context of people's lived experiences within families, communities, and society, using film, texts, and narratives.

Au, Wi, Sp Qtrs. 2 2-hr cl, 1 hr arr.

**461 Guidance of Young Children in Groups U 3**

Application of principles of development to guidance of children in groups; modification of experiences for age level, ability, group, and individual needs.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 361 or 364 or Psych 550.

**464 Constructing a Curriculum Model for Young Children U 3**

In-depth examination of the HDFS Laboratory School curriculum model from theory to practice.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 461; concur: 465.

**465 Practicum in Preschool Education and Care**

Participation in the HDFS preschool laboratory classroom as a student teacher.

Su, Au, Wi, Sp Qtrs. Prereq: 361 or 364; and 461 or written permission of instructor. Pre-register one quarter in advance in dept office.

**465.01 Preschool Practicum U 5**

Participation in the HDFS preschool laboratory classroom as a student teacher.

2 4-hr labs, 1.5-hr cl.

**465.02 Child and Family Studies U 3**

Application of theory included in 461 and 464. Concur: 464.

1.5-hr cl, 4-hr lab.

**466 Seminar: Human Service Organizations U 3**

Application of principles of family development to program planning; discussion of family needs and design of techniques to assess needs and ways to provide services.

Sp Qtr. 2 cl, 1 hr arr. Prereq: 360 or 364. Open only to dept majors in family studies option.

**468 Individual and Family Helping Skills U 3**

The study of various strategies and techniques used in working with individuals and families in the context of family service organizations.

Au Qtr. 1 3-hr cl. Prereq: 360 or 364. Only open to dept majors in family studies option.

**560 Advanced Family Development U 3**

Explores family development and family relations across the lifespan, primarily from a family systems perspective.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 360 and jr/sr standing.

**565 Supervised Infant-Toddler/Preschool Teaching U 10,12,15**

Student teaching in infant-toddler or preschool classrooms.

Au, Wi, Sp Qtrs. Full-time teacher's schedule. Prereq: 464, 465.01, 4th yr standing in child development option, 2.50 CPHR, and written permission of instructor. Dept application must be filed 2 qtrs in advance.

**570\* Adolescent Development: A Biopsychosocial Perspective U 3**

Comprehensive overview of the biological, psychological, and social development of the adolescent.

Wi Qtr. 2 1.5-hr cl. Prereq: 364.

**589 Field Work**

Planned professional experience with children, youth, or adults in a community agency/setting.

Au, Wi, Sp Qtrs. Prereq: 466, 4th yr standing, 2.50 CPHR, and written permission of instructor. Dept application must be filed 2 qtrs in advance. Students must enroll in 2 consecutive qtrs of field work. Open only to dept majors in family studies option.

**589.01 Introduction to Field Work U 5,10**

First quarter planned participation in community agency learning roles and responsibilities.

Au, Wi Qtrs. 12 hrs/wk at human service agency, 1 hr cl. Repeatable to a maximum of 10 cr hrs.

**589.02 Advanced Field Work U 5**

Second quarter planned participation in community agency with increased responsibility for program development and evaluation.

Wi, Sp Qtrs. 12 hrs/week at human service agency, 1 hr cl. Prereq: 589.01. Repeatable to a maximum of 10 cr hrs.

**590 Practicum in Human Development and Family Science Research U 1-5**

Provides students with opportunity to work individually with faculty member on research project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing; Psych 220 or equivalent, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**593 Individual Studies U 1-5**

Problems in various phases of human development and family science chosen for individual study.

Su, Au, Wi, Sp Qtrs. 1 or more conf. H593 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Written permission of instructor and completion of individual study plan form. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**595 Professional Development U 2**

The professional: performance, role in society, position securement, involvement in organizations, and continuing development.

Su, Au, Wi, Sp Qtrs. 1.5-hr cl. Prereq: 4th year standing in HDFS and completion of a minimum of 20 cr hrs in major in dept.

**597 International Family Issues**

A practical problem-solving approach to the study of perennial family issues within the context of a given region of the world.

2 2.5-hr cl. Prereq: Sr standing. GEC/LAR contemporary issues course.

**597.01 Middle East U 5**

Au, Wi Qtrs. Not open to students with credit for FCS Ed 597.01.

**597.02 Sub-Saharan Africa U 5**

Au, Wi, Sp Qtrs. Not open to students with credit for FCS Ed 597.02.

**650\* Foundations of Couple and Family Therapy U G 4**

Overview and development of key theories of couple and family therapy.

Au, Sp Qtrs. 1 3.5-hr cl. Prereq: Permission of instructor.

**660 Children and Their Families Under Stress U G 3**

Examination of normative and developmental stressors and crises that impact on the development of children; implications for practitioners drawn from conceptual frameworks and recent research.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 360 or 364 or Sociol 430 or Psych 340, and rank 3 or grad standing.

**662 Multicultural Programming for Young Children U G 3**

Utilizing a variety of teaching and learning methods, students begin to develop an understanding of and appreciation for the diversity and how it relates to programming for young children.

Su, Au, Wi, Sp Qtrs. 1 2.5-hr cl.

**663 Infant Development U G 3**

Infant development during first two years of life with special consideration of bases of support for provision of effective care.

Au Qtr. 1 2-hr cl, 1 2-hr lab arr. Prereq: 361 or 363 or Psych 550.

**665 Parenting U G 3**

Identification and examination of the theoretical approaches applicable to child rearing in families; emphasis on developing practical skills for working

with parents and children.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 360 or 364 or Sociol 430 or Psych 340, and rank 3 or grad standing.

**667\* Administration of Agencies Serving Children and Families U G 3**

Study of the administration of child care program and other family service agencies; topics include program objectives, regulations, program development and evaluation, staff development and training, and budget and funding.

Su Qtr. 2.5-hr cl, 1 hr arr. Prereq: 465.01 or 465.02 or equiv and written permission of instructor.

**669 Comparing Program Philosophies for Young Children U G 3**

Exploration of a variety of philosophies and resultant practices in caring for and educating young children in day care and pre school situations.

Wi Qtr. 2 1.5-hr cl. Prereq: 464, or permission of instructor, and sr standing or higher.

**670 Adult Developmental Issues G**

A series of courses focusing on issues, attitudes, behaviors and social exchanges pertinent to adult development, including the experience of normal and non normative aging.

**670.01 Adult Development and Aging U G 3**

Examination of change and continuity in human development from young adulthood to very old age using a psycho-social-biological perspective.

Su, Wi Qtrs. 1 2.5-hr cl. Prereq: 360 or 364 or Sociol 430 or Psych 340, and rank 3 or grad standing.

**670.02 Human Sexuality U G 3**

Examination of the intellectual, physical, and social-emotional aspects of human sexuality. Focus on how sexual issues impact human development, attitudes, relationships, values and choices.

Au, Wi, Sp Qtrs. 1 2.5-hr cl. Prereq: 360 or 364. Graduate students must concurrently register for 1 cr or hr of HDFS 793.

**670.03 Courtship and Marriage U G 3**

A comprehensive overview of the process of courtship and marriage.

Au, Wi, Sp Qtrs. 1 2.5-hr cl. Prereq: 360 or 364 and jr or higher standing.

**670.04 Formal and Informal Support Systems of Older Adults U G 3**

Consideration of issues and problems pertinent to support systems of older adults.

Sp Qtr. 1 2.5-hr cl. Prereq: 360, 364, and jr or higher standing.

**689 Practicum in Human Development and Family Science**

An opportunity for putting professional research and theory into practice by teaching, administrative, and agency experiences under supervision in university or agency settings.

Prereq: 3rd or 4th yr standing, 2.25 CPHR, and written permission of instructor. Application must be approved by instructor the quarter preceding registration.

**689.01 Advanced Child Development Practicum U G 3-5**

Special advanced supervised teaching experience with children ages three to five; emphasis on analysis of relationships among teacher behaviors, child characteristics, environmental factors, and learning outcomes.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 465.01, 465.02, or permission of instructor. Repeatable to a maximum of 8 cr hrs.

**689.02 Curriculum Planning and Interdisciplinary Strategies for Serving Moderately, Severely, and Profoundly Delayed Young Children U G 3-5**

Practicum experience for students who are interested in working with young developmentally delayed children and their families in an educational setting.

Wi, Sp Qtrs. Arr. Prereq: 361 or equiv, and Psych 571 or Ed-S&R 651 or Edu PAES 650. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**689.03 Advanced Family Services Practicum U G 3-5**

Special field experience in family service agencies for students with unique interests, such as hospitalized children or the elderly.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 360 and 466. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**689.04 Advanced Infant-Toddler Practicum U G 3-5**

Advanced supervised teaching experience with children birth to three years of age.

Su, Au, Wi, Sp Qtrs. 2 hrs lab time weekly/credit hr enrolled. Prereq: 365 or permission of instructor. Repeatable to a maximum of 8 cr hrs.

**694 Group Studies U G 2-3,5**

Selected topics in human development and family science.

Prereq: Open to students who meet dept's stated prereqs. Repeatable to a maximum of 10 cr hrs.



**695 Seminar in Child and Family Studies**

Review, interpretation, and evaluation of current literature and research in defined areas.

Su, Au, Wi, Sp Qtrs. 1 2.5-hr cl. Prereq: 360, 361, and sr or grad standing.

**695.01 Special Topics in Child Development U G 3**

Special topics seminar with a content focus on child development.

**695.02 Special Topics in Family Development U G 3**

Special topics seminar with a content focus on family development.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable. This course is graded S/U.

**698.02 Foreign U G 1-15**

Repeatable. This course is graded S/U.

**701 Issues and Problems in Human Development and Family Science**

Issues and problems in research, teaching, and professional development in fields of human development and family science.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Jr, sr, or grad standing in hdfs or permission of instructor.

**701.02 Program Development U G 1**

Current issues and trends and methods in the interdisciplinary curricula and instructional resources in the field of human development and family science.

This course is graded S/U.

**701.03 Research U G 1**

Current research trends and methods in the interdisciplinary field of human development and family science.

**717 Nisonger Center Courses in Mental Retardation and Developmental Disabilities**

Focus on interdisciplinary topics in mental retardation and developmental disabilities.

Prereq: Permission of instructor. Cross-listed in Allied Medicine, Education: Physical Activity and Educational Services, Human Nutrition, Nursing, Psychology, Social Work, and Speech and Hearing Science.

**717.01 Family Systems: An Interdisciplinary Approach to Families of Handicapped Children U G 3**

Qualitative and quantitative approaches for resource and problem identification with families of handicapped children, effective parenting skills, strategies to follow at-risk families, and family intervention models.

Wi Qtr. 1 3-hr cl. Not open to students with credit in 702.01 in any cross-listed areas.

**717.02 The Interdisciplinary Team: Clinical and Administrative Issues U G 3**

Investigation and critical examination of function of interdisciplinary clinical and administrative teams in mental retardation and developmental disabilities.

Su Qtr. 1 3-hr cl. Not open to students with credit in 702.02 in any cross-listed areas.

**717.03 Developmental Disabilities U G 3**

Focus on the most pertinent scientific and societal issues of developmental disabilities.

Au Qtr. 1 3-hr cl. Not open to students with credit for 717.03 in any of the cross-listed areas.

**719 Early Intervention Interdisciplinary Team Dynamics G 3**

Interdisciplinary team-taught course with a focus on early intervention/early childhood education services for children birth to three and their families.

Au Qtr. 2.5-hr cl. Prereq: Permission of instructor. Not open to students with credit for Alli Med 719, Edu PAES 719, Nursing 719, or Sph/Hrng 719. Cross-listed in Education: Physical Activity and Educational Services, Nursing, and Speech and Hearing Science.

**760 Human Development and Family Science Research Process Analysis U G 3**

Historical overview of research methods and related conceptual issues relevant to study of human development and family science; creative approaches to research problems.

Au Qtr. 1 2.5-hr cl. Prereq: 334 or 361 or 363 or Psych 550; and 334 or Psych 300 or equiv with permission of instructor.

**764 Foundations and Issues in Family Science G 4**

Theory, research, and methods used to study family development; individual and family developmental tasks over the life span; personal and social context of family development.

Au Qtr. 1 3-hr cl. Prereq: 360 and 364, or equivs with written permission of instructor.

**765 Advanced Child Development G 4**

Growth and development of children through adolescence with emphasis on maturation patterns and individual differences.

Wi Qtr. 2.5-hr cl, 2 hrs arr. Prereq: 360, and 361 or Psych 550, or equiv with written permission of instructor.

**770 Ethical and Professional Issues in Couple and Family Therapy G 4**

A preclinical introduction to the central issues and resources in professional development, including personal growth, legal responsibilities, regulation, ethics, and special areas of practice.

Wi Qtr. 3.5-hr. cl.

**793 Individual Studies U G 1-5**

Problems in various phases of human development and family science.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**810 Divorce and Remarriage G 3**

Analysis of research and theory pertaining to the process of marital dissolution, adjustment, and remarriage.

Wi Qtr. 1 3-hr cl. Prereq: 764 and 765 or equiv and permission of instructor, 6 cr hrs in research methods, design, or statistics.

**820 Family Theory G 3**

Explores major theoretical perspectives of the field of family science as well as strategies for developing theory.

Wi, Sp Qtrs. 1 2.5-hr cl. Prereq: 764.

**825 Theories of Development Across the Lifespan G 3**

Examination of foundational theories of human development with an emphasis on evaluating, comparing and contrasting the major theories.

Wi Qtr. 1 2.5-hr cl. Prereq: 764; 765; doctoral standing or permission of instructor.

**840 Seminars in Adolescence**

A series of seminars focusing on human development during adolescence, processes involved in development during this period, the social and family contexts of development.

Prereq: 760, 764, 765; or permission of instructor. One of series will be offered each year.

**840.01 Adolescents and Their Families G 3**

A multidisciplinary analysis of theory and research bearing on the topic of changing parent-child relationships during the period when children are adolescents.

Au Qtr. 1 2.5-hr cl.

**840.02 Adolescence: The Differentiation Process and the Social Context G 3**

Comprehensive overview of the differentiation construct's utilization in family theory, research, and clinical practice.

Sp Qtr. 1 2.5hr cl.

**840.03 Adolescence: The Individuation Process in the Context of the Family G 3**

A review and analysis of research on the process of individuation during the developmental period of adolescence in the context of the family.

Wi Qtr. 1 2.5-hr cl.

**840.04 Adolescence: Risks in context G 5**

Examines the ways that social relationships and context (family, peers, community, etc) shape development, specifically risk and problem behavior during the adolescent period.

1 3-hr cl 1 2-hr lab.

**850 Measurement and Assessment in the Study of Children and Families G 3**

Examination of measurement techniques, instruments, and methods which are used by family researchers to assess children and families.

Au Qtr. 1 2.5-hr cl. Prereq: 760 and one other research course or permission of instructor.

**851 Practicum in Research G 1-5**

Participation in the research process under the supervision of a faculty member.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing and permission of instructor. Repeatable to a maximum of 20 cr hrs. A maximum of 5 hrs of 851 may be included in student's program of study. This course is graded S/U.

**852 Practicum in Teaching G 1-5**

Supervised college teaching experience for department graduate students.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**861\* The Family: Middle and Later Years G 3**

The interrelationship and adjustment of families with emphasis on the middle and later years of the life cycle.

Au Qtr. 1 2.5-hr cl. Prereq: 764 or equiv with written permission of instructor, and 6 cr hrs in research methods, design, or stat.

**862 Seminar in Human Development and Family Science G 3**

Topics to be announced.

Au, Wi, Sp Qtrs. 1 2.5-hr cl. Prereq: Grad standing in human ec or written permission of instructor; and 6 cr hrs in research methods, design or stats. Repeatable to a maximum of 24 cr hrs.

**863 Infant Caregiving Contexts G 3**

Review and critical analysis of recent theoretical and research literature relevant to the design and evaluation of infant care settings.

Sp Qtr. 1 2.5-hr cl. Prereq: 663 or equiv with permission of instructor, and 6 cr hrs in research methods, design, or stat.

**864 Contemporary Issues in Group Experiences for Young Children G 3**

Identification and examination of current practices in group experiences for children under five; emphasis on current issues, relevant research and theory as related to curriculum.

Sp Qtr. 1 2.5-hr cl. Prereq: 15 cr hrs of child development and/or child psychology, supervised student teaching or experience in nursery schools or day care centers, and 3 cr hrs in research methods, design, or stat.

**865 Play and Development G 3**

Examination of research on play, including development, special populations, and ways of encouraging and studying play.

Au Qtr. 1 2.5-hr cl. Prereq: 765 or equiv grad course in human development or play, or permission of instructor.

**867 Current Trends and Issues in Human Development and Family Science**

An analysis and assessment of the empirical and theoretical literature on selected family science topics.

1 2.5-hr cl. Prereq: 764 and 765 or equiv; 6 cr hrs in research methods, design or stats, or permission of instructor.

**867.02\* Men in Families G 3**

A developmental analysis and assessment of the empirical and theoretical literature on male role performance in family systems with implications derived for research and social policy.

Sp Qtr. Repeatable to a maximum of 12 cr hrs.

**867.03\* Women in Families G 3**

An analysis and assessment of the theoretical and empirical literature on women's roles in family systems.

Au Qtr. Repeatable to a maximum of 12 cr hrs.

**870 Family Systems Assessment G 4**

A survey of issues and techniques used in assessment of families for purposes of research and practice, including issues and design for family therapy research.

Sp Qtr. 3.5-hr cl. Prereq: 760 and 770.

**874 Family Therapy Theory I G 4**

An emphasis on the theoretical orientation of the structural, strategic, MRI, and Milan approaches to family therapy.

Au Qtr. 1 3.5-hr cl. Prereq: 650 or permission of instructor.

**875 Family Therapy Theory II G 4**

An emphasis on the theoretical orientation of the intergenerational, behavioral, experimental and solution-focused approaches to family therapy.

Wi Qtr. 1 3.5-hr cl. Prereq: 650 or permission of instructor.

**876 Couple Therapy Theory G 4**

An emphasis on theoretical approaches, intervention techniques, and basic issues or problems of application for couple therapy.

Au Qtr. 3.5-hr cl. Prereq: 874 or 875.

**878\* Supervision of Couple and Family Therapy G 4**

Preparation of Couple and Family Therapy doctoral students to provide supervision of therapy.

Su Qtr. 1 2-hr cl; 4 hrs. practicum. Prereq: 889 and enrollment in Couple and Family Therapy Program, or permission of instructor.

**880 Seminar in Couple and Family Therapy G 4**

Topics to be announced.

Su, Wi, Sp Qtrs. 3.5-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**881 Research in Couple and Family Therapy G 4**

Explore major design, measurement and analysis strategies for conducting and understanding couple and family therapy research.

Wi Qtr. 1 3.5-hr cl. Prereq: 6 hrs of measurement, design or analysis.

**889 Practicum in Couple and Family Therapy G 1-3**

Supervised practice in couple and family assessment and intervention in the department's couple and family therapy clinic.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**894 Group Studies G 3-5**

Selected topics in human development and family science.

Prereq: 6 cr hrs in research methods, design or stat; and stated prereqs for specific topics. Repeatable to a maximum of 10 cr hrs.

**989 Supervised Field Experience in Family Therapy G 1-3**

Supervised practice in couple and family assessment and intervention in an agency setting.

1-5 client contact hrs per week. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**993 Individual Studies G 1-5**

Problems in various phases of human development and family science.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**998 Research: Thesis G 1-18**

Research for master's thesis.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research: Dissertation G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Human Ecology**

201 Campbell Hall, 1787 Neil Avenue, 292-6612

**100 Human Ecology Survey U 1**

Introduction to Human Ecology programs and survey of university policies and procedures.

Au, Wi, Sp Qtrs.

**Human Nutrition**

325 Campbell Hall, 1787 Neil Avenue, 292-4485

**210 The Science of Human Nutrition U 5**

Basic principles of biological science involving interactions between nutrients and physiological processes with emphasis on implications for human health.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Biology 101 or equiv. Not open to students with credit for 310. BER/GEC/LAR course.

**295 Nutrition and Dietetic Careers U 2**

Exploration of careers in nutrition/dietetics through self-assessment, informational interviews and employer presentations; information on internships and job search strategies.

Wi Qtr. 1 2-hr cl.

**310 Fundamentals of Human Nutrition U 5**

Nutrient and food energy needs of the human biological system throughout the life cycle with consideration of socio-psychological factors.

Au, Wi, Sp Qtrs. 5 cl. Prereq: Biology 101, 110, 113 or equiv; Chem 101 or 121 and Chem 102 or 122. This course is available for EM credit.

**313 Food in Different Cultures U 3**

Food practices of selected peoples of the world with consideration of the existing social, cultural, and economic conditions.

Sp Qtr. 3 cl. Prereq: 10 cr hrs of social science.

**314 Fundamentals of Food U 5**

Application of chemical and physical principles to food preparation and use.

Wi Qtr. 2 2-hr cl, 3-hr lab. Prereq: 10 cr hrs of chem.

**415 Issues and Controversies in Nutrition U 3**

An overview of "hot" topics in nutrition with a focus on critical appraisal of the research basis for issues and alternative viewpoints.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: 310 or permission of instructor.

**450 Foodservice Sanitation and Safety U 3**

Organization of a program of foodservice sanitation and safety.

Wi Qtr. 2 1.5-hr cl.

**504 Nutrition Education U 3**

Contemporary theories and models of health education related to individuals, groups and communities and applied to field of nutrition. Practical experiences in applying knowledge.

Wi Qtr. 2 1.5-hr cl. Prereq: 310.

**506 Nutrition: The Life Cycle U 3**

Food and nutrient needs throughout various phases of the life cycle.

Au Qtr. 3-hr cl. Prereq: 310 or equiv with permission of instructor.

**589 Professional Experience Internship in Human Nutrition U 3-5**

Supervised pre-planned employment experience with approved biomedical or medical professional; written comprehensive report required.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 310 or Anim Sci 330; Biology 113, 114; Chem 121, 122, 123; 251, 252, 254, EEOB 232 or Anim Sci 310. Min rank 3 and humn ntr major. This course is graded S/U.

**593 Individual Studies U 1-5**

Problems in various phases of human nutrition chosen for individual study.

Su, Au, Wi, Sp Qtrs. Prereq: Minimum of 6 cr hrs in subject matter of problem with cumulative point-hour ratio of 2.70 or written permission of instructor. Repeatable to a maximum of 10 cr hrs. 1 or more conf. H593 (honors) may be available to students enrolled in college honors program or eligible for enrollment. This course is graded S/U.

**596 Advanced Professional Development U 1**

Advanced professional development issues in dietetics: Leadership, marketing, continuing education, licensure, preparation for accredited practice experience/graduate education.

Au Qtr. 1 cl. Prereq: 295 or 595. Open only to seniors in dietetics. Required for students applying for dietetic internships.

**610 Advanced Human Nutrition U G 5**

Interrelationships of nutrition and human biological functions.

Au Qtr. 3 1.5-hr cl. Prereq: 310 or Anim Sci 330, Biochem 211 and 212 or 511 or MolBioch 311 and 312, EEOB 232 or PhysioCB 311 and 312, or grad standing.

**612 Medical Nutrition Therapy U 5**

The role of medical nutrition therapy in the treatment of established disease with emphasis on the biochemical and physiological rationale for dietary modifications.

Sp Qtr. 3 1.5 cl. Prereq: 610 or Med Diet 545, 611 and Med Diet 546. Not open to students with credit for 612.01 or 612.02.

**694 Group Studies U G 1-5**

Selected topics in human nutrition.

Prereq: Open to students who meet dept's stated prereqs. Repeatable to a maximum of 10 cr hrs.

**697 Study at a Foreign Institution U 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable. This course is graded S/U.

**698.02 Foreign U G 1-15**

Repeatable. This course is graded S/U.

**704 Nutrition Programs and Services in the Community U G 4**

Study of nutrition in the community including nutrition resource assessment, program goals, target audiences, funding, legislation, policy formation, quality assurance and delivery of programs.

Sp Qtr. 2 cl, 2 3-hr lab. Prereq: 504 and 506.

**705 Nutrition and Exercise U G 3**

Theoretical and applied framework for making dietary decisions for exercising populations.

Wi Qtr. 2 cl, 3-hr lab. Prereq: Advanced coursework in nutrition, physiol and biochem and permission of instructor.

**710 Physiological Basis for Food Utilization U G 5**

Advanced concepts of human nutrition integrating physiological, biochemical, and nutritional functions relevant to food utilization.

Wi Qtr. 3 1.5-hr cl. Prereq: 610 or equiv.

**717 Nisonger Center Courses in Mental Retardation and Developmental Disabilities**

Focus on interdisciplinary topics in mental retardation and developmental disabilities.

Prereq: Permission of instructor. Cross-listed in Allied Medicine, Education: Physical Activity and Educational Services, Human Development & Family Science, Nursing, Psychology, Social Work, and Speech and Hearing Science.

**717.01 Family Systems: An Interdisciplinary Approach to Families of Handicapped Children U G 3**

Qualitative and quantitative approaches for resource and problem identification with families of handicapped children, effective parenting skills, strategies to follow at-risk families, and family intervention models.

1 3-hr cl. Not open to students with credit in 717.01 in any cross-listed areas.

**717.02 The Interdisciplinary Team: Clinical and Administrative Issues U G 3**

Investigation and critical examination of function of interdisciplinary clinical and administrative teams in mental retardation and developmental disabilities.

Su Qtr. 1 2-hr cl. Not open to students with credit in 717.02 in any cross-listed areas.

**717.03 Developmental Disabilities U G 3**

Focus on the most pertinent scientific and societal issues of developmental disabilities.

Au Qtr. 1 3-hr cl. Not open to students with credit for 717.03 in any of the cross-listed areas.

**761 Carbohydrate and Lipid Metabolism U G 5**

In-depth treatment of digestion, absorption, transport, and utilization of dietary carbohydrates and fat for energy production and fat deposition in humans and other higher animals.

Wi Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; Humn Ntr 610 or Anim Sci 630.01 OR grad standing or permission of instructor. Not open to students with credit for Fd Sc&Te 761 or Anim Sci 761. Cross-listed in Food Science and Technology and Animal Sciences.

**762 Principles of Nutrient Metabolism U G 5**

In-depth examination of the cellular and molecular mechanisms responsible for regulation of nutrient transport and metabolism with focus on the utilization of dietary protein.

Au Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; Humn Ntr 310 or Anim Sci 330 OR grad standing or permission of instructor. Not open to students with credit for Fd Sc&Te 762 or Anim Sci 762. Cross-listed in Food Science and Technology and Animal Sciences.

**763 Vitamin and Mineral Metabolism U G 5**

In-depth treatment of biochemical functions, absorption, transport, utilization, interrelationships and nutritional requirements of the vitamins and minerals in humans and other higher animals.

Sp Qtr. 3 1.5-hr cl. Prereq: Biochem 511 or equiv; Humn Ntr 610 or Anim Sci 630.01 or 630.02 OR grad standing or permission of instructor. Not open to students with credit for Anim Sci 763 or Fd Sc&Te 763. Cross-listed in Animal Sciences and Food Science and Technology.

**789 Practicum in Human Nutrition**

Advanced supervised practice in community nutrition, medical nutrition therapy and nutrition and food management in practice setting, 1-2 hour class.

**789.01 Practicum in Community Nutrition G 4**

Supervised practice in community assessment, program development and delivery of programs and services to promote health and nutrition.

Au Qtr. 36 hr/wk. Prereq: Permission of instructor.

**789.02 Practicum in Medical Nutrition Therapy G 4**

Supervised practice in medical nutrition therapy.

Wi Qtr. 36 hr/wk. Prereq: Nutrition Education, Medical Nutrition Therapy. Permission of instructor.

**789.03 Practicum in Nutrition and Food Management G 4**

Supervised practice in applying concepts of management to nutrition of food programs and services.

Sp Qtr. 36 hr/wk. Prereq: Permission of instructor.

**793 Individual Studies U G 2-3,5**

Problems in various phases of human nutrition chosen for individual study.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**802 Seminar in Human Nutrition**

3 cl. Prereq: Advanced course work in seminar topic. Repeatable to a maximum of 15 cr hrs.

**802.02^ Advanced Topics in Human Nutrition G 3**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**802.04 Human Nutrition G 3**

Au Qtr. Repeatable to a maximum of 15 cr hrs.

**804 Advanced Community and International Nutrition G 5**

Prepares students for nutrition field studies in immigrant or international communities. Students gain knowledge and skills to plan, implement and evaluate a community or international project.

Sp Qtr. 3 1.5-hr cl. Prereq: 704 or equiv community nutrition course or permission of instructor. Offered during odd numbered years.

**806 Advanced Nutrition Education G 5**

Teaches nutrition education skills related to theories, models and methodologies for designing, implementing and evaluating community-based programs in nutrition education.

Sp Qtr. 3 1.5-hr cl. Prereq: 704 or permission of instructor. Offered during even numbered years.

**830 Advanced Studies in Nutrition**

Advanced concepts in nutrition.

Au, Wi, Sp Qtrs. 3 or 5 cl. Prereq: 610 or Anim Sci 530; Fd Sc&Te 761 and 762; 10 grad cr hrs in physiol. Not open to students with credit for Anim Sci 830 or Fd Sc&Te 830. Cross-listed in Animal Sciences and Food Science and Technology.

**830.01 Energy/Lipids G 5**

Sp Qtr. 5 cl. Prereq: Fd Sc&Te 761.

**830.02 Vitamins/Minerals G 5**

Wi Qtr. 5 cl. Prereq: Humn Ntr 763.

**830.09 Food and Nutritional Toxicology G 3**

Basic principles in food and nutrition toxicology focused on interactions of nutrients and food toxins, role of diet in mutagenesis and carcinogenesis and safety assessment.

Au Qtr. Prereq: Fd Sc&Te 761, 762, Humn Ntr 610 or Anim Sci 630.01 and 630.02 or permission.

**830.10 A Comprehensive Approach to Food Safety G 3**

Course provides a comprehensive overview of food safety issues, challenges and solutions across the food chain from farm to table.

Wi Qtr. 1 3-hr cl. Prereq: Micrbiol 509 and introductory level course in nutrition or food science or permission of instructor.

**830.11 Nutrition-Endocrine Interactions in Women's Health G 4**

Examination of the historical and emerging research in the area of diet-endocrine interactions and women's health.

2 2-hr cl. Prereq: 761, 762 or FdSc&Te 761, 762 or Anim Sci 761, 762 or grad standing or permission of instructor.

**889 Nutrition Research: Principles and Techniques G 3**

Introduction to principles and techniques frequently used for evaluating dietary adequacy, nutritional status and nutrient metabolism and functions.

Au Qtr. 2 cl, 3 hrs lab. Prereq: Grad standing or permission of instructor.

**890 Nutrition Field Research Experience G 1-5**

Individual graduate students will participate in field research. Students will travel to location for their project. A contract will establish the expectations for the experience.

Su Qtr. Arr. Prereq: 804 or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**894 Group Studies G 3-5**

Selected topics in human nutrition.

Prereq: Open to students who meet dept's stated prereqs. Repeatable to a maximum of 10 cr hrs.

**895 Seminar G 1**

Presentations by students, faculty, and visiting scientists with critical discussion of issues in human nutrition.

Au, Wi Qtrs. Arr. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**898 Interdepartmental Seminar in Nutrition G 1**

A seminar in nutrition and related fields.

Sp Qtr. Repeatable to a maximum of 5 cr hrs. Cross-listed in Animal Sciences, and Food Science and Technology. This course is graded S/U.

**899 Interdepartmental Seminar G 1-5**

Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced.

**993 Individual Studies G 2-3,5**

Problems in various phases of human nutrition chosen for individual study.

Su, Au, Wi, Sp Qtrs. 1 or more conf. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**998 Research: Thesis G 1-18**

Research for master's thesis.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research: Dissertation G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Humanities, College of**

186 University Hall, 230 North Oval Mall, 292-1882

**100 Humanities Survey U 1**

Academic requirements, University procedures, grading system, resources; student rights and responsibilities; overview of Humanities areas of study, Arts and Sciences services.

Au Qtr. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for FAES 100, Arts Col 100.01 or 100.02, Arts&Sci 100 or 100.01 or 100.02, Bio Sci 100, Engineer 100, MPS Col 100, SBS Col 100, or any decimal subdivision of Univ Col 100. This course is graded S/U.

**294 Group Studies U 1-6**

Interdisciplinary study under the direct auspices of the College of Humanities involving materials of an interdepartmental or intercollegiate nature.

H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**450 Cultures of Professional Writing**

Examination of the nature of writing within various academic and nonacademic organizations and settings.

Prereq: English 110 and any 367.

**450.01 Writing and Its Places U 5**

Exploration of the kinds and roles of writing in multiple communities.

**450.02 Writing in Organizations U 5**

Writing that shapes professional organizations; discourse analysis of the written documents produced in these settings.

**450.03 Writing and New Media U 5**

Exploration of how conceptions of writing have changed along with technologies of writing and examination of New Media's role in our experiences as writers.

**489 Research Internship in the Humanities U 1-5**

Intensive research experience in a humanities discipline; individual instruction within a faculty research project; students work as research assistants.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

**589 Internship in Professional Writing U 5**

Students work on-site in an organization, planning, revising, editing, and producing documents and meet two hours a week to discuss their experiences.

1 2-hr cl, 8-12 hrs onsite. Prereq: 450.01 or 450.02 or 450.03, one additional course toward the minor, and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-6**

Interdisciplinary study under the direct auspices of the College of Humanities involving materials of an interdepartmental or intercollegiate nature.

Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**Hungarian**

400 Hagerty Hall, 1775 College Road, 292-6733

**101 Elementary Hungarian I**

Development of four skills: listening comprehension, speaking, reading, and writing; introduction to Hungarian culture.

Not open to native speakers of this language through regular course enrollment or EM credit; or to students with 3 or more years of study of this language in high school except by permission of dept. GEC for lang course.

**101.01 Classroom Track U 5**

Au Qtr. 2 2-hr cl. Students must register for and complete 5 cr hrs during the qtr.

**101.51 Individualized Track U 1-5**

Repeatable to a maximum of 5 cr hrs. Students register for and complete 1-5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

**102 Elementary Hungarian II**

Further development of the four skills: listening comprehension, speaking, reading, and writing; more work on Hungarian culture.

Not open to native speakers of this language through regular course enrollment or EM credit; or to students with 3 or more years of study of this language in high school, except by permission of dept. GEC for lang courses.

**102.01 Classroom Track U 5**

Wi Qtr. 2 2-hr cl. Prereq: 101.01 or 5 cr hrs of 101.51. Students must register for and complete 5 cr hrs during the qtr.

**102.51 Individualized Track U 1-5**

Prereq: 101.01 or 5 cr hrs of 101.51 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 103.51. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement. Students may register for 101.51 and 102.51 concurrently with permission of instructor.

**103 Intermediate Hungarian I**

**103.51 Individualized Track U 1-5**

Continuation of 102.51; development of listening comprehension, speaking, reading, and writing, with somewhat more emphasis on listening comprehension and reading.

Prereq: 102.01 or 5 cr hrs of 102.51 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 5 cr hrs. Students register for and complete 1 to 5 hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 104.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 102.51 and 103.51 concurrently with permission of instructor. GEC for lang course.

**104 Intermediate Hungarian II**

**104.51 Individualized Track U 1-5**

Continuation of 103.51; development of the four skills with emphasis on listening comprehension and reading.

Prereq: 103.01 or 5 cr hrs of 103.51 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 103.51 and 104.51 concurrently with permission of instructor. GEC for lang course.

## Industrial and Systems Engineering

210 Baker Systems Engineering Building, 1971 Neil Avenue, 292-6239

**311 Manufacturing Engineering U 3**

Fundamentals and interrelationships of the principal manufacturing processes; principles and characteristics illustrated with related laboratory demonstrations.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 1-hr lab. Prereq: 2nd yr standing or written permission of instructor. Safety glasses must be worn in laboratory.

**406 Industrial Quality Control U 4**

Application of probability, statistics, design of engineering experiments to statistical process control; process capability analysis; and technical and economic evaluation of quality control systems.

Au Qtr. 2 2-hr cl. Prereq: Math 153. Not open to Industrial and Systems Engineering majors.

**485 Practical Experience in an Industrial Organization U 2**

To be obtained in some engineering or industrial organization; prior adviser approval and final report required.

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Majors in ind eng only. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**500 Introduction to Industrial and Systems Engineering U 3**

Introduction to the industrial engineering curriculum and to the profession; technical communication; completion is required prior to beginning advanced portion of the major.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq or concur: Chem 121, Econ 200, Math 415 or 255 and 568 or 571, Physics 132, Psych 100, Stat 428 and English 367 or equiv. Open to ind eng majors only. GEC 3rd writing course.

**503 Work Physiology and Biomechanics in Work Design U G 3**

Investigations of the physiological and biomechanical aspects of work design; anthropometry, biomechanical analysis, physio-control models, and work rest cycles applied to the workplace.

Au, Wi Qtrs. 2 cl, 1 2-hr lab. Prereq: Mech Eng 410; Stat 427 or equiv, and 3rd yr standing in ind eng; or permission of instructor.

**504 Engineering Economic Analysis U G 3**

Economic analysis of engineering projects and methods of operation; the analysis of public investments, and introduction to the analysis of engineering decisions.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 3rd yr standing or concur with 500 or written permission of instructor; and a minimum cumulative pt-hr ratio of 2.00.

**H504 Honors Engineering Economic Analysis U 3**

Economic analysis of engineering projects using spreadsheet modeling. Economic decision making under uncertainty.

Sp Qtr. 2 cl, 2 1-hr labs. Prereq: 2nd yr standing, enrollment in College of Engineering Honors Program. Not open to students with credit for 504.

**509 Statistical Process Control U 3**

Emphasizes the application of statistical methods to product design, process design and operation, and quality engineering.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: 500; Stat 427 and 428, or equiv.

**511 Introduction to Manufacturing Processes U G 3**

Fundamentals and analysis of principal manufacturing processes and relationship between process variables and product properties.

Wi Qtr. 3 cl. Prereq: 311 recommended; Eng Mech 220 or 400 or 440, or Mech Eng 410 or 420 or 440.

**517 Introduction to the Physical Principles of Manufacturing Processes U 3**

Applications of the basic principles of transport phenomena to develop physics based models of manufacturing processes.

Wi Qtr. 2 1.5-hr cl. H517 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Math 415; Physics 132; CS&E 201, 202 or En Graph 167.

**521 Operations Research I: Simulation of Production Systems U 5**

Emphasizes the creation and use of simulation models for the design and evaluation of production systems.

Au, Wi Qtrs. 2 1.5-hr cl, 1 3-hr lab. Prereq: 500; Stat 427 and 428, or equiv.

**522 Operations Research II: Fundamentals of Linear Optimization with Applications U 3**

Emphasizes the formulation, solution and analysis of linear models to optimize the design of production and service systems and other engineering applications.

Au, Wi Qtrs. 2 1.5-hr cl. Prereq: 500, Math 254, 415 or 255, and 568 or 571. Working knowledge of Excel.

**523 Operations Research III: Fundamentals of Nonlinear Optimization with Applications U 3**

Emphasizes the formulation, solution, and analysis of nonlinear models to optimize the design of production and service systems and other engineering applications.

Wi, Sp Qtrs. 3 cl, 1 1-hr lab, arr. Prereq: 522; Math 254, 415, 568. Not open to students with credit for 549. Computer facilities with Excel.

**531 Production Systems I: Systems Design U 4**

This course develops the knowledge and skills to design production systems and their workplace components.

Wi, Sp Qtrs. 4 cl, 1 1-hr lab. Prereq: 500.

**532 Production Systems II: Facilities Design U 4**

Principles and methods for design and analysis of facility layouts, systematic layout planning, production flow analysis, material handling systems, workstation design, Lean Manufacturing.

Au, Sp Qtrs. 3 cl, 1 3-hr lab. Prereq: 521, 522, 523, 531.

**533 Production Systems III: Design and Implementation of Production Control Systems U 4**

Principles and practices of modern production systems control including scheduling, shop floor control, MRP systems, theory of constraints, finite capacity scheduling, commercial software, pull scheduling.

Au, Sp Qtrs. 4 cl, 1 1-hr lab arr. Prereq: 504, 521, 522, 523, 531.

**534 Principles of Industrial Engineering U G 4**

A survey of industrial engineering methods used in industry including optimization, probability and statistics, waiting line models, quality control, simulation models and scheduling methods.

Au, Wi Qtrs. 4 cl. Prereq: 3rd yr standing or equiv with written permission of instructor. Not open to students in ind eng.

**573 Cognitive Engineering I U 3**

Introduction to the design of person-machine systems, psychological aspects of human performance, and design of displays and controls; human-computer interaction; human information processing.

Wi, Sp Qtrs. 2 cl, 1 2-hr lab. Prereq: 3rd yr standing in ind eng or written permission of instructor. Not open to students with credit for 673.

**602 Analysis of Die Casting Processes U G 3**

Fundamental principles underlying the die casting process; integration of cast component design, process requirements and economics.

Wi Qtr. 2 1.5-hr cl. Prereq: Grad or sr standing in Engineering. Cross-listed in Materials Science and Engineering.

**603 Principles of Occupational Biomechanics and Industrial Ergonomics U G 3**

In-depth treatment of occupational biomechanics and industrial ergonomics to provide transition to more advanced research-oriented topics.

Au Qtr. 2.5-hr cl. Not open to students with credit for Ind Eng 503.

**607 Manufacturing Processes and Simulation U G 4**

Introduction to advanced theory and simulation of manufacturing processes, including machining, casting, forming, and injection molding.  
Wi Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 3rd yr standing in College of Engineering.

**608 Industrial Practice in Systems Design**

An in-depth systems design project for industrial engineering.  
2-qtr sequence, must be taken in consecutive qtrs. GEC 3rd writing course.

**608.01 Industrial Practice in Systems Design I U 4**

Problem formulation, data collection, and exploration of design alternatives for an actual systems engineering problem.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 610 or concur; 503, 521, 522, 523, 532, 533, 573, 640. This is a Progress course. 2-qtr sequence, must be taken in consecutive qtrs.

**608.02 Industrial Practice in Systems Design II U 4**

Exploration and selection of design alternatives; justification, recommendation, and written and oral presentation of problems solution.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 504, 608.01. This is a Progress course. 2nd of 2-qtr sequence; must be taken in consecutive quarters.

**610 Planning of Engineering Experiments U G 3**

Study of the planning of industrial and research experiments.  
Au, Wi Qtrs. 2 1.5-hr cl. Prereq: 522 or written permission of instructor.

**611 Machining Processes and Machine Tools U G 4**

Analysis and application of mechanics, stress analysis, vibrations and heat transfer in material removal processes; machine tool design, machine tool metrology and machine tool control.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: Mech Eng 420 or 440, or grad standing.

**614 Automation U G 3**

A survey of mechanization principles and current design practices involved in the automation of manufacturing operations and processes.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: 311 or equiv.

**615 Automation Laboratory U 1**

Application of principles of mechanization to manufacturing operations and processes.

Au, Sp Qtrs. Prereq or concur: 614.

**617 Introduction to Modeling of Materials Processing U G 3**

Applications of the basic principles of transport phenomena to develop physics based mathematical models of materials processing methods.

Au Qtr. Prereq: Mech Eng 500 and En Graph 167 and Math 415; or equiv; or permission of instructor.

**618 Polymer Processing Fundamentals U G 3**

Applies fundamentals of transport phenomena and polymer constitutive equations to plastics manufacturing.

Wi Qtr. Prereq: Mech Eng 500, Math 415, En Graph 167 or equiv; or permission of instructor.

**619 Introduction to Precision Engineering U G 4**

Precision engineering is the multidisciplinary study and practice of high accuracy engineering, metrology, and manufacturing.

Sp Qtr. Prereq: Sr standing in Ind Eng/Mech Eng/MatSc&En or grad standing.

**H619 Introduction to Precision Engineering U G 4**

Precision engineering is the multidisciplinary study and practice of high accuracy engineering, metrology, and manufacturing.

Sp Qtr. Prereq: Sr standing in Ind Eng/Mech Eng/MatSc&En. Available to students enrolled in an honors program or by permission of dept or instructor.

**620 Computer Application in Industrial Process Control U G 3**

Provides an introduction to evaluation and design of practical industrial control systems with emphasis on real time data acquisition.

Au, Sp Qtrs. 2 1-hr cl, 1 2-hr lab. Prereq: En Graph 167 or Cptr/Inf 201 or 202 or equiv, and 4th yr standing in ind eng or permission of instructor.

**621 Introduction to Parametric Design U G 3**

Design of components, assemblies, molds and dies using parametric and feature-based design principles.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: 522 or Mech Eng 561 or Weld Eng 600 or grad standing in ind eng, mech eng or the manufacturing systems and engineering program. Not open to students with credit for Mech Eng 621. Cross-listed in Mechanical Engineering.

**622 Tool Engineering U G 4**

Design of tools, jigs, and fixtures. Basic elements of fixture design, such as form, locating points, clamping devices, and the use of standardized parts.

Au Qtr. 2 1.5-hr cl, 1 3-hr lab. Prereq: 311; prereq or concur: Ind Eng/Mech Eng 621. Not open to students with credit for 631 or Mech Eng 622. Cross-listed in Mechanical Engineering.

**623 Machine Tool Control and Programming U G 4**

Provides an introduction to numerically controlled machine tools including principles of operation, programming systems, computer assisted programming, performance characteristics, and applications.

Sp Qtr. 2 1.5-hr cl, 2 3-hr labs. Not open to students with credit for 605 or Mech Eng 623. Cross-listed in Mechanical Engineering.

**625 Engineering Analysis for Design and Simulation U G 4**

Fundamentals of engineering analysis of heat flow, thermal and residual stresses, and fracture and fatigue with applications to design and simulation in welding and manufacturing.

Au Qtr. 2 1.5-hr cl, 1 3-hr lab. Prereq: Eng Mech H210 or 400, or Mech Eng H210 or 400 or 410. Not open to students with credit for Weld Eng 620. Cross-listed with Weld Eng 620.

**640 Engineering Project Management U G 3**

Introduction to project management for engineers. Conception, planning, scheduling, budgeting, leadership, management, tracking, completion of projects. Project management software is introduced and used.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: 3rd yr standing in College of Engineering or written permission of instructor.

**652.02 Introduction to Nanofabrication and Nanomanufacturing U G 3**

Novel nanomanufacturing techniques will be introduced with a focus on top down approaches and a brief introduction of bottom up approaches.

Prereq: ECE 331 or Mats&En 205 or permission of instructor. Not open to students with credit for CHBE 632 or ECE 632 or Biomed e 662. Cross-listed in Chemical and Biological Engineering and Electrical and Computer Engineering and Biomedical Engineering.

**662 Introduction to Applied Decision Analysis U G 3**

Introduction to decision analysis and its application; deals with modern utility theory and the application of this theory to engineering decisions under risk.

Au, Wi Qtrs. 2 1.5-hr cl. Prereq: Stat 425 or 427 or equiv probability course.

**666 Net Shape Forming of Automotive Parts U G 4**

Introduces students to fundamentals of Net Shape Manufacturing with emphasis on interaction of materials, design and manufacturing.

Sp Qtr. 2 2-hr lec. Prereq: 311, Eng Mech 400, Eng Mech 430; at least Rank 3 standing in the College of Engineering. Repeatable to a maximum of 12 cr hrs.

**671 Industrial Accident Prevention and Control U G 3**

Industrial safety practices; OSHA; models of accident phenomena; measurement, inspection, and control of unsafe behavior and conditions; design of loss control programs. Student projects.

Wi Qtr. 2 cl. Prereq: 500 or equiv with written permission of instructor.

**672 Analysis and Design of Workplace Environments U G 4**

Measurement of environmental parameters including noise, heat, gases, particulates, and light, and their effect on human productivity; design of engineering controls; laboratory includes industrial surveys.

Au Qtr. 2 cl, 1 2-hr lab. Prereq: 500 or equiv with written permission of instructor.

**673 Cognitive Engineering G 3**

Methodology for design of person-machine systems; psychological aspects of human performance; design of displays and control, human computer interactions, and human information processing.

Au, Wi Qtrs. 2 cl, 1 2-hr lab. Not open to students with credit for 573.

**680 Introduction to Integrated Production Control Systems U G 3**

Introduction to the design and analysis of integrated production control systems, including master scheduling, materials requirement planning, just-in-time systems, sequencing and scheduling.

Wi Qtr. 2 1.5-hr cl. Prereq: 522 and 523 or equiv.

**682 Product Design Fundamentals U G 4**

Principles of concurrent engineering, design for manufacture and assembly, and lean manufacturing; integration of design and manufacturing; design prototyping.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab. Prereq: 523 or Mech Eng 561 or grad standing. Not open to students with credit for Mech Eng 682. Cross-listed in Mechanical Engineering.

**683 CAD/CAM Laboratory for Rapid Design Prototyping U G 3**

Rapid design prototyping using engineering workstations, CAD/CAM software, table-top CNC milling machines, and rapid prototyping machines.

Sp Qtr. 1 2-hr cl, 1 3-hr lab. Prereq: Ind Eng or Mech Eng 623; and 523 or Mech Eng 561 or grad standing in Mech Eng or Ind Eng. Not open to students with credit for Mech Eng 683. Cross-listed in Mechanical Engineering.

**689 Senior Laboratory U 3**

Students pursue independent laboratory project of up to two quarters duration; proposals must be approved by a faculty member prior to registration for the course.

Prereq: Sr standing in ind eng. Repeatable to a maximum of 6 cr hrs.

**693 Individual Studies in Industrial Engineering U G 1-6**

Designed to give the advanced students an opportunity to pursue special studies not offered in fixed curricula.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**694 Group Studies in Industrial Engineering U G 1-6**

Advanced topics in the various phases of industrial engineering.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 23 cr hrs.

**700\* Empirical Model Building in Industrial Engineering U G 3**

Course imparts a basic understanding of modern statistical and optimization techniques to support data-driven, robust engineering system design decision making.

Wi Qtr. 2 1.5-hr cl. Prereq: 610 or Stat 641 or 645 or equiv. Not open to students with credit for 750.03.

**702 Mathematical Programming: Linear G 3**

Convexity and polyhedral sets, extreme point solutions, degeneracy, the Simplex and other solution methods, duality, sensitivity analysis, decomposition and complexity issues.

Au Qtr. 2 1.5-hr cl. Prereq: Math 568 or equiv with written permission of instructor. Not open to students with credit for 830.

**703 Stochastic Processes Used in Systems Engineering I G 3**

Introduction to modeling of stochastic systems, including Markov chains and Markov processes.

Au Qtr. 2 1.5-hr cl. Prereq: Knowledge of basic probability and calculus. Not open to students with credit for 843.

**704 Introduction to Discrete System Simulation U G 4**

Introduction to the analysis of systems via discrete-event simulation models, generation of random variables, testing random number generators, fitting distributions to data, output analysis.

Wi Qtr. 2 2-hr cl. Prereq: Stat 426 or 428.

**709 Statistical Quality Control and Quality Management Systems P G 3**

Course imparts knowledge to understand and apply current statistical and management methods in quality engineering.

Au, Sp Qtrs.

**711 Introduction to Metal Forming U G 3**

Metal forming processes, fundamentals of plastic deformation in metal forming; approximate analysis of metal forming processes.

Sp Qtr. 2 1.5-hr cl. Prereq: 607 or permission of instructor.

**712 Advanced Metal Forming U G 3**

Advanced analysis and design of hot and cold metal forming processes.

Sp Qtr. 3 cl. Prereq: 711 or equiv.

**715 Ergonomics in the Product Design Process U G 3**

Teaches students where and how ergonomics design principles are incorporated into the product design process.

Sp Qtr. 2 1.5-hr cl. Prereq: 503 (or 603) and 573 (or 673) or permission of instructor.

**717 Practice Oriented Ergonomics U G 3**

The practical and theoretical development of concepts and methodologies to be used for ergonomic evaluation of work will be emphasized with the goal of preventing injuries.

Sp Qtr. 1 3-hr cl. Prereq: 503 or 603 or permission of instructor.

**718 Intermediate Occupational Biomechanics U G 3**

Biomechanics of connective tissues and the principles of rigid and deformable body mechanics for developing analysis tools and evaluating human operators within the work place.

Wi Qtr. 2 1.5-hr cl. Prereq: 603 or permission of instructor.

**737 Proseminar in Cognitive Science U G 2**

An in-depth examination of the interdisciplinary field of Cognitive Science; emphasizes fundamental issues of each discipline, provides illustrations of representative research being conducted at OSU.

Sp Qtr. 1 2-hr cl. Prereq: CIS 612, Linguistics 612, Psych 612, or Philos 612, or permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in CIS, Linguistics, Philosophy, Psychology, and Speech and Hearing Science.

**757 Industrial Ecology: Production Systems Perspectives U G 3**

Introduction to the principles and methods of life cycle environmentally conscious design, manufacturing, services, supply chain management, refurbishment, and recycling.

Au Qtr. 3 cl. Prereq: Sr standing in College of Engineering or grad standing.

**758 Design, Analysis, and Control of Integrated Manufacturing Systems G 3**

A systematic description of traditional, cellular, and flexible configurations; an

integrated view of interacting elements and their design, analysis, and control with examples from industry.

Sp Qtr. Prereq: Stat 425 and 426 or 427 and 428 or 525 or equiv.

**772 Decision Analysis U G 3**

Introduction to Bayesian decision analysis and its applications.

Sp Qtr. Prereq: 662. Not open to students with credit for 862.

**773 Cognitive Engineering: Human Interaction with Intelligent Systems U G 3**

Investigation of topics in cognitive engineering including techniques for aiding human performance, human expertise and human error, cognitive modeling of person-machine systems, and paradigms for human-computer interaction.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: 573 and permission of instructor (undergraduates); 673 (graduates).

**774 Human-Computer Interaction in Complex Systems U G 3**

Design of human-computer interfaces for applications such as cockpits, process control rooms, space applications, and information retrieval; students will design an interface for an actual system.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: 573 and permission of instructor (undergraduates); 673 (graduates).

**775 Cognitive Engineering Methods: Protocol Analysis and Knowledge Acquisition U G 3**

Class teaches the theory and practice of methods in cognitive engineering, including protocol analysis, knowledge elicitation for intelligent systems, and cognitive task analysis.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: 573 and permission of instructor (undergraduates); 673 (graduates).

**776 Reliability Engineering**

Engineering system reliability modeling and prediction; reliability of engineering devices, systems, and processes; study of practical applications.

Cross-listed in Electrical Engineering and Mechanical Engineering. Repeatable for different titled topics only of 776.xx.

**776.01 Reliability Engineering I U G 4**

Engineering system reliability modeling and prediction; reliability of programmable devices and human reliability; reliability and risk management of engineering systems.

Wi Qtr. 2 2-hr cl. Prereq: 509 or Elec Eng 351 or Mech Eng 481 or grad standing. Field experience at the site of Honda in Marysville.

**776.02 Reliability Engineering II U G 4**

Reliability of mechanical and electrical devices, systems, and engineering processes.

Sp Qtr. 2 2-hr cl. Prereq: 776.01 or Elec Eng 776.01 or Mech Eng 776.01 or permission of instructor. Field experience at the site of Honda in Marysville.

**776.03 Reliability Engineering Applications U G 1**

Study and design of a complete reliability program for a selected engineering system.

Sp Qtr. 1 cl. Prereq or concur: 776.02 or Elec Eng 776.02 or Mech Eng 776.02 or permission of instructor. Field experience at the site of Honda in Marysville.

**H783 Undergraduate Honors Program Research U 1-3**

Honors program students are offered the opportunity to pursue independent project/research. Student presentations and thesis writing included.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Sr standing in ind eng (or equiv). Students must have a GPA of at least 3.4 and permission of instructor. Repeatable to a maximum of 6 cr hrs.

**802 Operations Research Models and Methods G 3**

Variety of basic OR models are discussed including the knapsack, traveling salesman, and newsboy problems. Algorithmic concepts are described, many typical solution techniques are presented.

Wi Qtr. 2 1.5-hr cl. Prereq: 702 and 703.

**814 Stochastic Processes Used in Systems Engineering II G 3**

Additional models of stochastic systems including Poisson, Markov, renewal and other stochastic processes; applications to queuing theory.

Au Qtr. 2 1.5-hr cl. Prereq: 703.

**816 Advanced Queuing Theory G 3**

Mathematical analysis and design of waiting line systems emphasizing transient solutions, general arrival and service distributions, and priority queues and networks of queues.

Au Qtr. 2 1.5-hr cl. Prereq: 814 or equiv. Not open to students with cr for 813.

**817 Advanced Seminar Cognitive Engineering G 3**

Advanced seminar on contemporary topics dealing with engineering applications of cognitive psychology, artificial intelligence, and linguistics; topic areas include human-computer interactions, the design of information retrieval systems, and mental models of complex systems.

Au Qtr. 2 cl. Prereq: 673 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**818 Advanced Models in Human Factors Engineering G 3**

Advanced study in applied models used in human factors engineering; topics include models of human error, workload measurement and evaluation, risk acceptance, and performance under work paced and environmental stress. Au Qtr. 2 cl. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**819 Advanced Topics in Biomedical Ergonomics G 3**

Advanced study of state of the art biomechanic evaluation methods applied to ergonomic problems; topics include hand tool evaluation, low back injury, electro-physiology, and anthropometry.

Wi Qtr. 2 cl. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**820 Human Error and the Human Contribution to System Failures G 3**

Psychology of human error and contribution of human error to disasters in high-risk systems.

Au Qtr. 2 1.5-hr cl. Prereq: 673 or permission of instructor.

**821 Problems in Production Engineering G 3-12**

Advanced work in one or more phases of production engineering involving problems in production design, equipment planning, tool design, and quality control.

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**822 Seminar in Advanced Topics in Manufacturing G 3**

Seminar will feature speakers from industry; students will prepare reports and oral presentations on various topics.

Sp Qtr. 2 2.5-hr cl. Prereq: Admission to grad program or permission of instructor.

**824 Sequencing and Scheduling G 3**

Survey of sequencing/scheduling problems encountered in management systems. Emphasis is given to those problems and solution methods found in the literature.

Sp Qtr. 2 1.5-hr cl. Prereq: 702 or permission of instructor.

**828 Advanced Studies in Plant Design and Materials Handling G 3-12**

Advanced work in one or more special phases of plant design and materials handling, such as group technology and robotics.

Au, Wi, Sp Qtrs. Prereq: 658.

**829 Dynamic Biomechanical Lab Analysis for Occupational Low Back Disorder G 4**

Builds upon theoretical information developed in Ind Eng 819. Provides link between theoretical biodynamic logic and laboratory measurement in assessment of occupational biomechanical issues for occupational low back disorder.

Sp Qtr. 2 cl, 1 4-hr lab. Prereq: 819. Repeatable to a maximum of 8 cr hrs.

**831 Mathematical Programming: Nonlinear G 3**

Conv ex sets, convex functions, saddle point optimality criteria, the Fritz John and Kuhn-Tucker conditions, sensitivity and parametric results, applications, and an introduction to algorithms.

Wi Qtr. 2 cl. Prereq: 702.

**832 Mathematical Programming: Advanced Nonlinear G 3**

Wolfe/Falk duality, conjugate/geometric duality, applications of quality (e.g., geometric programming, quadratic programming, location problems, decomposition).

Sp Qtr. 2 cl. Prereq: 831.

**833 Optimization Methods for Large Systems G 3**

Methods for the solution of large optimization problems including decomposition, generalized linear programs, relaxation methods, and primal and dual hierarchical decompositions.

Sp Qtr. 2 cl. Prereq: 710 or 831 or equiv with written permission of instructor.

**834 Integer Optimization Methods G 3**

Methods used in the solution of optimization problems which contain integer variables. The emphasis is on general properties and the use of standard methods.

Au Qtr. 2 1.5-hr cl. Prereq: 802 or permission of instructor.

**839 Biodynamic Measurement Tools Used in Research G 4**

Builds upon theoretical information from 819. Links theoretical biodynamic logic and laboratory measurements in assessment of occupational biomechanical issues for measurement tools used in research.

Sp Qtr. 2-hr lec, 4-hr lab. Prereq: 819. Repeatable to a maximum of 8 cr hrs.

**849 Risk Assessment for Musculoskeletal Disorders G 4**

Builds upon theoretical information from 819. Links theoretical biodynamic logic and laboratory measurements in assessment of occupational biomechanical issues for musculoskeletal disorders.

Sp Qtr. 2-hr lec, 4-hr lab. Prereq: 819. Repeatable to a maximum of 8 cr hrs.

**859 Modeling Upper Extremity Cumulative Trauma Disorder G 4**

Builds upon theoretical information from 819. Links theoretical biodynamic logic and laboratory measurements in assessment of occupational biomechanical issues for upper extremity cumulative trauma disorders.

Sp Qtr. 2-hr lec, 4-hr lab. Prereq: 819. Repeatable to a maximum of 8 cr hrs.

**863 Dynamic Programming G 3**

Theory, methodology, and application of dynamic programming.

Sp Qtr. Prereq: 651 or 710 or equiv with permission of instructor.

**866 Programming and Control Research G 3-12**

Advanced work in the several phases of programming and control theory; consists primarily of application of mathematical methods to the formulation and solution of process programming and control problems.

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**871 Man-Machine Systems Research G 1**

Advanced work in special research topics in man-machine systems.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**881 Seminar in Industrial Engineering G 1**

Su, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**885 Practices in Operations Research G 3**

Application of OR methods in manufacturing, financial, governmental, educational, and service organizations; students work on actual problems of a sponsoring organization and present both oral and written reports.

Sp Qtr. 2 1.5-hr cl. Prereq: 802. Not open to students with credit for 844.

**893 Individual Studies G 1-6**

Designed to give advanced graduate students an opportunity to pursue special studies not offered in fixed curricula.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**894 Group Studies G 1-6**

Advanced topics in the various phases of industrial engineering.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 18 cr hrs.

**899 Interdepartmental Seminar G 1-5**

Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs.

**900 Seminar in Operations Research**

Seminar on research topics in Operations Research designed to prepare PhD students for dissertation research and research careers.

Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: PhD standing or permission of instructor, other prereqs vary by topic.

**900.01 Optimization G 3**

Repeatable to a maximum of 15 cr hrs.

**900.02 Probabilistic Models G 3**

Repeatable to a maximum of 15 cr hrs.

**900.03 Simulation and Experimentation G 3**

Repeatable to a maximum of 15 cr hrs.

**900.04 Decision Analysis G 3**

Repeatable to a maximum of 15 cr hrs.

**900.05 Systems Theory G 3**

Repeatable to a maximum of 15 cr hrs.

**999 Research in Industrial Engineering G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Industrial, Interior and Visual Communication Design

380 Hopkins Hall, 128 North Oval Mall, 292-6746

**200 Introduction to Design U 5**

Introduction to theory, rationale, practice, and societal impact of design; design process, critical issues, relationship to the environment.

Au, Wi, Sp Qtrs. 2 2-hr cl. VPA Admis Cond course.

**201 Descriptive and Analytic Drawing for Designers U 3**

Development of drawing skills to explore, observe, understand, record, analyze and communicate visual information.

Au, Wi, Sp Qtrs. 3 1-hr cl. This course is available for EM credit. VPA Admis Cond course.



**202 Drawing Systems for Designers U 3**

Introduction to drawing systems, including orthographics, sections, dimensions, paraline and measured drawings.  
Wi, Sp Qtrs. 3 1-hr cl. Prereq: 201 or permission of instructor.

**203 Graphic Thinking for Designers U 3**

Introduction to drawing as a design tool. Emphasis is placed on sketching and drawing to explore, analyze and communicate design concepts and design processes.  
Wi, Sp Qtrs. 3 1-hr cl. Prereq: 202 or permission of instructor.

**230 Basic Design Concepts for Non Majors U 3**

A studio-based introduction to the design process; creative problem-solving process emphasizes divergent thinking skills through observation, abstraction, evaluation and communication.  
Au, Wi, Sp Qtrs. 3 1-hr cl. Not open to majors in design or pre-design.

**250 Studies in Design U 3**

Studies in specific areas in the field of design, with emphasis on particular aspects of industrial design, visual communication, and interior design problems.  
Au, Wi, Sp Qtrs. 2 2-hr labs. Prereq: Permission of instructor.

**251 Basic Design I U 5**

Introduction to the theories, methods, and practices of design with primary emphasis on basic visual languages and visual encoding practices.  
Au Qtr. 33-hr labs. Prereq: 200, English 110 or equiv, Math 116, and the successful completion of admissions exam; and a cumulative pt-hr ratio of 2.00.

**252 Basic Design II U 5**

Application of three-dimensional organizational principles, introduction to visual logic, freehand perspective sketching systems, and basic three-dimensional modeling techniques and materials.  
Wi Qtr. 3 3-hr labs. Prereq: 251 or permission of instructor.

**253 Design History U 3**

A history of design as affected by technology, science, and cultural world view.  
2 cl, 1 2-hr lec/lab. Prereq: Design major or permission of instructor.

**254 Introduction to Materials and Processes for Designers U 3**

An overview of the properties and fabrication principles for materials used in industrial, interior and visual communication design.  
Wi Qtr. 2 2-hr cl. Prereq: 251; concur: 252; or permission of instructor.

**258 Basic Typography U 3**

Introduction to the knowledge and skills of typographical design and its corresponding aesthetic, functional, and technological applications and utilizations.  
Sp Qtr. 1 2-hr cl, 2 2-hr labs. Open only to majors in visual comm dsgrn or by permission of instructor.

**262 Basic Design III**

Studio course for majors in department, unique to each area.  
Sp Qtr. 3 3-hr labs. Prereq: 252; Math 116 or higher equiv; Stat 135 or 145 or equiv; or permission of instructor.

**262.02 Basic Visual Communication Design Practices U 5**

Introduction to basic two- and three-dimensional practices in visual communication design; emphasis on systematic method and research techniques.

**262.04 Basic Industrial Design Practices U 5**

Introduction to the fundamentals of industrial design with emphasis on development processes, technical skills, and communication; development of simple exemplary products.

**262.08 Basic Interior Design Practices U 5**

Introduction to three-dimensional spatial organization, basic interior design conceptualization and principles of composition; application of basic human needs and space defining elements.

**294 Group Studies in Design U 1-5**

The investigation of various problems in design.  
Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs.

**310 Color and Communication U 3**

Provides experience in color interaction; introduces color effects on clarity, mood, readability, etc; color theory.  
Au, Wi, Sp Qtrs. 2 1.5-hr cl.

**320 Electronic Media for the Designer U 3**

The application of electronic media technologies to graphical content.  
Au, Wi, Sp Qtrs. 2 1.5-hr cl.

**340 Information Visualization U 3**

Design principles related to visualizing quantitative information, processes and systems.  
Su, Wi Qtrs. 2.1.5hr cl.

**460 Intermediate Design I**

Au Qtr. 3 3-hr labs. Open only to majors or permission of instructor.

**460.02 Visual Communication Design U 5**

Design and application of graphic elements based on visual imagery in production of visual communications using photographic and handgraphic techniques within frameworks of theories of communication and signs.

**460.04 Industrial Design U 5**

Design of simple products as a means of introducing systematic methods, sketching, model making, human factors, and presentation.

**460.08 Interior Design U 5**

An introduction to conceptual planning, interior organization, interior requirements, and human factors, with emphasis on model making and presentation techniques.

**461 Intermediate Design II**

Wi Qtr. 3 3-hr labs.

**461.02 Visual Communication Design U 5**

Design and application of typographical elements in production of verbal communications using photographic, handgraphic, and computer techniques within frameworks of theories of communication and signs.

Prereq: 460.02.

**461.04 Industrial Design U 5**

Emphasis is placed on the refinement of systematic design methods, visualization, detailing and documentation; students are introduced to team working and client requirements.

Prereq: 460.04 concur: 551.

**461.08 Interior Design U 5**

Introduction to furniture design, exploring material and production characteristics, detailing and full-scale model making, emphasizing man-space-product interface, and special user requirements.

Prereq: 460.08.

**462 Intermediate Design III**

Sp Qtr. 3 3-hr labs.

**462.02 Visual Communication Design U 5**

Integration of typographic and graphic elements based on visual imagery in design and development of two-dimensional visual communications using photographic, handgraphic, and computer techniques.

Prereq: 461.02 and 555.

**462.04 Industrial Design U 5**

Developing of specialized problem solving approaches to more complex industrial design which emphasizes the refinement of solutions in terms of suitable technology and user consideration.

Prereq: 461.04, 502 and 555.

**462.08 Interior Design U 5**

Design of specialized interior spaces, introducing space planning and design methodology; emphasis on user interaction and existing space and furniture system analysis.

Prereq: 461.08 and 555.

**489 Internship in Design U 1-5**

A cooperative education or internship assignment conducted under the supervision of a faculty member.  
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**501 Conceptual Drawing for Industrial Design U 3**

Principles of creative conceptual drawing and sketching methods used in the design process.  
Sp Qtr. 2 3-hr cl. Prereq: 201 through 203, 252, 253, or permission of instructor.

**502 Three Dimensional Design Graphics U 3**

Principles of graphic design for industrial and interior design.  
Au Qtr. 2 3-hr cl. Prereq: 262.04, 501 and Art 201.

**511 Visual Communication Hand Graphics U 3**

Advanced laboratory practice in communicating with drawn messages; evaluation and selection of appropriate visual treatments and techniques for print, film, and television.  
Au Qtr. 2 3-hr labs. Prereq: 262.02; concur: 460.02.

**514 Graphic Design Production U 3**

Fundamental information on the preparation, administration, and development of printed matter used by the visual communication designer.  
Wi Qtr. 3 cl. Prereq: 258, 460.02, and 511; concur 461.02.

**521 Interior Drawing U G 3**

Principles and application of conceptual drawing techniques.  
Sp Qtr. 2 3-hr labs. Prereq: 201 through 203 and 252.

**522 Interior Graphics U G 3**

Application and meaning of light, color, material structures, and surface textures; principles of spatial order systems, correlations and intercommunication of space components, forms, signs, styles.

Sp Qtr. 2 3-hr labs. Prereq: 461.08.

**523 Interior Modeling U G 3**

Principles and practices to represent spatial components and user interaction; communication and simulation of space in 2- and 3-dimensional form.

Au Qtr. 2 3-hr labs. Prereq: 521 or permission of instructor.

**524 Interior Specification U G 3**

Overview and analysis of interior product systems, furniture line market surveys; interior specification and contracting.

Wi Qtr. 2 3-hr labs. Prereq: 460.08 and jr or sr standing in design.

**525 Interior Design Detailing and Construction Documentation U 3**

Exploring interior design construction techniques and their methods of representation.

Wi Qtr. 2 2-hr cl. Prereq: 460.08 and jr or sr standing in design.

**551 Industrial Design Manufacturing Materials and Processes U 3**

Overview of the properties and fabrication principles for materials used in visual communication, interior, and industrial design.

Wi Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 254, 460.04, and 501; concur: 461.04.

**552 Design Communication Practices U 3**

An overview of communication methods, techniques, and procedures utilized in the various stages of the design process.

Sp Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 461.

**554 Human and Environmental Systems Design U 3**

Overview of the social/behavioral/physical nature of humans and their interaction with the environment as interpreted by the designer.

Au Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 462 and 555.

**555 Design Methodology U 3**

Introduction to and application of qualitative and quantitative methodology useful in a problem solving process.

Au Qtr. 2 2-hr cl, 1 2-hr lab. Prereq 262; concur: 460; or permission of instructor.

**570 Introduction to Image Graphics Techniques U G 4**

Provides exposure to digital image capture, representation and manipulation from a design perspective.

Su, Wi, Sp Qtrs. 2 2-hr cl. Not open to majors in design.

**571 Fundamentals of 3D Design Visualization U 4**

Concepts of 3D modeling, rendering and animation for visualizing design forms.

Au, Wi Qtrs. 2 2-hr cl. Not open to design majors.

**573 Fundamentals of Multimedia Design U 4**

Electronic communication techniques related to the web and interactivity; web design and technology principles.

Au, Sp Qtrs. 2 2-hr cl. Not open to design majors.

**603 3D Computer-Aided Design Visualization U G 3**

Application of computer graphics to visualizing the design issues of form, space, color, and the dynamics of human interaction within problems of industrial design.

Wi Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 502 or 523 or permission of instructor.

**656 Design Professional Practices U G 3**

Investigation of the administrative and legal aspects of the design profession contrasting the private firm with corporate and free-lance types of practice.

1 2-hr cl, 1 1-hr cl. Prereq: Sr standing in interior, ind, or visual comm design; or permission of instructor.

**660 Advanced Design I**

Au Qtr. 3 3-hr labs.

**660.02 Visual Communication Design U G 5**

Integration of typographic and graphic elements based on visual imagery in design and development of three-dimensional visual imagery in design and development of three-dimensional visual communication solutions in packaging, exhibit design, or sign systems.

Prereq: 462.02, 552, and 555.

**660.04 Industrial Design U G 5**

Design of products and product systems for complex functions; emphasis is on extending design consideration to include detailing, mock-ups, prototypes, testing and servicing.

Prereq: 462.04, 502, 551, and 555.

**660.08 Interior Design U G 5**

Design of complex interior spaces emphasizing psychological aspects of

spatial components, referring to human performance and behavior, detail development and specification of space-creating products.

Prereq: 462.08, 522, 552, and 555.

**661 Advanced Design II**

Wi Qtr. 3 3-hr labs.

**661.02 Visual Communication Design U G 5**

Application of planning and analysis techniques in designing two- or three-dimensional visual communication systems; emphasis on application of visual communication research practices and methodology.

Prereq: 554 and 660.02.

**661.04 Industrial Design U G 5**

Introduction of field research experience and interdisciplinary expertise to the design of products and product systems.

Prereq: 554 and 660.04.

**661.08 Interior Design U G 5**

Design of public environments using an interdisciplinary team approach for conceptualization, documentation, and presentation, emphasizing environmental characteristics, and the physical and psychological functionalism of space.

Prereq: 554 and 660.08.

**662 Advanced Design III**

Sp Qtr. 3 3-hr labs.

**662.02 Visual Communication Design U G 5**

Individual student projects; students are to demonstrate their proficiency and grasp of previous subject matter in a project approved by the instructor; portfolio refinement.

Prereq: 661.02 or equiv with written permission of instructor.

**662.04 Industrial Design U G 5**

Industrial design thesis project; students are to demonstrate their proficiency and grasp of previous subject matter in a project approved by the instructor; portfolio development.

Prereq: 661.04 or equiv with written permission of instructor.

**662.08 Interior Design U G 5**

Interior design thesis project; students are to demonstrate their proficiency, ability to evaluate and solve problems, comprehension of human needs, and environmental concerns; portfolio development.

Prereq: 661.08 or equiv with written permission of instructor.

**671 Photo Graphics U G 3**

An experimental workshop in techniques of manipulating existing images to create new visual ideas, emphasizing individual exploration; discussions and critiques.

Sp Qtr. 2 2-hr labs. Prereq: 461.02 and 514; concur: 462.02.

**673 Interactive Visual Communication: Strategies for Web Communication U G 4**

Application of visual communication design principles to interactive interface design and navigational elements.

Au, Wi Qtrs. 2 2-hr labs. Prereq: 461.02 or equiv, or permission of instructor.

**674 Interactive Visual Communication: Multimedia and Rich Media Design U G 4**

Application of visual communication principles to interactive multimedia and the integration of rich media resources.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 461.02 (or equiv) and 673, or permission of instructor. This course is a suggested elective for Visual Communication majors.

**685 Field Work in Design U G 3-10**

Field application of design in a capacity requiring a close working relationship within a professional environment.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 20 or hrs.

**693 Individual Studies U G 2-5**

Advanced study for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 45 or hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

Group studies for students in specialized programs.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 or hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Arr cl. Prereq: Written permission of chairperson. Repeatable to a maximum of 45 or hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Scholarship: Research and Creative Activity in Design U 1-15**

Undergraduate research or creative activities in varying topics.

Su, Au, Wi, Sp Qtrs. Arr. H699 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. H699 is letter graded. This course is graded S/U.

**750 3-D Computer Modeling Applications for Artists and Designers U G 5**

Advanced techniques and methods using 3-D geometric modeling application programs and techniques to design and synthesize 3-D forms.

Au Qtr. 2 2-hr cl; 1 2-hr lab. Prereq: Written permission of instructor.

**752 3-D Computer Generated Visualization and Simulation Application for Artists and Designers U G 5**

Advanced topics in computer-generated motion application and script development used by artists and designers to create animating studies and emulations.

Sp Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 751 and written permission of instructor.

**760 Graduate Design Studio G 5**

Interdisciplinary projects for solving complex design problems; planning, analysis, and implementation of design research, problem definition development, team formulation, and advanced production and presentation methodologies.

Su, Au, Wi, Sp Qtrs. 9 cl. Prereq: 662 or equiv or undergrad ind dsgn degree, and grad standing; or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**780 Design Issues Seminar U G 4**

Analysis of issues and inquiry into topics of relevance to design; group discussions and investigations of events, processes, manifestations and procedures related to design.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**H783 Honors Research U 3-5**

Program of research and/or design investigation for each student with individual conferences resulting in an honors thesis and/or honors project.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**785 Orientation to Graduate Studies in Design U G 4**

Overview of current and future trends in design; introduction to design research and communication methods; faculty interest and research; available resources; requirements of graduate-level study.

Au Qtr. 2 2-hr cl.

**786 Design Research and Inquiry U G 4**

Design as a mode of inquiry, including examination of communication process and models, and emphasizing general problem-solving as a goal-directed, value-laden activity.

Wi Qtr. 2 2-hr cl. Prereq: 785 or permission of instructor.

**787 Design Planning, Development, and Evaluation U G 4**

Preparation for graduate thesis and project courses with emphasis on concept formulation and evaluation based on communication models and other techniques of design.

Sp Qtr. 2 2-hr cl. Prereq: 786 or permission of instructor.

**797 Interdepartmental Seminar U G 1-5**

Interdisciplinary knowledge and problems examined and discussed in the context of shared concerns.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**894 Group Studies G 1-5**

Group studies for students in specialized programs.

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**950 Research Problems in Design G 3-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 45 cr hrs.

**993 Individual Studies G 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 45 cr hrs. This course is

graded S/U.

**998 Research in Design: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Integrated Biomedical Science**

1190 Graves Hall, 333 West 10th Avenue, 292-0857

**670 Patient-Centered Research U P G 2**

Lectures and small group discussions will cover an introduction to humanistic aspects of medical research and human experimentation, including historical, socio-political, economic, and ethical aspects.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor for students not enrolled in the College of Medicine. Repeatable to a maximum of 12 cr hrs. This is a Progress course. Cross-listed in College of Medicine and Public Health. This is a progress course with a grade rendered each SP quarter. This course is graded S/U.

**692 Clinical Biomedical Research U P G 3**

Through lectures, small groups, independent reading, and mentored clinical research projects students learn the nature, goals, importance, basic principles, and administrative requirements of clinical research.

Su, Au, Wi, Sp Qtrs. 1-hr cl, 2 4-hr labs. Prereq: Graduate or professional student status or senior undergraduate student with permission of course director. This course is graded S/U.

**701 Biology of Human Disease I**

**701.01 Nucleic Acid Biochemistry in Human Disease U P G 2**

Nucleic acid biochemistry and biochemical abnormalities of nucleic acids that lead to the expression of human diseases.

Au Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 701.05.

**701.02 Protein Chemistry and Function in Human Disease U P G 2**

Normal protein biochemistry and biomedical abnormalities of proteins that lead to the expression of human disease.

Au Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 701.05.

**701.03 Genome Structure and Function in Human Disease U P G 2**

Normal genome structure and function and genomic abnormalities that lead to the expression of human disease.

Au Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 701.05.

**701.04 Transcription and Translation Control Mechanisms in Human Disease U P G 2**

Gene transcription and translation and abnormalities in these mechanisms that lead to the expression of human disease.

Au Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 701.05.

**701.05 Biology of Human Disease U P G 10**

Presentation of biological mechanisms underlying the development, progression, and responses of the body to human diseases at the biochemical and molecular levels.

Au Qtr. 5 2-hr cl. Prereq: Permission of course coordinator for non-IBGP students. Not open to students with credit for 701.

**702 Biology of Human Disease II**

**702.01 Molecular and Cellular Physiology U P G 2**

Normal molecular and cellular physiology and abnormalities in these mechanisms that lead to the expression of human diseases.

Wi Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 702.05.

**702.02 Signal Transduction and Molecular Pharmacology U P G 2**

Normal signal transduction and molecular pharmacology and abnormalities in these mechanisms that lead to the expression of human diseases.

Wi Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 702.05.

**702.03 Extracellular Matrix and Cytoskeleton in Human Disease U P G 2**

Normal aspects of the extracellular matrix and cytoskeleton and abnormalities in these that lead to the expression of human diseases.

Wi Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 702.05.

**702.04 Cancer Biology U P G 2**

Normal aspects of the cell cycle and abnormalities in these that lead to the expression of human cancer.

Wi Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 702.05.

**702.05 Biology of Human Disease U P G 10**

Presentation of biological mechanisms underlying the development, progression, and responses of the body to human diseases at the cellular and tissue levels.

Wi Qtr. 5 2-hr cl. Prereq: Permission of course coordinator for non-IBGP students. Not open to students with credit for 702.

**703 Biology of Human Disease III****703.01 Developmental Biology U P G 2**

Normal cellular and molecular mechanisms in developmental biology and abnormalities in these mechanisms that lead to the expression of human diseases.

Sp Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 703.05.

**703.02 Host Defense U P G 3**

Normal immunological and non-immunological mechanisms of host defense and abnormalities in these mechanisms that lead to the expression of human diseases.

Sp Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 703.05.

**703.03 Integrated Organ Systems U P G 3**

Physiology of the cardiovascular, pulmonary and renal systems and pathophysiology of these that lead to the expression of human diseases.

Sp Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 703.05.

**703.04 Clinical Case Studies U P G 1**

Presents clinical cases to demonstrate the variables that must be accounted for in designing experiments that use human specimens.

Sp Qtr. Arr. Prereq: Permission of course director for non-IBGP students. Not open to students with credit for 703.05.

**703.05 Biology of Human Disease U P G 10**

Presentation of biological mechanisms underlying the development, progression, and responses of the body to human diseases at the tissue, organ and organ system levels.

Sp Qtr. 5 2-hr cl. Prereq: Permission of course coordinator for non-IBGP students. Not open to students with credit for 703.

**704 Research Problem Solving in Biomedical Science U P G 2**

Students will identify and solve problems in research materials distributed in advance to the class by the Module Leaders from IBGP 701, 702, and 703.

Sp Qtr. 2 cl. Prereq: 701 and 702 or equiv with permission of instructor. This course is graded S/U.

**705 Bioinformatics Applied to Human Disease U P G 1**

Training with computerized bioinformatics packages and electronics sources of genomics information to develop skills for genomics analysis of human diseases.

Wi Qtr. 1 1-hr cl. Prereq: Equivalent of 701 and permission of course coordinator for non-IBGP students. Requires standard personal computers to access web.

**706 Faculty Research in Biomedical Science U P G 1-2**

IBGP faculty members will present current research in their laboratories that could provide the basis for student laboratory rotations and dissertation research.

Su, Au, Wi, Sp Qtrs. 1 1-hr cl or 2 1-hr cl. Prereq: IBGP student or permission of course director. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**707 Fundamentals of Grant Writing I U P G 2**

Provide background information for and practical experience in grant writing.

Au Qtr. 1 2-hr cl. Prereq: Permission of course directors for non-IBGP students. This course is graded S/U.

**708 Fundamentals of Grant Writing II U P G 2**

Provide experience and background information in reviewing NIH grants.

Sp Qtr. 1 2-hr cl. Prereq: Permission of course directors for non-IBGP students. This course is graded S/U.

**709 Statistical Aspects of Grant Writing U P G 1**

To provide training and experience for IBGP students in preparing the statistical component of research grant proposals.

Wi Qtr. 1 cl. Prereq: 707 and basic statistics course or equiv with permission of course coordinator. This course is graded S/U.

**730 Biomedical Informatics I U P G 3**

Introduce students to the development of methods for carrying out detailed, realistic and predictive simulations of biological phenomena at many time and length scales.

Au Qtr. Prereq: Cptr/Inf 230 or equiv with permission of course director. Not open to students with credit for Biom Inf 730. Cross-listed in Biomedical Informatics.

**731 Biomedical Informatics II U P G 3**

Continuation of Biomedical Informatics I.

Wi Qtr. Prereq: IBGP/Biom Inf 730 and/or Cptr/Inf 230 or equiv with permission of course director. Not open to students with credit for Biom Inf 730. Cross-listed in Biomedical Informatics.

**740 Selected Topics in Microbial Pathogenesis P G 2**

Student led discussion of classic and current literature in microbial pathogenesis.

Wi Qtr. 1 2-hr cl. Prereq: Microbiol 724 or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**762 Independent Studies in Human Medical Sciences**

Students will independently follow provided study guides to gain an understanding of the basic sciences essential for understanding the mechanism of human diseases.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Registration as IBGP graduate student or permission of course director.

**762.01 Independent Studies in Medical Biochemistry U P G 3**

Students will independently follow provided study guides to gain an understanding of the medical biochemistry essential for understanding the mechanism of human diseases.

**762.02 Independent Studies in Human Histology U P G 2**

Students will independently follow provided study guides to gain an understanding of the human histology essential for understanding the mechanism of human diseases.

**762.03 Independent Studies in Human Neuroanatomy U P G 3**

Students will independently follow provided study guides to gain an understanding of the neuroanatomy essential for understanding human neurological diseases.

**762.04 Independent Studies in Human Neurophysiology U P G 4**

Students will independently follow provided study guides to gain an understanding of the neurophysiology essential for understanding human neurological diseases.

**762.05 Independent Studies in the Human Cardiovascular System U P G 2**

Students will independently follow provided study guides to gain an understanding of the human cardiovascular system essential for understanding human cardiovascular diseases.

**762.06 Independent Studies in the Human Respiratory System U P G 2**

Students will independently follow provided study guides to gain an understanding of the human respiratory system essential for understanding human respiratory diseases.

**762.07 Independent Studies in the Human Urinary System and Body Fluids U P G 2**

Students will independently follow provided study guides to gain an understanding of the human renal system and body fluids essential for understanding human renal diseases.

**762.08 Independent Studies in the Human Gastrointestinal System U P G 2**

Students will independently follow provided study guides to gain an understanding of the human gastrointestinal system essential for understanding human gastrointestinal diseases.

**762.09 Independent Studies in Human Molecular Biology and Genetics U P G 3**

Students will independently follow provided study guides to gain an understanding of the molecular biology and genetics essential for understanding the mechanism of human diseases.

**762.10 Independent Studies in Human Blood and Lymphatic Tissues U P G 1**

Students will independently follow study guides to gain an understanding of human blood and lymphatic tissues essential for understanding disease mechanism in those tissues.

**762.11 Independent Studies in Human Immunological Mechanisms U P G 2**

Students will independently follow provided study guides to gain an understanding of the immunological mechanisms essential for understanding the pathogenesis of human diseases.

**762.12 Independent Studies in Human Medical Nutrition U P G 3**

Students will independently follow provided study guides to gain an understanding of the medical nutrition essential for understanding the mechanism of human diseases.

**762.13 Independent Studies in Human Endocrine and Metabolic Systems U P G 2**

Students will independently follow provided study guides to gain an understanding of human endocrine and metabolic systems essential for understanding human endocrine and metabolic diseases.

**762.14 Independent Studies in the Human Reproductive System U P G 2**

Students will independently follow provided study guides to gain an understanding of the human reproductive system essential for understanding human reproductive diseases.

**763 Independent Studies in Human Pathobiology**

Students will independently follow study guides to gain an understanding of the pathobiology of specific groups of diseases and disease mechanisms.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Registration as IBGP graduate student or permission of course director.

**763.01 Independent Studies in Human Pathologic Mechanisms U P G 3**

Students will independently follow study guides to gain an understanding of the basic pathologic mechanisms leading to human disease.

**763.02 Independent Studies in Human Microbial Mechanisms U P G 4**

Students will independently follow study guides to gain an understanding of microbial mechanisms leading to human disease.

**763.03 Independent Studies in Human Drug Mechanisms U P G 6**

Students will independently follow study guides to gain an understanding of pharmacokinetics, pharmacodynamics, and mechanisms of action of drugs used to treat human diseases.

Prereq: 763.01.

**763.04 Independent Studies in Human Infectious Diseases U P G 5**

Students will independently follow study guides to gain an understanding of human infectious diseases.

Prereq: 763.01 and 763.02.

**763.05 Independent Studies in Cardiovascular Pathobiology U P G 6**

Students will independently follow study guides to gain an understanding of human cardiovascular pathobiology.

Prereq: 762.06 and 763.01.

**763.06 Independent Studies in Respiratory Pathobiology U P G 2**

Students will independently follow study guides to gain an understanding of human respiratory pathobiology.

Prereq: 762.06 and 763.01.

**763.07 Independent Studies in Renal Pathobiology U P G 3**

Students will independently follow study guides to gain an understanding of human renal pathobiology.

Prereq: 762.07 and 763.01.

**763.08 Independent Studies in Endocrine Pathobiology U P G 2**

Students will independently follow study guides to gain an understanding of human endocrine pathobiology.

Prereq: 762.13 and 763.01.

**763.09 Independent Studies in Gastrointestinal Pathobiology U P G 2**

Students will independently follow study guides to gain an understanding of human gastrointestinal pathobiology.

Prereq: 762.08 and 763.01.

**763.10 Independent Studies in Reproductive Pathobiology U P G 2**

Students will independently follow study guides to gain an understanding of human reproductive pathobiology.

Prereq: 762.14 and 763.01.

**763.11 Independent Studies in Human Neuro-Pathobiology U P G 2**

Students will independently follow study guides to gain an understanding of pathobiology of human neurological diseases.

Prereq: 762.03, 762.04 and 763.01.

**763.12 Independent Studies in Psychiatry U P G 1**

Students will independently follow study guides to gain an understanding of psychiatric disorders.

**763.13 Independent Studies in Hematology Pathobiology U P G 2**

Students will independently follow study guides to gain an understanding of hematologic pathobiology.

**763.14 Independent Studies in Rheumatic and Musculoskeletal Pathobiology U P G 1**

Students will independently follow study guides to gain an understanding of the pathobiological mechanisms underlying the expression of human rheumatic and musculoskeletal diseases.

**763.15 Independent Studies in Ophthalmology-Pathobiology U P G 1**

Students will independently follow study guides to gain an understanding of the pathobiological mechanisms underlying the expression of human ophthalmological diseases.

**764 Introduction to Clinical Aspects of Translational Research G 1**

Students will attend lectures given to medical students that prepare them for studies in the clinical environment.

Sp Qtr. Arr. Prereq: IBGP student and permission of course director. This course is graded S/U.

**765 Clinical Experiences for Students in Translational Research**

Students will participate in inpatient or outpatient clinical activities in an area related to the student's dissertation research.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: IBGP student and permission of course director.

**765.01 Acute and Cancer Pain Therapy G 2****765.02 Alcohol and Other Drug Dependency G 2****765.03 Allergy and Clinical Immunology G 2****765.04 Anesthesia G 2****765.05 Bariatric Surgery G 2****765.06 Blood Diseases of Infants and Children G 2****765.07 Bone Marrow Transplant G 2****765.08 Cancer Genetics Clinical G 2****765.09 Cancer Pain and Palliative Medicine G 2****765.10 Cardiology-Coronary Care General Cardiology G 2****765.11 Cardiology Heart Failure G 2****765.12 Cardiothoracic G 2****765.13 Clinical Rheumatology G 2****765.14 Complicated Diabetes Mellitus G 2****765.15 Comprehensive Care of the Cancer Patient G 2****765.16 Dermatology G 2****765.17 Digestive Diseases Hepatology G 2****765.18 Emergency Medicine G 2****765.19 End Stage Renal Disease in Children G 2****765.20 Endocrinology and Metabolism-Clinical G 2****765.21 Gastroenterology Outpatient G 2****765.22 General Medicine G 2****765.23 General Medicine Endocrinology/Diabetes G 2****765.24 General Surgery G 2****765.25 Geriatrics G 2****765.26 Clinical Gynecology G 2****765.27 Gynecologic Oncology G 2****765.28 Hematology G 2****765.29 Hematology/Oncology G 2****765.30 Infectious Diseases G 2****765.31 Long Term Care of the HIV Patient G 2****765.32 Medical Intensive Care G 2****765.33 Nephrology G 2****765.34 Neurology G 2****765.35 Neuropsychiatry G 2****765.36 Neurosurgery G 2****765.37 Normal Labor and Delivery G 2****765.38 Obstetrics High Risk G 2****765.39 Oncology G 2****765.40 Otolaryngology Head and Neck Surgery G 2****765.41 Orthopedics G 2****765.42 Ophthalmology G 2****765.43 Pediatric Cardiology G 2****765.44 Pediatric Cardiothoracic G 2****765.45 Pediatric Clinical Gastroenterology G 2****765.46 Pediatric Clinical Genetics G 2****765.47 Pediatric Critical Care Medicine G 2****765.48 Pediatric Developmental Disorders G 2****765.49 Pediatric Emergency Medicine G 2****765.50 Pediatric Endocrinology G 2****765.51 Pediatric Infectious Diseases G 2****765.52 Pediatric Hematology/Oncology G 2****765.53 Pediatric Intensive Care Unit G 2****765.54 Pediatric Nephrology G 2****765.55 Pediatric Otolaryngology G 2****765.56 Pediatric Pulmonology G 2****765.57 Pediatric Surgery G 2****765.58 Pediatric Urology G 2****765.59 Physical Medicine and Rehabilitation G 2****765.60 Plastic Surgery G 2****765.61 Pulmonary G 2****765.62 Radiation Oncology G 2****765.63 Reproductive Endocrinology and Infertility G 2****765.64 Rheumatology G 2****765.65 Surgical Intensive Care G 2****765.66 Surgical Intensive Care Unit/Anesthesia G 2****765.67 Surgical Oncology G 2****765.68 Thoracic Surgery G 2****765.69 Transfusion Medicine Blood Banking G 2****765.70 Transplantation Surgery G 2****765.71 Urology G 2****765.72 Vascular Surgery G 2****765.73 Adult Clinical Genetics G 2**

**780 Presentation Skills for Biomedical Researchers U P G 1**

Students will learn scientific presentation skills through oral and poster presentations of biomedical research in progress given by themselves, faculty and postdocs.

Su, Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Registration as graduate student or permission of course director for undergraduates. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**781 Animal Models of Human Disease U P G 1**

Transgenic and knockout mouse technology and examples of models for genetic diseases with each pattern of inheritance.

Wi Qtr. 1 cl. Prereq: IBGP 701 or Mol Gen 701.

**782 Molecular and Cellular Mechanisms of Stress-Associated Diseases in the Human P G 2**

Through presentations and critical discussions of research and literature students will gain an understanding of the mechanisms underlying stress-associated diseases and methods to study these.

Su, Au, Wi, Sp Qtrs. 2-hr cl. Prereq: Registration as IBGP student or permission of course director. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**789 Immunological Research of Pediatric Diseases U P G 1**

Trainees will prepare and give presentations on current research on immunological mechanisms of pediatric diseases.

Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Permission of course director for non-IBGP students. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**790 Cancer Immunology: Critical Journal Readings U P G 1**

Faculty, students and postdocs will give critical interpretations of research and journal readings on cancer immunology.

Su, Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Registration as graduate student or permission of course director and undergraduate major advisor for undergraduates. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**791 Current Research in Human Viral Diseases U P G 1**

Faculty, students and postdoctoral trainees will give critical interpretations of research and journal readings on human viral diseases.

Su, Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Registration as IBGP graduate student or permission of course director. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**792 Translational Biomedical Research U P G 2**

Through lectures, small group discussions and independent reading, students will learn the nature, goals, importance, basic principles and administrative requirements of translational research.

Su, Au, Wi, Sp Qtrs. 2-hr cl. Prereq: IBGP graduate student or permission of course director.

**793 Individual Studies in Integrated Biomedical Science U P G 1-15**

A research project will be assigned by a faculty member to meet the individual student's educational goals.

Su, Au, Wi, Sp Qtrs. (1-15)-hr labs. Prereq: Permission of course coordinator for non-IBGP students. Repeatable. This course is graded S/U.

**795 Host-Pathogen Interactions: Research Seminar U P G 1**

Faculty, students and outside speakers will give research presentations on microbial-host interactions.

Su, Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Registration as graduate student or permission of both course director and undergraduate major advisor for undergraduates. Repeatable to a maximum of 12 cr hrs. Cross-listed in Microbiology. This course is graded S/U.

**796 Research Seminars in Heart and Lung Disease U P G 1**

Faculty and outside speakers will give basic and clinical science research seminars in mechanisms of heart and lung disease.

Su, Au, Wi, Sp Qtrs. 1 1-hr cl. Prereq: Permission of course director for non-IBGP students. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**797 Integrated Biomedical Science Seminar****797.01 Integrated Biomedical Science Graduate Seminar U P G 1**

Faculty, outside speakers, and graduate students will give research presentations on topics in parallel with the course sequence Biology of Human Disease.

Au, Wi, Sp Qtrs. 1 1-hr cl. Prereq: Permission of course director for non-IBGP students. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**797.02 Integrated Biomedical Science Student Seminar G 1**

Graduate students will give presentations on their dissertation research.

Au, Wi, Sp Qtrs. 1 1-hr cl. Prereq: Permission of course director for non-IBGP students. Repeatable to a maximum of 5 cr hrs.

**798 Seminar in Pediatric Research U P G 1**

Faculty and outside speakers will give presentations on research in biological mechanisms of pediatric diseases.

Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Permission of course director for non-IBGP

students. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**799 Cancer Immunology - Seminar**

Faculty, students and postdocs will give presentations on cancer immunology research.

**799.01 Cancer Immunology: Research Seminar U P G 1**

Registered students attend research presentations on cancer immunology given by faculty, students and postdocs.

Su, Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Registration as graduate student or permission of course director. Repeatable to a maximum of 12 cr hrs. combined for IBGP 799.01 and IBGP 799.02. This course is graded S/U.

**799.02 Cancer Immunology: Research Seminar Presentation U P G 1**

Faculty, students and postdocs will give research presentations on cancer immunology.

Su, Au, Wi, Sp Qtrs. 1-hr cl. Prereq: Registration as graduate student or permission of course director. Repeatable to a maximum of 12 cr hrs. combined for IBGP 799.01 and IBGP 799.02.

**805 Research Techniques and Resources**

Survey of research techniques used to solve problems in modern cell and molecular biology, immunology, biochemistry, microbiology, microscopy, laboratory safety, and related available resources.

Su Qtr. Prereq: Registration as IBGP student or permission of course director.

**805.01 Research Techniques and Resources U P G 6**

Survey of research techniques and resources available to investigate and solve problems in research on the biology of human disease.

Su Qtr. 3 hr cl, 3 3-hr labs. Prereq: Permission of instructor.

**805.02 Lectures on Research Techniques and Resources U P G 3**

Survey lectures on research techniques used to solve problems in modern cell and molecular biology, immunology, biochemistry, microbiology, microscopy, laboratory safety, and related available resources.

Su Qtr. 3 hr cl. Prereq: Permission of course director and undergraduate major advisor for undergraduates.

**851 Advanced Seminar in Integrated Biomedical Science U P G 1**

Interdisciplinary biomedical topics will be reviewed in depth with student participation in analyzing literature, and faculty and outside experts presenting their own original research.

Au, Wi, Sp Qtrs. 1 1-hr cl. Prereq: Permission of course director for non-IBGP students. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.

Cross-listed in Biomedical Engineering, Biomedical Informatics, Biophysics, Computer Science and Engineering, Electrical and Computer Engineering, Pathology, Radiology, Statistics, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**999 Research in Integrated Biomedical Science G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. (1-18)-hr labs. Repeatable. This course is graded S/U.

**Internal Medicine**

207 Means Hall, 1654 Upham Drive, 293-8589

**789 Free Radicals in Biomedicine G 3**

A background introductory course in free radical biology and medicine, focused on biologically relevant radicals, their physiological and pathophysiological roles and underlying physico-chemical processes.

Sp Qtr. Prereq: Graduate level biochemistry, physical chemistry and/or biophysics recommended. Undergraduates only by permission of instructor. Cross-listed in Biophysics.

**793 Individual Studies in Medicine P 6, 12, or 18**

All months, 1 or more months to be elected. Research on a minor problem under faculty supervision in the following specialties of medicine:

Prereq: Permission of instructor.

**793.02 Cardiology P G 1-5,6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.04 Endocrinology P G 1-5,6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.08 Infectious Diseases P G 1-5,6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.10 Pulmonary Diseases P G 1-5,6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.12 Rheumatology P G 1-5,6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**794 Group Studies in Medicine P 6,12,18**

Group studies of special topics in medicine.

Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**797 Interdepartmental Seminars P G 1-5**

Wi Qtr. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

B-- The Philosophy of Clinical Practice for Bio-Medical Engineers

**850 Seminar in Medicine**

Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**850.01 Allergy G 1-3**

Repeatable. This course is graded S/U.

**850.02 Cardiology G 1-3**

Repeatable. This course is graded S/U.

**850.03 Dermatology G 1-3**

Repeatable. This course is graded S/U.

**850.04 Endocrinology G 1-3**

Repeatable. This course is graded S/U.

**850.05 Gastroenterology G 1-3**

Repeatable. This course is graded S/U.

**850.06 General Medicine G 1-3**

Repeatable. This course is graded S/U.

**850.07 Genetics G 1-3**

Repeatable. This course is graded S/U.

**850.08 Hematology G 1-3**

Repeatable. This course is graded S/U.

**850.09 Infectious Disease G 1-3**

Repeatable. This course is graded S/U.

**850.11 Pulmonary Disease G 1-3**

Repeatable. This course is graded S/U.

**850.12 Renal Disease G 1-3**

Repeatable. This course is graded S/U.

**850.13 Rheumatology G 1-3**

Repeatable. This course is graded S/U.

**999 Research in Medicine G 1-25**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**International Studies**

3086 Derby Hall, 154 North Oval Mall, 292-9657

**201 Introduction to Peace Studies U 5**

The meanings of peace and peacelessness in today's world, varied approaches to peace, contributions of many disciplines and professionals, and the significance of peoples' movements.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H201 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci organizations and politics course.

**210 Introduction to Western Europe U 5**

Introduction to Western Europe with a particular focus on its political and economic development.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 rec. GEC soc sci human, natural, and economic resources course.

**215 Introduction to Development Studies U 5**

Introduction to the contemporary field of development studies through examination of the developing countries of Asia, Africa, and Latin America.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. H215 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci human, natural, and economic resources course.

**230 The Rise and Fall of the Soviet Union U 5**

Survey of the birth, growth, decline, and death of communism in the Soviet Union: land, people, history, politics, social institutions, and culture; conducted by members of several departments.

Au, Wi, Sp Qtrs. 5 cl. GEC soc sci organizations and politics course.

**231 Introduction to Eastern Europe since World War II U 5**

Survey of the land, people, history, politics, social institutions, literature, and arts of Eastern Europe since World War II.

Wi Qtr. 5 cl. GEC soc sci organizations and politics course.

**235 Introduction to China and Japan U 5**

Interdepartmental survey of contemporary Asian civilization; geographic and racial background, historical and cultural heritage, social organizations, economic

and political problems, and international relations.

Wi, Sp Qtrs. 5 cl. GEC soc sci organizations and politics course.

**240 Introduction to Latin America U 5**

Interdepartmental survey of Latin American societies, anthropology, economics, history, literature, geography, and agriculture.

Au, Wi, Sp Qtrs. 5 cl. H240 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci human, natural, and economic resources course.

**245 Introduction to the Modern Middle East U 5**

Interdepartmental survey of the land, people, history, politics, religions, philosophy, social institutions, economic development, literature, and the arts, conducted by members of several departments.

Wi Qtr. 5 cl. GEC soc sci organizations and politics course.

**250 Introduction to Africa U 5**

Interdepartmental survey of the land, people, history, politics, social institutions, economic development, literature, and the arts, conducted by members of several departments.

Wi Qtr. 5 cl. GEC soc sci organizations and politics course.

**280 Feast or Famine: The Global Business of Food U 5**

Global and regional trends in food consumption and production are surveyed. Trade, technological change, and other responses to food scarcity are analyzed.

Sp Qtr. 2 2.5-hr cl. Not open to students with credit for AED Econ 280 or 335. Cross-listed in Agricultural, Environmental, and Development Economics. GEC soc sci hum, econ, and nat resources and global diversity course.

**294 Group Studies U 1-5**

Groups of students are offered the opportunity to pursue the interdepartmental study of special topics.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**300 Introduction to Homeland Security U 5**

Comprehensive overview of U.S. homeland security. Threats from natural disasters, terrorism, etc will be studied. Programs and technologies involved in disaster prevention and response.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Rank 2 or higher or permission of instructor.

**350 Introduction to Intelligence U 5**

Provides students with a comprehensive introduction to the gathering, analysis, and use of military and political intelligence in a number of countries.

Su, Au, Wi, Sp Qtrs. 2 2.5-hr cl.

**356 Introduction to Globalization U 5**

Analysis of globalization in all its aspects, economic, political, cultural, environmental and technological, as well as of its extent and desirability.

Au, Wi, Sp Qtrs. 2 2.5-hr cl. Prereq: Soph standing or above, or permission of instructor. GEC soc sci individuals and groups course.

**443 The Analysis and Display of Data U 5**

Analysis of data; introduction to the internet; introduction to techniques in the graphical presentation of data; designed for economics and international studies majors.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl, lab arr. Prereq: GEC data analysis course. Not open to students with credit for Econ 443. Cross-listed in Economics.

**455 Bioterrorism: An Overview U 5**

A broad awareness course on the bioterrorism threat to our food supply, crops, animal and public health, and bioterrorist organizations.

Wi Qtr. 2 2.5-hr cl. Prereq: Jr or sr standing, or permission of instructor. Not open to students with credit for Plnt Pth 455. Cross-listed in Plant Pathology.

**501 Selected Problems in International Studies U G 5**

Class discussions, with several guest speakers, informal conferences, and a reading and research program arranged to meet the special needs of those enrolled.

Au, Wi, Sp Qtrs. 2 2-hr cl. H501 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Open only to int stds majors or students with equiv preparation. Repeatable to a maximum of 15 cr hrs.

**525 Contemporary Religious Movements in Global Context U G 5**

Examination of contemporary religious movements within the context of larger political, cultural, and economic processes, including post-colonialism, modernization, and globalization.

Sp Qtr. Prereq: One course in comp std or int stds or grad standing or permission of instructor. Not open to students with credit for Comp Std 525. Cross-listed in Comparative Studies.

**531 The City and Culture U G 5**

Introduction to the comparative and cross-cultural study of cities, urban culture, and urbanism.

Sp Qtr. 2 2-hr cl. Prereq: One course in comp std or int stds, or grad standing, or permission of instructor. Not open to students with credit for Comp Std 531. Cross-listed in Comparative Studies.

**532 Food Security and Globalization U G 5**

Examination of the causes of and solutions for food insecurity. Global and local factors that affect access to food are also considered.

Au Qtr. 2 2-hr cl. Prereq: AED Econ 200 or Econ 200 or permission of instructor. Not open to students with credit for 434 or AED Econ 434, 532. Cross-listed in Agricultural, Environmental, and Development Economics.

**533 Organized Crime and Corruption in Contemporary Europe U G 5**

Organized crime and corruption in Post-Communist Europe will be studied. Trafficking in drugs, weapons, organs, people and nuclear materials will be explored.

Au, Wi, Sp Qtrs. 2 2-hr cl Prereq: Rank 2 or higher or permission of instructor.

**535 Economic Development Processes in Developing Countries U G 5**

Study of major Third World problems using principles of development economics; examines poverty, inequality, unemployment, population growth, resource use and rural development.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: AED Econ 200 or Econ 200. Not open to students with credit for 435 or AED Econ 435, 535. Cross-listed in Agricultural, Environmental, and Development Economics.

**536 Economic Development of Sub-Saharan Africa U G 5**

Issues shaping economic development and stagnation in contemporary Africa such as population growth, agricultural development, industrialization, trade, structural adjustment and environmental issues.

Au Qtr. 2 2-hr cl. Prereq: AED Econ 200 or Econ 200. Not open to students with credit for 436 or AED Econ 436, 536. Cross-listed in Agricultural, Environmental, and Development Economics.

**537 Middle Eastern Economic Development U G 5**

Economic conditions, problems, integrations and potentials of Middle Eastern economies using principles of economic development and growth models.

Wi Qtr. 2 2-hr cl. Prereq: AED Econ 200 or Econ 200. Not open to students with credit for 437 or AED Econ 437, 537. Cross-listed in Agricultural, Environmental, and Development Economics.

**538 Latin American Economic Development U G 5**

Public policy and other factors influencing economic growth in Latin America are examined.

Sp Qtr. 2 2.5-hr cl. Prereq: AED Econ 200 or Econ 200 or equiv. Not open to students with credit for 438 or AED Econ 438, 538. Cross-listed in Agricultural, Environmental, and Development Economics.

**539 China's Economic Reforms and Globalization U G 5**

An introductory survey course of economic reforms and globalization in China with emphasis on economic and social transformation, and its integration into the global economy.

Sp Qtr. 2 2-hr cl. Prereq: AED Econ 200 or Econ 200 or permission of instructor. Not open to students with credit for 439 or AED Econ 439, 539. Cross-listed in Agricultural, Environmental, and Development Economics.

**540 International Commodity Trade U G 5**

Application of trade theory and policies to the global interregional trade patterns.

Wi Qtr. 2 2.5-hr cl. Prereq: AED Econ 200 or Econ 200, or permission of instructor. Not open to students with credit for AED Econ 540. Cross-listed in Agricultural, Environmental, and Development Economics.

**550 Cultural Diplomacy U G 5**

Cultural Diplomacy is the exchange of information, ideas, and values among nations and peoples. Public and private mechanisms for these exchanges are explored.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Soph standing or higher, or permission of instructor.

**551 Intervening for Peace: Peacekeeping and Collective Security U G 5**

Exploration of the theory and practice of international peacekeeping and collective security.

Au, Sp Qtrs. 2 2.5-hr cl.

**552 Model United Nations U 5**

Interactive diplomatic simulation of the political processes of the UN system focusing on selected global problems; involves class discussions, group projects, and significant student participation.

Wi Qtr. 2 2-hr cl.

**553 Terror and Terrorism U G 5**

Focus on the origins, evolution and place of terrorism in the modern world and the ideology, motivation, and methods of a number of terrorist groups.

Su, Au, Wi, Sp Qtrs. 2 2.5-hr cl.

**554 Science, Technology and the Cold War U G 5**

Explores how science and technology, especially computer science and arms race technologies, influenced the global conflict between America and the Soviet Union.

Wi Qtr. 2 2.5-hr cl.

**555 The Development and Control of Weapons of Mass Destruction U G 5**

Offers students an overview of the issues relating to atomic, biological, and chemical weapons, commonly referred to as weapons of mass destruction (WMD).

Au, Wi, Sp Qtrs. 2 2.5-hr cl.

**556 Cooperation and Conflict in the Global Economy U G 5**

The economic, social, and political bases for and responses to increasing global economic integration.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. H556 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Econ 200 and 201 or 400, or equivs. Not open to students with credit for Econ 556. Cross-listed in Economics.

**597 Issues of the Contemporary World**

Prereq: Sr standing. GEC contemporary world courses.

**597.01 Problems and Policies in World Population, Food, and Environment U 5**

Problems related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these problems, especially in low-income countries.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr rec. H597.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for AED Econ 597.01. Cross-listed in Agricultural, Environmental, and Development Economics.

**597.02 Antarctic Marine Ecology and Policy U 5**

Historical and contemporary evaluation of Antarctic resource management and its scientific basis.

Sp Qtr. 3 1.5-hr cl. H597.02 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for EEOB or Nat Res 597.02. Cross-listed in Evolution, Ecology, and Organismal Biology and Natural Resources.

**601 Senior Seminar in Peace Studies U 5**

Advanced offering in the peace studies track, providing an opportunity to integrate multi-disciplinary course work and internship experience into a comprehensive overview of peace theory.

2 2-hr cl. Prereq: 201, Geog 200, 25 hrs from list of courses approved for peace studies in international studies.

**615 Children and War U G 5**

Explores how children are affected by war, as forced participants, orphans and refugees. Long-term effects on society will be studied.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Soph standing or higher, or permission of instructor.

**640 Globalization and Latin America: Multi-Disciplinary Approaches U G 5**

Explores current debates on globalization in Latin America and recent and interrelated transformations in the economies, politics, and cultures of the region.

Sp Qtr. 2 2-hr cl. Prereq: Jr standing or higher. Not open to students with credit for Spanish 640. Cross-listed in Spanish.

**645 Contemporary Issues in the Middle East U G 5**

Intensive examination of contemporary issues in the Middle East by applying an interdisciplinary approach.

Sp Qtr. 2 2-hr cl. Prereq: 245 or jr standing. Not open to students with credit for NELC 645. Cross-listed in Near Eastern Languages and Cultures.

**670 Rebuilding Failed and Weak States U G 5**

Tackles the question of how to design policies and programs to rebuild failed and weak states into functioning, if not vibrant democracies.

Sp Qtr. 2 2-hr cl. Prereq: Second yr standing or higher or permission of instructor. Not open to students with credit for PubPol&M 670. Cross-listed in Public Policy and Management.

**689 Student Intern Program in International Studies U 4-16**

Opportunity to gain knowledge of the policy process in an international or government agency.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr or sr standing with at least a B average, and 25 cr hrs in a foreign language. Repeatable to a maximum of 15 cr hrs. Travel and subsistence costs to be borne by the student. This course is graded S/U.



**693 Individual Studies U G 1-10**

Designed to give able students an opportunity to pursue a special course of study not otherwise available to them.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies U G 3-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**699 Undergraduate Research in International Studies U 1-15**

Undergraduate research or creative activities in variable topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**717 Comparative Education U G 3**

Application of social science theories and methods to international issues of education.

Au Qtr. 1 2.5-hr cl. Prereq: Sr standing and permission of instructor. Not open to students with credit for EDU-P&L 717. Cross-listed in Educational Policy and Leadership.

**H783 Honors Research U 3-5**

Informal conferences to allow full scope of the initiative of the student; a special topic is assigned to each student; the results are tested by papers and a special examination.

Su, Au, Wi, Sp Qtrs. Prereq: Sr standing and 40 cr hrs in the social sciences including 15 cr hrs in courses acceptable for a major in int stds, with a grade of A in at least half of these major courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

## Italian

200 Hagerty Hall, 1775 College Road, 292-4938

Students studying foreign languages at the elementary and intermediate levels typically take the sequence of courses numbered 101-102-103-104 and then move on to advanced courses. Students who need to satisfy the Arts and Sciences foreign language requirement must demonstrate competence through the 104 level.

**101 Elementary Italian I U 5**

Introduction to Italian; development of skills in speaking, understanding, reading, and writing contemporary Italian in a cultural context.

Su, Au, Wi, Sp Qtrs. 5 cl. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang course.

**102 Elementary Italian II U 5**

Further development of skills in speaking, understanding, reading, and writing contemporary Italian in a cultural context.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

**103 Intermediate Italian I U 5**

Development of skills in speaking, understanding, reading, and writing contemporary Italian at a more complex level.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

**104 Intermediate Italian II U 5**

Readings of contemporary literary and nonliterary texts and continued development of speaking, listening, reading and writing skills.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

**151 Italian Literature in Cultural Context from the Middle Ages to the Renaissance U 5**

Introduction to social-cultural trends in Italy as reflected in literary texts and other materials from the beginnings to the Renaissance.

Taught in English. GEC arts and hums lit course.

**152 Italian Literature in Cultural Context from the Renaissance to****the Present U 5**

Introduction to social-cultural trends in Italy as reflected in literary texts and other materials from the Renaissance to the present.

Taught in English. GEC arts and hums lit course.

**202 Contemporary Italian Society U 5**

Exploration of a variety of aspects of contemporary Italian society and culture while developing language skills. Special focus on reading skills.

Prereq: 104 or permission of instructor. Not open to native speakers of Italian.

**206 Business Italian U 5**

Four-skill study and practice of general business Italian; introduction to current Italian commerce, business practices, terminology, business-related communication skills.

Prereq: 104 or permission of instructor. Not open to native speakers of Italian.

**221 Masterpieces of the Italian Cinema U 5**

Survey of the Italian cinema from the beginnings to today with special emphasis on neo-realism.

Taught in English. GEC arts and hums VPA course.

**251 Dante in Translation U 5**

Study of Dante's Divine Comedy with a focus on the Inferno. Students will explore the historical, religious, philosophical and literary world that the poem engages.

Prereq: English 110, 110.01, 110.02, or 110.03. Taught in English; GEC arts and hums lit course.

**293 Individual Studies U 1-15**

Prereq: Written permission of dept. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**401 Modern Italian Media U 5**

Development of language skills using Italian media sources such as soap operas, internet resources, films, newspapers/magazines, etc.

Prereq: 202 or permission of instructor. Not open to native speakers of Italian. Repeatable to a maximum of 10 cr hrs.

**402 The Sounds of Italian U 5**

An introduction to Italian phonetics and phonology. Special focus on pronunciation.

Prereq: 202 or permission of instructor. Not open to native speakers of Italian.

**420 Italian Culture Through the Ages U 5**

An overview of Italian cultural history from the Medieval period to today; develops language skills through discussion of readings and film.

Prereq: 202 or permission of instructor. Not open to native speakers of Italian. Conducted in Italian.

**421 Reading Italy: Italian Literature and Culture U 5**

An exploration of the culture and history of different periods through selected works of Italian literature.

Prereq: 202. Not open to native speakers of Italian. Repeatable to a maximum of 10 cr hrs. Conducted in Italian.

**423 The Italian Language Yesterday and Today U 5**

Development of language skills while studying the evolution of Italian from its Latin origins. Special attention paid to the linguistic diversity of Italy today.

Prereq: 202 or permission of instructor. Not open to native speakers of Italian. Conducted in Italian.

**450 Italian Theater Workshop U 5**

The study, adaptation and presentation of a play in Italian.

Prereq: Any Italian 400-level class or permission of instructor. Not open to native speakers of Italian.

**601 Structures of the Italian Language U G 5**

Introduction to the basic concepts of Italian linguistics; improve and refine your understanding of grammar; focus on several advanced-level structures.

Prereq: Two 400-level courses, or permission of instructor. Not open to native speakers of Italian.

**602 Italian Translating U G 5**

Translation from Italian to English and English to Italian of texts from diverse sources; analysis of prose styles and conventions in the two languages.

Prereq: 10 cr hrs of Italian beyond 104.

**613 Italian Cinema U G 5**

Examination of Italian cinema from Neorealism to the present. Discussion of contemporary society and culture with a brief introduction to film theory.

Prereq: 420, 421, 423 or permission of instructor. Conducted in Italian.

**614 Survey of Italian Literature U G 5**

Overview of selected works of Italian literature from the origins to today. Special focus on the cultural and historical contexts of the text studied.

Prereq: 420 or 421 or 423, or any course above 400-level or permission of instructor. Not open to native speakers of Italian. Conducted in Italian.

**615 Italian Identities U G 5**

Examination of the experiences and perspectives of Italians (including emigrants) through reading, film, and discussion. Topics include popular culture, Italian Americans, immigration in Italy, etc.

Prereq: 420, 421, 423, or any course above 400-level, or permission of instructor. Taught in Italian.

**621 Dante U G 5**

Introduction to the reading of the Divine Comedy; analysis of major episodes.

Prereq: 10 cr hrs at the 400 level or above, or permission of instructor.

**622 Petrarch and Boccaccio U G 5**

Historical and aesthetic analysis of Petrarch's poetry; Petrarchism as a European phenomenon; literary background of Boccaccio's prose and verse; reading from the Decameron.

Prereq: 10 cr hrs at the 400 level or above, or permission of instructor.

**625 Italian Literature of the Renaissance U G 5**

Readings in works of representative authors of the 15th and 16th centuries such as Leonardo, Michelangelo, Castiglione, Machiavelli, Ariosto, and Tasso.

Prereq: 10 cr hrs at the 400 level or above, or permission of instructor.

**626\*\* Italian Literature of the 17th and 18th Centuries U G 5**

Readings in selected works of authors such as Campanella, Marino, Galilei, Metastasio, Vico, Goldoni, Parini, and Alfieri.

Prereq: 10 cr hrs at the 400 level or above, or permission of instructor.

**627 Modern Italian Fiction U G 5**

Modern Italian fiction from 1800 to the present.

Prereq: 10 cr hrs at the 400 level or above, or permission of instructor.

**628\* Modern Italian Poetry U G 5**

Italian poetry from 1800 to the present.

Prereq: 10 cr hrs at the 400 level or above, or permission of instructor.

**692 The Romance Languages U G 5**

Examines the socio-historical factors and the linguistic processes that contributed to the formation of the Romance languages and to their divergences.

3 1.5-hr cl. Prereq: One year of a Romance language or permission of instructor. Not open to students with credit for French 692 or Rom Ling 692. Cross-listed in French and Romance Linguistics. Offered bi-annually. Taught in English. This course counts toward: the Italian major (as one of the two courses taught in English), the French major (as an elective for all the major tracks), the Linguistics major or minor, the Spanish major (as an elective and the one course taught in English permitted to count for the major).

**693 Individual Studies U G 1-15**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-15**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**699 Undergraduate Research U 1-15**

Undergraduate research or creative activities in variable topics.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**711^ History of the Italian Language: Introduction U G 5**

Basic concepts of historical linguistics; the major factors of change in the history of the Italian language from Roman times to the present.

Prereq: MA candidates in Italian, qualified undergrads with permission of instructor. Not open to students with credit for 811.

**730 Seminar in Italian Linguistics U G 5**

Detailed exploration of selected topics in Italian linguistics with extensive analysis of Italian language data relevant to the topic.

Prereq: MA candidates in Italian, qualified undergrads with permission of instructor. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in 830.

**732 Seminar in Italian Literature U G 5**

Prereq: MA candidates in Italian, qualified undergrads with permission of instructor. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in

832.

**H783 Honors Research U 3-5**

A program of individual study for undergraduate honors students; includes individual conferences and reports; requires presentation and oral defense of an honors thesis.

Arr. Prereq: 4th yr standing with at least a 3.50 cumulative pt-hr ratio in Italian; written permission of instructor under whose supervision the work is to be completed, and of the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**792\* Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs. Repeatable with permission of dept.

**801 Teaching Italian at the College Level G 5**

Methods and techniques for teaching Italian language at the college level.

Au Qtr. Two wks intensive workshop previous to the beginning of qtr followed by a 2-hr wklly cl. Prereq: Teaching associate in the Dept of French and Italian or permission of instructor. Not open to students with credit for Educ-T&L 801.02. For students enrolled in this course, the minimum number of cr hrs required for graduation is increased by 5 hrs. Cross-listed in Education Teaching and Learning as 801.02.

**885 Introduction to Methods in the History and Criticism of Literature G 5**

Selected readings in basic literary history, criticism, and theory, with practice in the use of standard bibliographical aids to scholarship.

**893 Individual Studies G 1-5**

Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies G 1-15**

Investigation of minor problems in the various fields of Italian literature and language.

Prereq: Written permission of instructor. Repeatable to a maximum of 30 cr hrs.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Prereq: Permission of instructor(s). Repeatable to a maximum of 15 cr hrs. Repeatable with permission of dept.

**999 Research in Italian Language or Literature G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Japanese

398 Hagerty Hall, 1775 College Road, 292-5816

**101 Level One Japanese I**

Elements of standard colloquial Japanese grammar, with intensive oral and written exercises; introduction to the Japanese writing system (hiragana, katakana, and kanji).

Not open to students with credit for 101, or to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study of this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

Au Qtr. 5 cl. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**101.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for and complete 5 cr hrs during the first 3 weeks of the quarter. This course is available for EM credit.

**101.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement.

**102 Level One Japanese II**

Continuation of 101.

Prereq: 101 or 101.01 or 101.02 or 5 cr hrs of 101.51. Not open to students with credit for 102; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond course.

**102.01 Classroom Track U 5**

Wi Qtr. 5 cl. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**102.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for the course at the beginning of the quarter and complete 5 cr hrs during the second 3 weeks of the quarter. This course is available for EM credit.

**102.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement.

**103 Level One Japanese III**

Continuation of 102.

Prereq: 102 or 102.01 or 102.02 or 5 cr hrs of 102.51. Not open to students with credit for 103; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**103.01 Classroom Track U 5**

Sp Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter. This course is available for EM credit.

**103.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for the course at the beginning of the quarter and complete 5 cr hrs during the third 3 weeks of the quarter. This course is available for EM credit.

**103.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 104. Progress is sequential from one cr hr to the next with a demonstrated proficiency of 80% required for advancement to next level.

**104 Level Two Japanese I**

Continuation of 103, with supplementary reading of selected graded texts.

Prereq: 103.01 or 103.02 or 5 cr hrs of 103.51 or equiv with written permission of instructor. Not open to students with credit for 104; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**104.01 Classroom Track U 5**

Au Qtr. 5 cl. This course available for EM credit.

**104.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register and complete 5 cr hrs during the first 3 weeks of the quarter. This course is available for EM credit.

**104.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 crs hrs during the qtr. Progress is sequential from one cr hr to the next with a demonstrated proficiency of 80% required for advancement to the next level.

**205 Level Two Japanese II**

Continuation of 104 with a shift in emphasis from the spoken to the written language; reading of selected graded texts, writing, and composition.

Prereq: 104 or 104.01 or 104.02 or 5 cr hrs of 104.51 or equiv with written permission of instructor. This course is available for EM credit.

**205.01 Classroom Track U 5**

Wi Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**205.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for the course at the beginning of the quarter and complete 5 cr hrs during the second 3 weeks of the quarter.

**206 Level Two Japanese III**

Continuation of 205.

Prereq: 205 or 205.01 or 205.02 or equiv with written permission of instructor. This course is available for EM credit.

**206.01 Classroom Track U 5**

Sp Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**206.02 Summer Intensive Track U 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for the course at the beginning of the quarter and complete 5 cr hrs during the third 3 weeks of the quarter.

**210 Intensive Level Two Japanese I: Spoken U 5**

First course in the sequence of academic year intensive Japanese courses; organized around a set of videotaped core conversations.

Au Qtr. 5 cl. Prereq: 103 or equiv, or permission of instructor; concur: 211. Not open to students with credit for 104, 104.01, 104.02, 104.51, 111, 205, 205.01, 205.02. Students must register for 210 and 211 concurrently.

**211 Intensive Level Two Japanese II: Written U 5**

Second course in the sequence of academic year intensive Japanese courses; organized around reading Japanese and a series of genre-specific samples of Japanese as it is written today.

Au Qtr. 5 cl. Prereq: 103 or 103.01 or 103.02 or 103.51, or permission of instructor;

concur: 210. Not open to students with credit for 104, 104.01, 104.02, 104.51, 205, 205.01, 205.02. Students must register for 210 and 211 concurrently.

**231 Elements of Japanese Culture U 5**

A survey of literature, art, religion, philosophy, and social institutions of the Japanese people from the earliest to the most recent times.

Su, Au, Wi, Sp Qtrs. 5 cl. Taught in English. GEC arts and hums cultures and ideas course.

**251 Japanese Literature in Translation U 5**

Representative masterpieces from Japanese literature: fiction, drama, poetry, prose.

Au, Wi, Sp Qtrs. 5 cl. Taught in English. GEC arts and hums lit course.

**252 Modern Japanese Literature in Translation U 5**

Modern Japanese literature from late 19th century Western influences to contemporary writers; selected readings in English translation with emphasis on Tanizaki, Kawabata, and Mishima.

Au, Wi, Sp Qtrs. 5 cl. GEC arts and hums lit course.

**293 Individual Studies U 1-5**

Individual investigation of problems in Japanese culture, language, and literature.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**310 Intensive Level Two-Three Japanese I: Spoken U 5**

Third course in the sequence of academic-year intermediate intensive Japanese courses; organized around a set of videotaped core conversations.

Wi Qtr. 5 cl. Prereq: 104 or 104.01 or 104.02 or 104.51 and permission of instructor, or 210, concur 311. Not open to students with credit for 205. Students must register for 310 and 311 concurrently.

**311 Intensive Level Two-Three Japanese II: Written U 5**

Fourth course in the sequence of academic-year intensive Japanese courses; organized around reading Japanese a set of genre-specific samples of Japanese as it is written today, integrated with 310 in structure and vocabulary.

Wi Qtr. 5 cl. Prereq: 211 or equiv, or permission of instructor; concur: 310. Not open to students with credit for 205 or 205.01 or 205.02. Students must register for 310 and 311 concurrently.

**501 Japanese Literature in Critical Perspective U G 5**

Advanced survey in translation of masterpieces of Japanese literature and introduction to methods for the critical evaluation of the Japanese literary tradition.

Au, Wi, Sp Qtrs. 2 2.5-hr cl. Prereq: 251 or 252 or equiv, or permission of instructor. GEC third writing course.

**507 Level Three Japanese I U G 5**

Expansion of Strategies for communication through oral and textual media.

Au Qtr. 5 cl. Prereq: 206 or equiv with written permission of instructor.

**508 Level Three Japanese II U G 5**

Continuation of 507; supplementary readings in short stories and standard reference works.

Wi Qtr. 5 cl. Prereq: 507 or equiv with written permission of instructor.

**509 Level Three Japanese III U G 5**

Continuation of 508.

Sp Qtr. 5 cl. Prereq: 508 or equiv with written permission of instructor.

**510 Intensive Level Three Japanese I: Spoken U G 5**

Fifth course in the sequence of academic-year intermediate intensive spoken Japanese; uses audio, video, and textual materials.

Sp Qtr. 5 cl. Prereq: 310 or equiv, or permission of instructor; concur: 511. Students must register for 510 and 511 concurrently.

**511 Intensive Level Three Japanese II: Written U G 5**

Sixth course in the sequence of academic-year intermediate intensive written Japanese; moves from pedagogically planned texts to genres written today for native consumption.

Sp Qtr. 5 cl. Prereq: 311 or equiv, or permission of instructor; concur: 510. Students must register for 510 and 511 concurrently.

**515 Japanese Language: Structure, Culture, and Communication I U G 5**

Critical and comprehensive survey of structural, cultural, and communicative aspects of the Japanese language.

Wi Qtr. 2 2-hr cl. Prereq: 101 or permission of instructor. Taught in English. Counts as a choice on major/minor.

**516 Japanese Language: Structure, Culture, and Communication II U G 5**

Critical and comprehensive survey of structural, cultural, and communicative aspects of the Japanese language.

Sp Qtr. 2-2-hr cl. Prereq: 104, 515, or permission of instructor. Taught in English. Counts as a choice on major/minor.

**600 Performance Traditions of Japan U G 5**

Introduction to performance traditions of Japan; explores selected performance genres in their cultural contexts and examines patterns of emergence in modern times.

Au, Wi, Sp Qtrs. 2-2-hr cl. Prereq: 231 or 251 or 252, or Chinese 231 or 251 or 252, or EALL 131, or Korean 231 or 251; or permission of instructor.

**601 Classical Japanese I U G 5**

Classical written language with emphasis on its structure; reading and analysis of selected pre-modern literary texts.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 509 or equiv.

**602 Classical Japanese II U G 5**

Continuation of 601.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 601 or equiv.

**603 Classical Japanese III U G 5**

Continuation of 602.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 602 or equiv.

**610 Level Four Japanese I**

Selected readings in modern literary, scholarly, and journalistic Japanese; essentially a language course intended to improve fluency.

Prereq: 509 or 510 or 511 or permission of instructor. Not open to students with credit for 661.

**610.01 Classroom Track U G 5**

Au Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**610.02 Summer Intensive Track U G 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for and complete 5 cr hrs during the first 3 weeks of the quarter.

**611 Level Four Japanese II**

A continuation of 610.

Prereq: 610 or 610.01 or 610.02 or permission of instructor. Not open to students with credit for 662.

**611.01 Classroom U G 5**

Wi Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**611.02 Summer Intensive Track U G 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for the course at the beginning of the quarter and complete 5 cr hrs during the second 3 weeks of the quarter.

**612 Level Four Japanese III**

Continuation of 611.

Prereq: 611 or 611.01 or 611.02 or permission of instructor. Not open to students with credit for 663.

**612.01 Classroom Track U G 5**

Sp Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**612.02 Summer Intensive Track U G 5**

Su Qtr. 20 cl 3 wks. Prereq: Application and admission to SPEAC program. Students must register for the course at the beginning of the quarter and complete 5 cr hrs during the third 3 weeks of the quarter.

**641 The Japanese Religious Tradition U G 5**

A survey of the Japanese tradition, including Shinto, Buddhism, Taoism, Neo-Confucianism, and folk religion from the 6th century B.C.E. to the present.

Au, Wi, Sp Qtrs. 2-2-hr cl. Prereq: Permission of instructor. Not open to students with credit for Comp Std or Rel Stds 641. Cross-listed in Comparative Studies.

**654\* Japanese Literature: Classical Period U G 5**

Survey of Japanese literature from the eighth to the mid-fourteenth century: myths, court poetry, tales, fiction, diaries, and miscellanies.

Au Qtr. 5 cl. Prereq: 231 or 251 or 252, or another Japanese literature course at the 200 level or above.

**655\* Japanese Literature: Medieval and Edo Periods U G 5**

Survey of Japanese literature from the mid-fourteenth to the mid-nineteenth century: popular tales, poetry, drama, and the fiction of the merchant class.

Wi Qtr. 5 cl. Prereq: 231 or 251 or 252, or another Japanese literature course at the 200 level or above.

**656\* Japanese Literature: Modern Period U G 5**

Survey of Japanese poetry, fiction, and drama from the 19th century to the

present.

Sp Qtr. 5 cl. Prereq: 231 or 251 or 252, or another Japanese literature course at the 200 level or above.

**665 Studies in Japanese-American Literature U G 5**

Critical study of modern Japanese-American literature in historical and cultural context; topics vary: literature of the internment, gender and identity politics, genre studies, women's writing.

2-2-hr cl. Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Comp Std 665 or English 681.02. Cross-listed in Comparative Studies and with English 681.02.

**680 Introduction to Japanese Linguistics U G 5**

An introduction to the phonology, syntax, and lexicon of the Japanese language.

Au, Wi, Sp Qtrs. Prereq: 103 or 103.01 or 5 cr hrs of 103.51, and Linguist 601; or permission of instructor.

**681 History of the Japanese Language U G 5**

A survey of the development of the Japanese language from early times to the present.

Au, Wi, Sp Qtrs. Prereq: 103 or 103.01 or 5 cr hrs of 103.51, and Linguist 601; or permission of instructor.

**693 Individual Studies U G 1-5**

Requires the use of Japanese sources and the completion of a paper reflecting the student's research.

Su, Au, Wi, Sp Qtrs. Prereq: 509 or 603, and written permission of instructor. Repeatable to a maximum of 15 cr hrs. Not a substitute for regular language courses. This course is graded S/U.

**694 Group Studies U G 1-5**

Investigation of minor problems in Japanese language and literature.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. Not a substitute for regular language courses.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**710 Level Five Japanese I**

Designed to increase rhetorical sensitivity and skill in a variety of genres of present-day Japanese.

Prereq: 612, 612.01, 612.02 or equiv and permission of instructor. Not open to students with credit for 720.

**710.01 Classroom Track G 5**

Au Qtr. 3 cl, 1 3-hr lab.

**710.51 Individualized Track G 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr to the next with a demonstrated proficiency of 80% required for advancement to the next level. The lowest passing grade is B-. Distance-learning course.

**711 Level Five Japanese II**

Continuation of 710.

Prereq: 710.01 or 720, or 5 cr hrs of 710.51. Not open to students with credit for 721.

**711.01 Classroom Track G 5**

Wi Qtr. 5 cl or 3 cl and 2 hrs tutorial.

**711.51 Individualized Track G 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr to the next with a demonstrated proficiency of 80% required for advancement to the next level. The lowest passing grade is B-. Distance-learning course.

**712 Level Five Japanese III**

Continuation of 711.

Prereq: 711.01 or 721, or 5 cr hrs of 711.51. Not open to students with credit for 722.

**712.01 Classroom Track G 5**

Sp Qtr. 3 cl, 1 3-hr lab.

**712.51 Individualized Track G 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr to the next with a demonstrated proficiency of 80% required for advancement to the next level. The lowest passing grade is B-. Distance-learning course.

**751\* Studies in Japanese Poetry U G 5**

Critical studies in Japanese poetry; survey of poetic forms, techniques, and aesthetics; concentration on a specific collection, poet, or coterie; topic varies.

Au Qtr. 5 cl. Prereq: 601, 654, 655, and 656; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**752\* Studies in Japanese Prose Literature U G 5**

History and critical study of myths, early tales, diaries, chronicles, setsuwa, miscellanies, medieval tales, Edo fiction, or the modern novel; topic varies.

Wi Qtr. 5 cl. Prereq: 601, 654, 655, and 656; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**753\* Studies in Japanese Drama U G 5**

History and texts of Japan's dramatic literature; no, kyogen, kowaka-mai, bunraku, kabuki, shinsei shimpa, shingeki, rakugo; topic varies.

Sp Qtr. 5 cl. Prereq: 601, 654, 655, and 656; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**782\* Japanese Phonology U G 3**

An analysis of the phonological structure of present-day Japanese with a critical examination of traditional and contemporary works on Japanese phonology.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 680, 681, or permission of instructor.

**H783 Honors Research U 3-5**

A program of reading arranged for each student, with individual conferences, reports, and honor thesis.

Au, Wi, Sp Qtrs. Prereq: 4th yr standing; a record of A in at least half of the Japanese courses taken and an average of B in all courses; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Open only to candidates for BA in Japanese. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**784 Japanese Syntax U G 5**

Discussion of the grammatical structures of Japanese; presentation of syntactic rules.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 680 or permission of instructor.

**786 Japanese Pragmatics U G 5**

Discussion of pragmatic aspects of the Japanese language.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 680 or Linguist 601 or permission of instructor.

**787 Japanese Language Processing U G 5**

Discussion of various studies on Japanese first and second language processing.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 680 or permission of instructor.

**788 Japanese Language Acquisition U G 5**

Discussion of Japanese language acquisition studies.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 680 or permission of instructor.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs.

**800 Japanese Bibliography and Research Methods G 5**

Problems and procedures in the use of Japanese bibliographies and other reference materials.

Au, Wi, Sp Qtrs. 2 2.5-hr cl. Prereq: 509 or permission of instructor.

**877 Topics and Problems in Japanese Literature G 3-5**

Readings in the major genres of Japanese literature with emphasis on analysis and critical evaluation.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 603 or 663, and written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**879 Seminar in Japanese Literature G 3-5**

Au, Wi, Sp Qtrs. Prereq: 603 or 663, and written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**887 Topics and Problems in Japanese Linguistics G 3-5**

A detailed investigation of specific problems in the phonological, syntactical, and/or lexical analysis of the Japanese language.

Au, Wi, Sp Qtrs. Prereq: 206 and 680. Repeatable to a maximum of 25 cr hrs.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor(s). Repeatable to a maximum of 15 cr hrs. With permission of dept.

**998 Research in Japanese: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Japanese: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable. This course is graded S/U.

## Jewish Studies

306 Dulles Hall, 230 West 17th Avenue, 292-0967

See Jewish Studies offerings in English, Germanic Languages and Literatures, Hebrew, History, Near Eastern Languages and Cultures, Philosophy, Political Science and Yiddish.

**201\* Introduction to Jewish Studies U 5**

An introduction to the historical, ideological, and cultural growth of Judaism examined from a variety of methodological perspectives.

2 2-hr cl. GEC arts and hums cultures and ideas course.

**294 Group Studies U 1-5**

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**489 Jewish Studies Internship U 1-5**

Community work with agencies and organizations serving the Jewish population; evaluation of policy decisions from a Jewish perspective.

Su, Au, Wi, Sp Qtrs. 1 cr or hr per 3 hrs per week for 10 weeks at placement agency. Prereq: 201 and 15 cr hrs in Jewish studies; or permission of instructor. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

**613 The American Jewish Experience: Life and Culture G 3,5**

An interdisciplinary approach using history, literature, sociology, and the arts to study about American Jewish life.

Su Qtr. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs.

**614 The Holocaust and Holocaust Education G 3,5**

Examination of historical events and legacy of fundamental issues raised by the Holocaust; analysis of teaching methodologies in conjunction with United States Holocaust Memorial Museum.

Su Qtr. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. Optional trip to U.S. Holocaust Memorial Museum in Washington, D.C.

**694 Group Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of Melton Center Director. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**H783 Honors Research U 3-5**

Offers undergraduates with special aptitudes a greater opportunity for independent study than is possible in ordinary courses.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a grade of A in at least half of the Jewish studies major course work and an average of B in the remainder; permission of the instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

## Korean

398 Hagerty Hall, 1775 College Road, 292-5816

**101 Level One Korean I**

Standard modern Korean: development of listening, speaking skills; basic grammar; reading and writing of the Korean script (hangul).

Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. This course is available for EM credit. FL Adms Cond course. GEC for lang course.

**101.01 Classroom Track U 5**

Au Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**101.02 Summer Intensive Track U 5**

Su Qtr. 20 cl for 3 weeks.

**101.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Variable. Repeatable to a maximum of 5 cr hrs.

**102 Level One Korean II**

Continuation of 101.

Prereq: 101 or 101.01 or 101.02 or 5 cr hrs of 101.51 or equiv. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. FL Admis Cond course. GEC for lang course.

**102.01 Classroom Track U 5**

Wi Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**102.02 Summer Intensive Track U 5**

Su Qtr. 20 cl for 3 weeks.

**102.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Variable. Repeatable to a maximum of 5 cr hrs.

**103 Level One Korean III**

Continuation of 102.

Prereq: 102 or 102.01 or 102.02 or 5 cr hrs of 102.51 or equiv. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**103.01 Classroom Track U 5**

Sp Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**103.02 Summer Intensive Track U 5**

Su Qtr. 20 cl for 3 weeks.

**103.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Variable. Repeatable to a maximum of 5 cr hrs.

**104 Level Two Korean I**

Continuation of 103, with supplementary reading of selected graded texts.

Prereq: 103 or 103.01 or 103.02 or 5 cr hrs of 103.51 or equiv. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**104.01 Classroom Track U 5**

Au Qtr. 5 cl. Students must register for and complete 5 cr hrs during the quarter.

**104.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Variable. Repeatable to a maximum of 5 cr hrs.

**205 Level Two Korean II U 5**

Continuation of 104; with a shift in emphasis from spoken to the written language: reading of selected graded texts, writing, and composition.

Wi Qtr. 5 cl. Prereq: 104 or 104.01 or 5 cr hrs of 104.51 or equiv. Not open to native speakers of this language through regular course enrollment or EM credit.

**206 Level Two Korean III U 5**

Continuation of 205.

Sp Qtr. 5 cl. Prereq: 205 or equiv.

**231 Elements of Korean Culture U 5**

A survey of the religion, history, customs, performing arts, fine arts, literature, and social institutions of the Korean people from the earliest era to the present.

Sp Qtr. 5 cl. Taught in English. GEC arts and hums cultures and ideas course.

**251 Korean Literature in Translation U 5**

A close examination of masterpieces in Korean literature across genres for students with no previous academic training in Korean literature.

Wi, Sp Qtrs. 5 cl. Prereq: All readings and discussions in English; College-level English reading and writing required; knowledge of Korean not required. Not open to students with prior classroom experience in Korean literature except for Korean majors or minors. GEC arts and hums lit course.

**505 Korean Drama in Translation U G 5**

Study of the major works in Korean dramatic tradition from ancient to contemporary eras.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: GEC first writing course, or permission of instructor. Taught in English. GEC international issues, non-western or global GEC course.

**507 Level Three Korean I U G 5**

Expanding oral and written proficiency in Korean; expansion of vocabulary and knowledge of Chinese characters.

Au Qtr. 5 cl. Prereq: 206 or equiv.

**508 Level Three Korean II U G 5**

Continuation of 507.

Wi Qtr. 5 cl. Prereq: 507 or equiv.

**509 Level Three Korean III U G 5**

Continuation of 508.

Sp Qtr. 5 cl. Prereq: 508 or equiv.

**514 Advanced Reading, Composition, and Conversation in Korean U G 5**

Practical application of the third-year level Korean language through the combined practice in reading, composition, and discussion.

5 1-hr cl. Prereq: 2nd yr Korean or equiv.

**600 Performance Traditions of Korea U G 5**

Cross-cultural and interdisciplinary exploration of cultural expressiveness in the context of Korean performance traditions; includes guided research, field work, ethnography and performance workshop.

Sp Qtr. 2 2-hr cl. Prereq: 231 or 251, or Chinese 231 or 251 or 252, or EALL 131, or Japanese 231 or 251 or 252; or permission of instructor.

**610 Level Four Korean I U G 5**

An advanced Korean language course intended to develop the integrated language skills at an advanced level as preparation for higher-level lectures and discussions.

Au Qtr. 5 cl. Prereq: 509 or equiv, or permission of instructor.

**611 Level Four Korean II U G 5**

Continuation of 610.

Wi Qtr. 5 cl. Prereq: 610 or equiv, or permission of instructor.

**612 Level Four Korean III U G 5**

Continuation of 611.

Sp Qtr. 5 cl. Prereq: 611 or equiv, or permission of instructor.

**645 Studies in Korean-American Literature U G 5**

Critical study of Korean-American literature and literary genres of the twentieth century, with particular attention to historical, social and cultural contexts.

Au Qtr. 2 2-hr cl. Prereq: 10 cr hrs in any literature or grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Comp Std 645 or English 681.01. Cross-listed in Comparative Studies and with English 681.01.

**653 Advanced Readings in Korean U G 5**

Advanced readings and cross-cultural analysis of authentic essays, mini-fictions, journals, and editorials in Korean.

Prereq: Completion of third year Korean or permission of instructor. Taught in Korean.

**654 Korean Literary Traditions U G 5**

Analysis of the development of Korean literary traditions and their significance in the cultural and intellectual evolution of Korean society and its people.

Sp Qtr. 2 2-hr cl. Prereq: 231 or 251 or equiv. No knowledge of the Korean language is required. All reading materials are in English.

**655 Interdisciplinary Courses in Korean Art, Music, Film, and Theatre U G 5**

Interdisciplinary course in the history and criticism of Korean art, music, theatre, martial art, healing art and film with reference to their implications to humanity.

Repeatable to a maximum of 10 cr hrs. Taught in English. Credit counts toward Korean undergraduate major and minor, and adds to the available courses for East Asian Master's degree program.

**656 Interdisciplinary Topics in Korean Politics and Society U G 5**

Interdisciplinary Korean studies course in the areas of social science bridging Korean history, politics, gender, religion, philosophy, education, intercultural communication and international relations among others.

Repeatable to a maximum of 10 cr hrs. Taught in English. Credit counts toward Korean major and minor, and adds to the available courses in East Asian master's degree program.

**680 Introduction to Korean Linguistics U G 5**

An introduction to the phonology, syntax, lexicon and the writing system of the Korean language; some topics related to language use and acquisition.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 103 or equiv or permission of instructor.

**753 Readings in Korean Literary and Classical Texts U G 5**

Advanced study of Korean language and literature in cross-cultural context, by introducing selected narrative, drama, poetry and critical essays in Korean.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: Completion of third year Korean (509) or permission of instructor.

## Landscape Architecture

100 Knowlton Hall, 275 West Woodruff Avenue, 292-1012

**100 Landscape Architecture Survey U 1**

Introduction to the University, the Knowlton School of Architecture and the professions of architecture, city and regional planning and landscape architecture.

Au, Wi, Sp Qtrs. 2 cl. Cross-listed in Architecture.

**151 Introduction to Basic Design in Architecture and Landscape Architecture U 5**

Introduction to basic design: problem solving techniques; language of design; exploration of space and object through graphic exercises, drawings and models.

8 lab hrs. Not open to students with credit for Arch 202. Cross-listed in Architecture as 202. Required for students intending to major in Larch.

**200 Outlines of Architecture and Landscape Architecture U 3**

Introduction to the disciplines of architecture and landscape architecture with an emphasis upon the physical artifact and its formal and cultural context.

Su, Au, Wi, Sp Qtrs. 3 cl. Not open to students with credit for Arch 200. Cross-listed as Arch 200. VPA Admis Cond course.

**201 Historical Overview of Human Design on the Land U 5**

Efforts of individuals and societies to control and shape the environment from earliest times to present.

Au Qtr. 5 cl. SS Admis Cond course. BER/GEC/LAR course.

**204 Design of Gardens and Small Properties I U 5**

Design of small-scale residential projects; master planning, use of plants and architectural materials, graphics.

Wi Qtr. 3 cl, 3 lab hrs. Not open to students with credit for H&CS 204. Cross-listed in Horticulture and Crop Science. VPA Admis Cond course.

**205 Design of Gardens and Small Properties II U 5**

Continuation of 204.

2 cl, 4 lab hrs. Prereq: 204.

**252 Landscape Architectural Design II U 5**

Introduction to general ecological systems and their relationship to landscape.

Au Qtr. 3 cl, 6 lab hrs. Prereq: Geol&Min 121, 2.15 CPHR, and 45 cr hrs and successful completion of portfolio review or permission of dept.

**253 Landscape Architectural Design III U 5**

Development of landscape design skills in abstract and real forms; color and spatial organization.

Wi Qtr. 3 cl, 6 lab hrs. Prereq: 252 and 271.

**254 Landscape Architectural Design IV U 5**

Design based upon knowledge of human behavioral psychology.

Sp Qtr. 2 cl, 8 lab hrs. Prereq: 253 and 272.

**271 Landscape Architectural Design Communication I U 3**

Introduction to techniques of landscape architectural diagrams, plans, and sections; use of pencil, pen, and marker to express design ideas.

Au Qtr. 3 cl, 3 lab hrs. Prereq: Larch major or permission of the department. VPA Admis Cond course.

**272 Landscape Architectural Design Communication II U 3**

Continuation of 271; introduction of isometrics; use of models as design tools; introduction of color rendering.

Wi Qtr. 3 cl, 3 lab hrs. Prereq: 271.

**294 Group Studies in Landscape Architecture U 1-15**

Designed for students who desire to pursue, in a group, special studies in the discipline.

Prereq: Permission of instructor or department. Repeatable to a maximum of 15 cr hrs.

**321 Landscape Construction: Earthwork as Design U 5**

Study of techniques essential to the horizontal and vertical development of site designs; emphasis on grading as an artform.

Au Qtr. 3 cl, 6 lab hrs. Prereq: 253 and 271; Math 150. Not open to students with credit for 221.

**322 Landscape Construction: Layout Controls U 3**

Study of techniques essential to horizontal and vertical development of site designs; emphasis on layout, and circulation.

Wi Qtr. 2 cl, 2 lab hrs. Prereq: 221, or 321 and Math 150.

**323 Landscape Construction: Water in the Landscape U 5**

Integration of site systems; application of landscape construction and landscape materials detailing. Study of surface and subsurface drainage, stormwater management; pools, fountains, and water features in the landscape.

Sp Qtr. 3 cl, 6 lab hrs. Prereq: 221, or 321.

**355 Landscape Architectural Design V U 5**

Theory, principles, and vocabulary of site planning and design reflecting site analysis, social-cultural setting, programmatic requirement, conceptualization, and development-growth issues.

Au Qtr. 2 cl, 9 lab hrs. Prereq: 272, 252, 253, 254.

**356 Landscape Architectural Design VI U 5**

Macro-scale landscape planning studies involving urbanization and multi-use

management of landscape resources.

Sp Qtr. 2 cl, 10 lab hrs. Prereq: 323 and 355.

**361 Support Computer Technologies U 5**

Support computer technologies critical in landscape architecture planning, design, analysis, and presentations.

3 cl, 4 lab hrs. Prereq: En Graph 294L or grad standing. Not open to students with credit for 373.

**367 The Making and Meaning of the American Landscape U 5**

Interpretation of the contemporary American landscape as the product of many interacting physical and sociocultural forces.

Au, Wi, Sp Qtrs. 3 cl, 2 1-hr rec. Prereq: English 110 or 111 or equiv. Not open to students with credit for 202 or Nat Res 367. Cross-listed in Natural Resources. VPA Admis Cond course. GEC second writing course (and arts and hums cultures and ideas BS only).

**424 Landscape Construction: Materials U 3**

Properties and production of man-made landscape building materials; material performance in exterior application; construction detailing with emphasis on wood and masonry assemblies.

Au Qtr. 3 cl, 3 lab hrs. Prereq: Math 150.

**457 Urban Landscape Design U 5**

Project scale site planning and design within the urban fabric; special study of artistic and ecological principles to address contemporary environmental, economical, and cultural issues in the urban setting.

Au Qtr. 3 cl, 6 lab hrs. Prereq: 323 and 355.

**597 Stewardship Issues in Environmental Design and Development U 5**

Exploration of the ecological, economic, ethical, political, and social-cultural ramifications of contemporary environmental issues; emphasis on ways the individual or group can respond effectively.

Sp Qtr. 5 cl. Prereq: Sr standing. GEC/LAR course.

**603 Landscape Architecture Since 1850: Questions of Nature and Culture G 5**

Examination of the history of landscape architecture since Frederick Law Olmsted with emphasis on environmental planning and activism; town planning and the design of infrastructure, park design and garden design.

Sp Qtr. 4 cl, 2 hrs arr. Prereq: Grad standing in larch. Not open to students with credit for 203 or 742.

**620 Landscape Design Implementation I P G 5**

Study of design implementation procedures including: grading and drainage, earthwork calculations, road alignment, staking and layout, surveying appliances.

Au Qtr. 3 cl, 6 lab. Prereq: 670.

**622 Landscape Design Implementation II P G 5**

Study of stormwater management in the treatment of landscape, uses of water in ponds, pools, and fountains; irrigation systems.

Wi Qtr. 3 cl, 6 lab hrs. Prereq: 620.

**624 Design Implementation: Construction Materials U G 3**

Introduction to landscape architecture construction materials and their use in building structures.

Au Qtr. 2 cl, 4 lab hrs. Not open to students with credit for 424.

**625 Design Implementation: Landscape Structures U G 3**

Structural design of site elements typical in landscape architectural design.

Wi Qtr. 2 2-hr cl. Prereq: Physics 103 and Math 150. Not open to students with credit for 425.

**626 Landscape Construction: Layout Controls G 3**

Basic surveying, horizontal, and vertical curve alignment for roads, and staking and layout of design elements.

Au Qtr. 2 cl, 2 lab hrs. Prereq: 1st yr grad standing or permission of instructor. Not open to students with credit for 322.

**627 Landscape Architectural Design/Build U G 5**

Introduction to the design process and construction techniques associated with the interconnected steps of designing and building small scale projects on campus.

Su Qtr. 3 2-hr cl. Prereq: 323 or 622 and permission of instructor.

**633 Planting Design U G 5**

Form and function of plant materials in design applications.

Wi Qtr. 3 cl, 3 lab hrs. Prereq: Hort 234 or H&CS 234. Not open to students with credit for 333.

## 258 Landscape Architecture

### 640 Landscape Architectural Design P G 5

Exploration and application of principles of design, components and characteristics of space, landscape architectural design process, and small scale design.

Au Qtr. 2 cl, 12 lab hrs. Prereq: Grad standing in larch or permission of grad studies committee.

### 642 Urban Landscape Design P G 5

Landscape design in the urban setting; emphasis on design process, spatial structure, and design detailing of urban spaces.

Wi Qtr. 2 cl, 12 lab hrs. Prereq: 670 or permission of grad studies committee.

### 644 Site Planning and Design P G 5

Investigation of site planning and design at the project scale in the urban fringe or rural setting.

Sp Qtr. 2 cl, 12 lab hrs, arr field trips.. Prereq: 642 and 672. Travel and subsistence costs for the field trips will be borne by the student.

### 658 Landscape Architecture Design and Construction U G 5

Synthesis of design development based on theory, principles and skills developed in previous design, construction, history and other related courses.

Wi Qtr. 3 cl, 9 lab hrs. Prereq: 457 or 421.

### 662 Terrain Analysis U G 5

Methods and techniques of terrain analysis using aerial photographs, exploring characteristics of landform units, and addressing development issues.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: Geol&Min 121 or permission of instructor. Not open to students with credit for 362, or 610.

### 663 Landscape Architecture Professional Practice Seminar U G 5

Development of writing skills applied to professional issues in landscape architecture.

Sp Qtr. 2 2-hr cl, 1 1-hr cl. Prereq: Second writing course and sr standing, or 644. Not open to students with credit for 451. GEC course.

### 665 Digital Landscape Architectural Design and Documentation U G 5

Introduction to the design procedures appropriate to emerging technology, especially AutoCAD and related software introduction to documentation methods for construction and implementation.

Su Qtr. 3 cl, 3 2-hr labs. Prereq: 361 or equiv.

### 670 Graphic Techniques in Landscape Architecture P G 3

Graphic media, elements, and skills required in the preparation of landscape architectural presentations in plan, section, and elevation.

Au Qtr. Prereq: Grad standing in larch or permission of grad studies committee.

### 672 Landscape Architectural Graphics II P G 3

Principles and techniques of drawing and rendering of sections, isometrics, and perspectives.

Wi Qtr. 6 lab hrs. Prereq: 670 and grad standing in larch. Not open to students with credit for 272.

### 693 Individual Studies U G 2-5

For students in the Graduate School and those who wish to pursue special studies in landscape architecture.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing or permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

### 694 Group Studies U G 2-5

For students majoring in landscape architecture desiring to pursue special studies not offered in the fixed curriculum.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of the dept. Repeatable to a maximum of 15 cr hrs.

### 697 Study at a Foreign Institution U G 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

### 698 Study Tour

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

#### 698.01 Domestic U 1-15

Repeatable.

#### 698.02 Foreign U 1-15

Repeatable.

#### H698.03 Honors U 1-15

Repeatable.

#### 698.04 Study Abroad Preparatory Course U 1-15

H698.04 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Repeatable.

### 740A\* Research and Documentation in Landscape Architecture P G 5

Research in professional practice techniques; emphasizes all phases of design investigation and documentation.

Au Qtr. 1 cl, 4 2-hr labs. Prereq: Grad standing in larch. Repeatable to a maximum of 15 cr hrs.

### 750 Graduate Landscape Architectural Design: Advanced Site Planning U P G 5

Advanced professional landscape architectural project design techniques; documentation and execution of all phases from programming through detailed design and construction documents.

Au, Wi, Sp Qtrs. 3 cl, 3 lab hrs. Prereq: Completion of 640 series or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 752 Graduate Landscape Architectural Design: Land Planning U P G 5

The relationship between humans and the macro-environment; emphasizes contemporary land use issues, relationship between limited natural resources and human use; use of GIS technology to analyze landscapes and formulate plans and policies.

3 cl, 3 3-hr labs Prereq: Completion of 640 series or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 754 Graduate Landscape Architectural Design: Urban Design U P G 5

Role of landscape in urban settings; study of project types such as rehabilitation or derelict land, neighborhood revitalization, creation of public places.

3 cl, 3 3-hr labs. Prereq: Completion of 640 series or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 760 Evaluation and Criticism In Landscape Architecture P G 2

Seminar in design philosophy and aesthetic evaluation criteria in landscape architecture.

Au, Wi, Sp Qtrs. 1 2-hr seminar. Prereq: Grad standing in larch. Repeatable to a maximum of 8 cr hrs.

### 998 Thesis in Landscape Architecture G 1-15

Preparation of master's thesis.

Au, Wi, Sp Qtrs. Prereq: Permission of Graduate Studies Committee Chair. a maximum of 99 cr hrs. Repeatable. This is a Progress course. Grade P will be assigned until completion of the project, at which time a grade of S/U will be given. This course is graded S/U.

## Latin

414 University Hall, 230 North Oval Mall, 292-2744

See also Classics.

Classics majors specializing in Latin should consult the departmental statement in the College of Humanities section of the Colleges of the Arts and Sciences Bulletin. Placement tests are required for all matriculating (including transfer) students who continue the study of Latin in the University in courses 101, 102, 103, 104, and any 200-level course. A placement test will be given on the first day of the quarter. For details see the departmental secretary in 414 University Hall.

Students studying foreign languages at the elementary and intermediate levels typically take the sequence of courses numbered 101-102-103-104 and then move on to advanced courses. Students who need to satisfy the Arts and Sciences foreign language requirement must demonstrate competence through the 104 level.

General Prerequisites for Courses Numbered 800 and Above

Prerequisites for admission to courses numbered 800 and above are graduate standing and permission of the chairperson.

### 101 Elementary Latin I

5 cl. Not open to students with 3 or more years of study in this language in high school except by permission of dept. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

#### 101.01 Standard Classroom Track U 5

Introduction to reading Latin.

Au, Wi, Sp Qtrs. 5 cl. Not open to students with credit for 101 or 101.55.

#### 101.55 Accelerated Latin I U 5

First part of the accelerated introductory Latin sequence, covering material offered in Latin 101 and first half of the material covered in Latin 102.

Au Qtr. 5 cl. Not open to student with credit for 101 and 102.



**102 Elementary Latin II**

5 cl. Prereq: 101.01 or 101. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**102.01 Standard Classroom Track U 5**

Continued study of elementary level Latin.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 101.01. Not open to students with credit for 101.55, 102 or 102.55.

**102.55 Accelerated Latin II U 5**

Second part of the accelerated introductory Latin sequence, covering second half of material offered in Latin 102 and material offered in Latin 103.

Wi Qtr. 5 cl. Prereq: 101.55. Not open to students with credit for 102 and 103.

**103 Intermediate Latin I U 5**

Completion of Latin grammar and syntax; introduction to reading of Latin authors.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 102.01 or 102. Not open to students with credit for 102.55. This course is available for EM credit. GEC for lang course.

**104 Intermediate Latin II U 5**

Selected readings in Latin literature.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Placement test or 103 or 102.55. This course is available for EM credit. GEC for lang course.

**170 Intensive Latin Workshop I U 10**

Intensive Latin workshop offered in the first term of summer quarter covering the material offered in Latin 101-104.

Su Term 1 56-hr cl. Not open to students with credit for 101-104. This is a Progress course. Students may not register for any other course if they enroll in Latin 170. GEC for lang course. Credit will be awarded upon completion of 270.

**206 Roman Comedy U 5**

Readings from the comedies of Plautus and Terence.

5 cl. Prereq: 104 or equiv high school Latin.

**210 Cicero U 5**

Readings from the Orations.

Au Qtr. 5 cl. Prereq: 104 or equiv high school Latin.

**211 Vergil U 5**

Readings from the Aeneid.

Sp Qtr. 5 cl. Prereq: 104 or equiv high school Latin.

**212\*\* Roman Historians U 5**

Readings from Caesar, Sallust, Livy, and/or Tacitus' *Agricola*.

Wi Qtr. 5 cl. Prereq: 104 or equiv high school Latin.

**213\*\* Ovid U 5**

Readings from the *Metamorphoses*.

5 cl. Prereq: 104 or equiv high school Latin.

**214 Latin Lyric U 5**

Introduction to major authors of Latin lyric poetry in the original language.

Prereq: 104 or equiv.

**270 Intensive Latin Workshop II U 10**

Intensive Latin workshop offered in the second term summer quarter covering the material offered in two 200-level Latin courses.

Su Term 2 5 5-hr cl. Prereq: 104 or 170. This is a Progress course. Students may not register for any other course if they enroll in Latin 270. GEC for lang course.

**293 Individual Studies U 1-6**

Intermediate readings in Latin literature.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 101-104 or equiv; and written permission of dept. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**612\*\* Latin Prose Composition U G 5**

Review of elementary syntax leading to composition of sentences and short connected passages; concurrent readings from Caesar or Cicero.

Au Qtr. 5 cl. Prereq: 4 courses more advanced than 104 or permission of instructor.

**614\* Readings in Roman Lyric and Erotic Poetry U G 5**

Readings from Catullus, Horace, Propertius, and others.

2 2-hr cl. Prereq: 4 courses more advanced than 104 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**615^ Readings in Roman Oratory and Rhetorical Theory U G 5**

Readings in Roman orators and rhetoricians, including Cicero, Quintilian, and Tacitus.

2 2-hr cl. Prereq: 4 courses more advanced than 104. Repeatable to a maximum of 10 cr hrs.

**616 Readings in Latin Epic U G 5**

Readings in Latin epic, including such texts as Vergil's *Aeneid*, Ovid's *Metamorphoses*, and Lucan's *Bellum Civile*.

2 2-hr cl. Prereq: 4 courses more advanced than 104. Repeatable to a maximum of 10 cr hrs.

**617 Readings in Roman Historians U G 5**

Readings in Roman historians, including Caesar, Livy, and Tacitus.

2 2-hr cl. Prereq: 4 courses more advanced than 104. Repeatable to a maximum of 10 cr hrs.

**618^ Readings in Roman Philosophy U G 5**

Readings from Roman philosophers, including Cicero, Lucretius, and Seneca.

2 2-hr cl. Prereq: 4 courses more advanced than 104. Repeatable to a maximum of 10 cr hrs.

**622^ Readings in Roman Comedy U G 5**

Extensive readings drawn from the works of Plautus and Terence.

5 cl. Prereq: 4 courses more advanced than 104.

**623 Readings in Roman Satire and Novel U G 5**

Readings in Roman satire and novel, including texts by Horace, Juvenal, Apuleius, and Petronius.

2 2-hr cl. Prereq: 4 courses more advanced than 104. Repeatable to a maximum of 10 cr hrs.

**625^ Readings in Post Classical Latin U G 5**

Extensive readings from texts illustrating the history of Latin language and literature of the medieval and/or Renaissance periods.

5 cl. Prereq: 4 courses more advanced than 104 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**660 Special Topics in Latin Literature U G 5**

Extensive reading from masterpieces of Latin literature; topic varies.

2 2-hr cl. Prereq: 4 courses more advanced than 104. Repeatable to a maximum of 20 cr hrs.

**670 Intensive Latin Workshop G 10**

Intensive Latin Workshop offered in the first term of summer quarter covering the material offered in Latin 101-104.

Su Qtr. 5 5-h cl. Prereq: Requires grad standing. Not open to students with credit for 101-104. This is a Progress course. Credit will be awarded upon completion of 671.

**671 Intensive Latin Workshop G 10**

Intensive Latin Workshop offered in the second term of summer quarter covering the material offered in two 200-level Latin courses.

Su Qtr. 5 5-hr cl. Prereq: 670 or 104; requires grad standing. This is a Progress course.

**693 Individual Studies U G 1-6**

Passages for reading and topics for investigation will be selected to meet the needs of individual students.

Su, Au, Wi, Sp Qtrs. Prereq: 4 courses more advanced than 104. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**701\* Survey of Latin Literature: The Republic U G 5**

A survey of authors representative of the Republican period of Latin literature, with discussion of historical background and methods of criticism.

2 2-hr cl. Prereq: 4 200-level courses and permission of instructor; or grad standing. Not open to students with credit for 601.

**702\* Survey of Latin Literature: Augustan Age U G 5**

A survey of authors representative of the Augustan period of Latin literature, with discussion of historical background and methods of criticism.

2 2-hr cl. Prereq: 4 200-level courses and permission of instructor; or grad standing. Not open to students with credit for 602.

**703\* Survey of Latin Literature: Imperial Period U G 5**

A survey of authors representative of the Imperial period of Latin literature, with discussion of historical background and methods of criticism.

2 2-hr cl. Prereq: 4 200-level courses and permission of instructor; or grad standing. Not open to students with credit for 603.

**H783 Honors Research U 3-5**

A program of study arranged for each student with individual conferences, reports, and an honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the Latin courses taken and with an average of B in the remainder; written permission of instructor under whose supervision the work is to be completed and ASC Honors Committee. At least 2 qtrs are required of candidates for the degree BA with distinction in Latin. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**801 Latin Pedagogy G 1**

Methods, techniques and pedagogical theories for teaching Latin at secondary and college level.

Au, Wi, Sp Qtrs. 1 1-hr cl, 1 1-hr observation. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.

**802\* Advanced Latin Prose Composition G 5**

Study of the development and style of Latin prose; prose composition exercises; prepared and unprepared readings; conventions of prosody.

2 cl, tutorial arr. Prereq: 612 or permission of instructor.

**812^ Studies in Vergil G 5**

Critical study of one or more of the works of Vergil.

2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**814 Studies in Cicero G 5**

Selected topics in the works of Cicero.

Wi Qtr. 2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**830 Studies in Roman Drama G 5**

Critical study of one or more of the Roman dramatists: Plautus, Terence, Seneca.

2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**831 Studies in the Roman Historians G 5**

Selected topics in Roman historiography: Caesar, Sallust, Livy, Tacitus.

Wi Qtr. 2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**832^ Studies in Latin Lyric and Elegy G 5**

Selected topics: poems of Catullus, the Odes and Epodes of Horace, or the elegies of Propertius, Tibullus, or Ovid.

Sp Qtr. 2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**833^ Studies in Roman Satire and Novel G 5**

Critical study of one or more of the Roman satirists and novelists: Lucilius, Horace, Persius, Petronius, Juvenal, Apuleius.

Au Qtr. 2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**835 Studies in Roman Epic G 5**

Selected topics in the history of Roman epic exclusive of Vergil: Ennius, Lucretius, Ovid, Lucan.

2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**880 Topics in Roman Antiquity G 5**

In-depth examination of issues that are often difficult to address in courses that focus on a single Roman author.

1 3-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**894 Group Studies G 1-6**

Repeatable to a maximum of 20 cr hrs.

**993 Individual Studies G 1-5**

Assigned readings; supervised individual research.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**995 Seminar I G 5**

The seminar completes a two-qtr sequence (Au/Wi, Wi/Sp) begun with an 800-level intensive study of an author or genre; e.g. Cicero, Horace, Apuleius, or comedy.

Sp Qtr. Repeatable to a maximum of 20 cr hrs. This is a Progress course.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Law**

220 Law-Drinko Building, 55 West 12th Avenue, 292-2631

The credits contained on the listing below are semester credit hours. The equivalent number of quarter credit hours can be determined by multiplying the semester hours by one and one-half.

**L502 Legal Writing and Analysis P 2**

Introduction to legal analysis and writing.

Semester 2. 2 cl.

**L503 Contracts P G 2-3,5**

Remedies for breach; offer and acceptance; consideration; third party beneficiaries; assignment of rights and delegation of duties; conditions; impossibility and frustration; statute of frauds.

Semester 1, Semester 2. 1st Sem 5 cl hrs or 1st Sem 3 cr hrs, progress grade, 2 cr hrs 2nd Sem. Repeatable to a maximum of 5 cr hrs. This is a Progress course.

**L504 Torts P G 4**

Trespass to person; negligence; misrepresentation; nuisance, strict liability; liability insurance; alternatives to the fault system; and federal and state regulation of traffic safety.

Semester 1. 4 cl.

**L505 Property P G 4**

Acquisition, incidents, and transfer of ownership; possessory, concurrent, marital, and future interests, and contractual modification of these results.

Semester 2. 4 cl.

**L507 Civil Procedure P G 4**

Civil procedure in state and federal courts; development of equity; abolition of common law forms of action; merger of law and equity; jurisdiction; venue.

Semester 1. 4 cl.

**L510 Constitutional Law P G 4**

Functional study of the major substantive, methodological, and federalistic limitations upon governmental power obtaining under practice of judicial review.

Semester 2.

**L511 Legal Research P 1**

Use of law books and computer legal retrieval systems; research methodology and citation form.

Semester 1. 2 cl.

**L529 Legislation P 3**

The lawmaking process; how the legislative process works; process by which statutes are enacted; how judges interpret the legislative product in theory and practice.

Semester 2. 3 cl.

**L533 Criminal Law P 4**

Justifications for regulating behavior through criminal sanctions, how laws are crafted to reach the intended behavior, and issues of culpability, mens rea, and excuses.

Semester 1. 4 cl.

**L600 Appellate Advocacy II P 2**

Procedural and substantive aspects of appellate practice; the student prepares a brief and presents an oral argument on the basis of assigned research materials.

Semester 3. 2 cl. Prereq: 502, 511. Required for graduation. This course is graded S/U.

**L601 Legal Writing P 3**

Training in the preparation of legal documents.

Semester 1, Semester 2. 1 2-hr cl, 1-hr tutorial. Prereq: Completion of first-year law.

**L603 Evidence P 3-4**

Survey of rules of evidence; particularly demonstrative, testimonial, and circumstantial proof; qualification and examination of witnesses; privilege; relevancy; documents; hearsay rule and its exceptions.

**L605 Commercial Paper P G 2-3**

Types of commercial or negotiable paper; liability of parties; transfer and payment.

**L606 Federal Income Taxation P G 3-5**

Gross income; deductions; credits; attribution; timing; sales and other dispositions of property; characterization of income and deductions.

**607 Business Associations**

Formation, financing, governance, and regulation of corporations and partnerships, and including problems under the federal securities laws.

**L607.01 Business Associations P G 3-6**

4 or 5 cl. Not open to students with credit for 607.02.

**L607.02 Business Associations-Extended P G 3-6**

Semester 1, Semester 2. 3 cl. Not open to students with credit for 607.01. Repeatable to a maximum of 6 cr hrs. This is a Progress course. 2 sem sequence. Progress graded 1st sem, or given on completion of 2nd sem.

**L609 Sales P G 1-3**

A study of the Uniform Commercial Code and other statutes bearing on the sale of goods in the American market.

**L610 Secured Transactions P G 2-3**

Creation and perfection of security interests in goods and intangibles under the Uniform Commercial Code; priorities and remedies.

Not open to students with credit for 612.

**L611 Debtor and Creditor Law P G 2-3**

Debtor and creditor rights and remedies; emphasis on the Bankruptcy Code.

Not open to students with credit for 612.

**L613 Employment Law P G 2-4**

State and federal regulation of the employment relationship with primary focus upon minimum wage and overtime compensation, workers' disability and unemployment compensation, safety and health, retirement and pension security, and wrongful discharge.

**L614 Labor Law P G 2-5**

Federal regulation of labor-management relations focusing upon employee organizational and representational rights, selection of bargaining representative, collective bargaining process, contract administration and enforcement, and internal union affairs.

2 to 5 cl. Prereq: 613. Not open to students with credit for 615 or 616.

**L619 International Law P G 2-4**

International agreements; status of states and individuals; recognition; jurisdiction; international claims; expropriation; human rights; sovereign immunity; war and peace; law of the sea; presidential congressional power.

**L622 State and Local Taxation P G 2**

Legal problems arising in property, excise, income, and estate-inheritance taxation; tax administration and procedure.

**L623 Federal Antitrust Law P G 2-4**

Combinations in restraint of trade; monopolization, attempts and conspiracies to monopolize; mergers, patent antitrust problems, and price discrimination under Sherman, Clayton, and Federal Trade Commission acts.

**L625 Copyright Law P G 2-3**

Protection of literary and artistic property under the federal copyright statute, related legislation and unfair competition law.

**L628 Legal Problems of Financial Information P G 2-3**

Problems of financial information in the context of business enterprise law and tax law.

**L634 Juvenile Justice P 2-4**

The law applicable to children, including a study of agency and juvenile court treatment of dependent, neglected, abused, unruly, and delinquent children.

Repeatable to a maximum of 7 cr hrs.

**L635 Family Law P G 3-4**

Legal concerns in marital relationships, including entrance into marriage, spousal relationships during marriage, annulment, divorce, custody, and post-divorce financial arrangements; legal concerns in quasi-marital living arrangements; communal living and homosexual relationships.

**L636 Law and the Mentally Disabled P G 4**

Problem-oriented analysis of interaction between law and social science; emphasis on civil commitment, rights of institutionalized individuals, rights to community services (educational, residential, employment), and guardianship.

4 1-hr cl.

**L639 Federal Criminal Law P G 2-3**

Advanced substantive and procedural study of the federal criminal law enforcement system including RICO (Racketeer Influenced and Corrupt Organizations), mail fraud, drug offenses, tax enforcement, bank secrecy, and civil rights.

3 cl. Prereq: 633.

**L641 Criminal Procedure: The Pretrial Process P 3**

Study of the criminal justice system emphasizing the right to counsel, bail, preliminary proceedings, grand jury, speedy trial, discovery, and pleas.

**L652 Banking Law P G 2-3**

Study of development of banking activities, structure, and regulation; emphasis on state and federal banking laws; interinstitutional competition, and laws relating to geographic and product expansion.

**L656 Gratuitous Transfers P G 2-4**

Gifts, wills, intestate succession, protection of spouse and other dependents, fiduciary administration, social security and other employee benefits, life insurance.

2-4 cl hrs.

**L694 Group Studies P 1-4**

Group study in selected areas of the law.

Repeatable to a maximum of 13 cr hrs. This is a Progress course.

**696 Anglo-American Legal System U 1-6**

Introduction to the Anglo-American Legal System for undergraduate students, taught summers at the University of Oxford, Oxford, England.

Su Qtr. Limited to students accepted in Oxford Summer Program.

**L697 Study at a Foreign Institution P 1-10**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Semester 1, Semester 2, Semester 3. Prereq: Written permission of the Dean. Repeatable to a maximum of 30 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**700 Interprofessional Education**

Focus on ethical issues, changing professional/consumer rights, and interprofessional cooperation; limited to students in education, law, medicine, nursing, social work, bio-medical sciences, and allied health professions.

**L700.01 Care of Patient/Client P G 1-2**

Treatment of the whole person through the analysis of the interrelated problems of actual patients/clients.

Repeatable to a maximum of 4 cr hrs.

**L700.03 Ethical Issues P G 1-2**

Ethical issues of concern to the professions and arising out of advanced technology: euthanasia, mind control, malpractice, and social responsibility of the professions.

Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**L703 Legal Negotiation and Settlement P 2-4**

Study of the theory, law, and practice of transactional and settlement negotiations through actual negotiations by individual students in a variety of legal negotiation settings.

22-hr cl. Prereq: 736.01 or professional responsibility recommended. Enrollment limited to 16 students, class attendance mandatory.

**L704 Trial Practice P 2-4**

Forensic skills developed through actual trial advocacy by individual students in civil or criminal cases.

Prereq: 603 or written permission of instructor.

**L708 Regulation of Security Distributions P G 2-3**

Analysis of Securities Act of 1933 and its pervasive effects on the issuance and transfers of securities.

**L710 Federal Courts P G 3-4**

The federal judicial system; jurisdiction of the district courts, courts of appeals, and United States Supreme Court.

3-4 cl hrs.

**L711 Law and Medicine P G 2-4**

Selected issues in the practice of medicine; medical malpractice, ethical issues, regulation of the health care industry, and use of medical testimony and proof in litigation.

**L713 Appellate Practice IV P 1-4**

Procedural and substantive aspects of appellate practice; perfection of appeals; preparation of briefs and oral argument; participation by third-year students in various aspects of Moot Court Program.

1 to 4 cr hrs by arrangement with instructor. Repeatable to a maximum of 6 cr hrs. Grade given on completion of third-year Moot Court Program. This course is graded S/U.

**L715 Corporate Taxation P G 3-4**

Taxation of organizations; operations; sales and liquidations; divisions and reorganizations.

Prereq: 606.

**L728 International Transactions P G 2-4**

Legal problems in transnational context arising from doing business abroad; investments; establishment; exchange controls; trade, licensing; extraterritoriality of regulatory legislation; international agreements; European Common Market.

**L729 Administrative Law P G 3-4**

A study of the creation, operation, and control of federal administrative agencies, emphasizing their legislative, investigative, and adjudicatory authority and its control through judicial review.

**L732 Environmental Law P G 2-4**

Federal environmental legislation, regulations, and judicial interpretation, including Natural Environmental Policy Act, the Clean Air Act, the Clean Water Act, and the Solid Waste Act, as amended.

**L733 Political and Civil Rights: The First Amendment P G 2-3**

Advanced study of First Amendment precedent and doctrines governing the press, speech, association, and church-state relations.

**L735 Law Journal P 1-2**

Special studies covering diverse subjects of a legal nature participated in by the group selected for work on the Law Journal.

Prereq: Selection for Law Journal by editors. Repeatable to a maximum of 4 cr hrs. Students may earn up to 2 cr hrs for Law Journal participation prior to the beginning of the fifth semester, and may earn an additional 2 cr hrs for participation in the two final semesters of academic residence. This course is graded S/U.

**736 Professional Responsibility**

Legal and ethical problems of the legal profession and the practicing lawyer. Required course.

**L736.01 Legal Profession P 1-2**

Unauthorized practice, bar admission, group legal services, malpractice, professional organization, and discipline.

Semester 1, Semester 2, Semester 3. 1-2 cl. Prereq: First year law course.

**L736.02 Legal Profession P 1-4**

A more comprehensive presentation of unauthorized practice, bar admission, group legal services, malpractice, professional organization, and discipline.

Semester 1, Semester 2, Semester 3. 4 cl. Prereq: First year law course. Not open to students with cr for 736.01.

**L737 Patent Law P G 2-3**

Fundamentals of substantive patent law relating to standards of patentability, patent claim interpretation and enforcement in patent litigation, and licensing.

**738 Study and Practicums in Legal Problems**

Advanced study and training in performance of legal services for the poor under supervision of clinical faculty and staff attorney.

Pursuant to the New York Court of Appeals Rules for Admission to Practice, students who enroll for more than 8 cr hrs may be ineligible for admission to practice in New York. No student may enroll in more than 16 cr hrs.

**L738.01 Criminal Defense Practicum P 2-6**

Development of the basic knowledge and skills of criminal law practice.

Prereq or concur: 603 plus one or more of the following: 633, 640, 641; or written permission of instructor.

**L738.02 Civil Law Practicum P 2-6**

Development of the basic knowledge and skills of civil law practice on behalf of the poor.

May not be taken simultaneously with any other practicum.

**L738.04<sup>^</sup> Juvenile Law Practicum P 2-6**

Study of the intricacies of the juvenile intake process, difficulties of dealing with a total family situation involving child neglect or juvenile delinquency, and substantive legal problems of the juvenile area.

Prereq: None; 634, 640 and/or 641 recommended.

**L738.20 Selected Legal Problems Practicum P 1-6**

Topics will change as specially scheduled in any semester.

Repeatable to a maximum of 8 cr hrs.

**L739 Pretrial Litigation P 3**

Depositions and client interviews; drafting of interrogatories; case strategies.

Semester 1, Semester 2. 3 3-hr cl. Prereq: Completion of first-year law.

**L744 Employment Discrimination Law P 2-4**

A constitutional and statutory study of federal and state laws that proscribe employment discrimination based upon race, color, religion, sex, national origin, age, and physical and mental handicap.

2-4 cl.

**L747 Statutory Civil Rights P 2-3**

Study of major federal civil rights statutes covering topics such as discrimination in housing, public accommodations, voting, discrimination in private contracts, by government units and officials, and by programs that receive federal financial aid.

2 or 3 cl. Prereq: Completion of first yr law program.

**L781 Comparative Law P 2-3**

Broad study of legal systems with emphasis on patterns of similarities and differences.

3 cl. Prereq: Completion of first year law curriculum.

**L793 Individual Studies P G 1-4**

By special arrangement with the dean's office, special problems or projects may be taken for credit under the supervision of members of the faculty. The credit granted varies in proportion to the magnitude of the project. In general, assignment of special problems will be limited to instances of exceptional student specialization, scheduling difficulties, and curricular irregularity.

Repeatable to a maximum of 13 cr hrs. This course is graded S/U.

**L794 Group Studies P G 1-6**

Group study in selected areas of the law.

Repeatable to a maximum of 13 cr hrs.

**796 Seminars**

Small group study and training in legal and non-legal research, expository writing, and various functions of the practicing lawyer.

**L796.03 Constitutional Problems P G 2-3**

Advanced constitutional questions, including evolution of judicial review, intergovernmental relationships, protection of civil liberties, special problems under Ohio Constitution.

**L796.13 Medical-Legal Problems P G 2-3**

Conflict in concept between disciplines of law and medicine in matters of causation, injury, disability, prognosis, aggravation, and re-injury related to their use in proof of such elements in litigation.

**L796.16 Right of Privacy P G 2-3**

Individual's interests in freedom from publicity and in physical seclusion; particularly legal response to social and technological changes which threaten these interests.

**L796.19<sup>^</sup> Selected Problems in Criminal Law and Procedure P G 2**

Topics vary and will be announced each semester.

**L796.20 Research Seminar in Law P G 2-3**

Topics will change as specially scheduled in any quarter.

Repeatable to a maximum of 6 cr hrs. Law 796M20, Women and the Law, grad level, 2 semester cr hrs, cross-listed in Women's Studies.

**L796.51<sup>^</sup> Social and Environmental Litigation P G 2-3**

Study of impact of law on social and environmental problems with emphasis on procedure and choice of remedies.

Prereq: None; 710 and 719 recommended.

**L796.52 Federal Criminal Law P G 2-3**

The relationship of federal and state criminal law; historical role and specialized problems of federal criminal law.

**L796.55<sup>^</sup> Consumer Credit P G 2-3**

Consumer credit; statutory and judicial regulation, with particular emphasis on the problems of the poor consumer.

Prereq: 605, 609, or 610.

**L796.58 Law and the Political Process P G 2-3**

Exploration of the lawyer's role in the political process; the relationship of political parties to the election process; and the interplay of legal requirements and the campaign and voting procedures.

**L796.62 Commercial Law P G 2-3**

In-depth consideration of commercial law, focusing primarily on the Uniform Commercial Code.

Prereq: 605, 609, and 610.

**L796.63 Problems in Torts P G 2-3**

Exploration of current and emerging problems in the law of torts.

**L797 Interdepartmental Seminars P 1-5****Linguistics**

222 Oxley Hall, 1712 Neil Avenue, 292-4052

See also English, the foreign languages, Romance Linguistics, and Sanskrit.

**170 Basics of Learning a Language U 5**

Important tools for becoming a successful foreign language learner; cross-cultural differences and similarities in language use, parts of speech, foreign sounds, typical mistakes, etc.

Au, Wi, Sp Qtrs. 2 2-hr cl. GEC soc sci individuals and groups, and international diversity course.

**201 Introduction to Language in the Humanities U 5**

Examination of language as a system of human communication; provides students with the tools needed for the recording, investigation, and close analysis of language.

Au, Wi, Sp Qtrs. 2 2hr cl. H201 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 202 or English 271. GEC arts and hums cultures and ideas course.

**270 Introduction to Language in the Social Sciences U 5**

Examination of language as a system of human communication; provides students with a general understanding of human linguistic behavior and cognition.

Au, Wi, Sp Qtrs. 2 2hr cl. Not open to students with credit for 201 or 202 or English 271. GEC soc sci individuals and groups course.

**280 Language and Formal Reasoning U 5**

How natural and artificial languages are alike in structure and use in reasoning; how natural languages differ in principles of use by humans.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Math 075 or equiv or Math placement R. H280 (honors) may be available to students enrolled in an honors program or by permission of department instructor. GEC math and logical analysis course.

**286 Analyzing the Sounds of Language U 5**

The sounds that languages use are examined. Quantitative analytical tools used in phonetic science are introduced. Small experiments are conducted to introduce students to research.

Au, Wi, Sp Qtrs. 2 2-hr cl. H286 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Math Placement level R or Math 075 or equiv; H286 requires Math 148 or 150. Not open to students with credit for Sph/Hrng 286. Cross-listed in Speech and Hearing Science. GEC data analysis course.

**294 Group Studies U 1-5**

Introductory topics in linguistics.

2 2-hr cl. H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Repeatable to a maximum of 10 cr hrs.

**301 Language Evolution and Language Change U 5**

A study of how and why languages change and evolve over time, taking into account the linguistic, historical, ideological and cultural factors involved.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for 311, 385 or NELC 311. Cross-listed in Near Eastern Languages and Cultures. GEC arts and hums cultures and ideas course.

**303 Language, Race and Ethnicity in the U.S. U 5**

Objective examination of the relationship between language, race and ethnicity in the context of varieties of English used by minority ethnic and racial groups in the U.S.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: English 110 or 110.01 or 110.02 or 110.03. Not open to students with credit for 305 or AfAm&ASt 303 or 305. Cross-listed in African American and African Studies. GEC cultures and ideas and social diversity course.

**367 Language, Sex, and Gender in American Culture U 5**

Discussing and writing about ways that views about sex and gender affect language and its use in speech communities in the U.S.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: English 110 or 111 or equiv. Not open to students with credit for 330. GEC social diversity and second writing course.

**371 Language and the Mind U 5**

Introduction to the psychological processes for producing and understanding speech, the means by which they arise in the child, and bases in the brain.

Au, Wi, Sp Qtrs. 2 2-hr cl. H371 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 201 or 202 or 601, or Psych 100, or permission of instructor. Not open to students with credit for Psych 371. Cross-listed in Psychology. GEC soc sci individuals and groups course.

**372 Language and Social Identity in the U.S. U 5**

Relationships between language and social diversity in the general American speech community; discussion of how individuals and social groups distinguish themselves on the basis of language.

Au, Wi, Sp Qtrs. 2 2-hr cl. H372 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: None, though some background in linguistics or a related discipline would be an advantage. Not open to students with credit for 361. GEC soc sci individuals and groups, and social diversity course.

**375 Language across Cultures U 5**

Investigation of relationships between language and culture in different societies with a view to shedding light on cross-cultural similarities and differences.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: English 110 or 111 or equiv. Not open to students with credit for 365. GEC soc sci individuals and groups and international diversity course.

**383 Words and Meanings U 5**

An introduction to semantics focussing on word meanings, meaning in word formation, meaning change over time, and cognitive processes involved in word learning and use.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 201 or 202; and English 110 or 111.

**384 Language and Computers U 5**

An introduction to human language technology, explaining the computational and linguistic principles behind such familiar technologies as web search, machine translation, and spelling correction.

Au, Wi, Sp Qtrs. 2 2-hr cl. H384 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC math and logical analysis course.

**484 Code Making and Code Breaking U 5**

Introduction to old and new technology associated with codes and code-breaking and the ways in which it has impacted people's lives.

Wi, Sp Qtrs. 2 2-hr cl.

**489 Internship in Linguistics U 1-5**

Intensive experience in linguistics as a research assistant on a faculty research project or as an intern at a linguistics-related business or organization.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 201, 270 or 601 and at least 15 hours of course work towards the major in linguistics. Open only to linguistics majors. Repeatable to a maximum of 5 cr hrs. May be counted towards linguistics major elective hours (5 credit hours maximum). This course is graded S/U.

**500 Phonetics U G 5**

Cross-linguistic survey of the sounds of the world's languages.

Au, Wi, Sp Qtrs. 2 2-hr cl. and 1 hr lab. Prereq: 201 or 202 or 601 or equiv. Not open to students with credit for 600.01.

**502 Syntax U G 5**

Basic elements of syntactic description and an overview of syntactic structure across languages.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 201 or 202 or 601 or equiv. Not open to students with credit for 602.01. E502 may be available for honors embedded experience.

**503 Phonology U G 5**

Introduction to phonological analysis and description, and an overview of phonological structure across languages.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 201 or 202 or 601 or equiv. Not open to students with credit for 603.01.

**505 Language and the Black Experience U 5**

Introduction to the structure, history, and use of distinctive varieties of English used by and among many African Americans in the U.S.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: English 110 or 110.01 or 110.02 or 110.03. Not open to students with credit for AfAm&ASt 505 or English 505. Cross-listed in African American and African Studies and English.

**509 Morphology U G 5**

The grammatical and phonological analysis of words, and their significance in linguistic structure.

Au Qtr. 4 cl, 1 lab. Prereq: 201 or 202 or 601 or equiv.

**550 Introduction to Linguistic Field Methods U 5**

Introduction to techniques for studying the grammar of an unknown language, working with a native speaker.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Two 500-level (or higher) courses in linguistics (one may be concurrent). Repeatable to a maximum of 15 cr hrs. Permission of instructor required to repeat course.

**595 Undergraduate Research Seminar in Linguistics U 5**

Linguistics students learn about cutting-edge research by OSU linguists and get hands-on experience conducting their own linguistic research.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: At least one 500-level linguistics course or permission of instructor. Linguistics majors only.

**597 Issues of the Contemporary World****597.01 Language Endangerment and Language Death U 5**

Examines language endangerment and language death to reach an understanding of the forces threatening the survival of over half of today's 6,000 languages.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Jr or sr standing. GEC contemporary world course.

**597.02 Language and the Law: A Cross Cultural Perspective U 5**

Examination of the role of interpretation of language in the law and in legal proceedings, with special consideration of issues in international law and multi-lingual jurisdictions.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Jr or sr standing. GEC contemporary world course.

**600 Phonetics****600.01 Phonetic Theory U G 5**

Principles of articulatory phonetics, with some discussion of acoustic phonetics; practice in the production, recognition, and transcription of sounds in various languages of the world.

Prereq: 201, 202, 601 or Sph/Hrng 320.

**600.02 Laboratory Phonology U G 5**

Introduction to laboratory methods and quantitative models of speech for linguistics.

Prereq: 600.01.

**601 Introduction to Linguistics U G 5**

A broad introduction to general linguistics: survey of phonological, morphological, syntactic, and semantic analysis, and of historical and comparative linguistics.

Open to graduate students, declared majors or minors in linguistics, or by permission of instructor.

**602 Syntactic Theory**

Theories of syntax; principles of syntactic description.

**602.01 Syntactic Theory I U G 5**

Prereq: 502, 601.

**602.02 Syntactic Theory II U G 5**

Prereq: 602.01.

**603 Phonological Theory**

Introduction to phonological analysis and the principles governing the structure, acquisition, and change of phonological systems; survey of major phonological theories.

**603.01 Phonological Theory I U G 5**

Prereq: 601 or permission of instructor.

**603.02 Topics in Advanced Phonology U G 5**

Prereq: 603.01. Repeatable to a maximum of 15 cr hrs.

**605 An Introduction to African-American English G 5**

Introduction to the structure and history of the varieties of English used by African-Americans and the relationship between language use and socio-cultural context.

Sp Qtr. 2 2-hr cl. Prereq: One linguistics course at 500-level or above. Not open to students with credit for AfAm&ASt 605. Cross-listed in African-American and African Studies.

**609 Morphological Theory U G 5**

Introduction to and comparison of current theories of morphology, with application to linguistic data and problems.

Prereq: 601 or permission of instructor, concurrent registration in 601.

**611 Introduction to Historical Linguistics U G 5**

Introduction to the methods and principles of historical linguistics.

Prereq: 500 or 600 or 503 or 603.01 or equiv or permission of instructor.

**612 Introduction to Cognitive Science U G 3**

Cognitive science is an interdisciplinary study of the nature of human thought; psychological, philosophical, linguistic, and artificial intelligence approaches to knowledge representation.

Prereq: Permission of instructor or a total of 12 cr hrs from at least two of the following areas: cptr/inf, linguist, philos, and psych. Not open to students with credit for Cptr/Inf 612, Philos 612, or Psych 612 or 794 (Sp Qtr 1989) or 794A (Wi Qtr 1990). Cross-listed in Computer and Information Science, Philosophy, and Psychology.

**615 Psycholinguistics U G 5**

An introduction to high-level language processing, including word recognition, sentence understanding, and discourse processing.

Prereq: 601 or permission of instructor. Not open to students with credit for Psych 615 or Linguist 671.

**623 Topics in Indic Linguistics U G 3,5**

Possible topics include advanced classical Sanskrit, introductory Vedic Sanskrit, Indo-Iranian or Indo-Aryan linguistics, or studies in the ancient Indian grammarians.

Prereq: 622 or Sanskrit 622 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**650 Field Methods in Linguistics****650.01 Field Methods I U G 5**

Methodology for determining the phonological system of a previously unknown language through the use of a native informant.

Prereq: two courses at the 500 level or higher or permission of instructor. Repeatable to a maximum of 40 cr hrs.

**650.02 Field Methods II U G 5**

Methodology for determining the morphological and syntactic system of a previously unknown language through the use of a native informant.

Prereq: 650.01. Repeatable to a maximum of 40 cr hrs.

**661 Sociolinguistics**

Description and explanation of the interaction between linguistic and social factors in language.

Prereq: 201 or 202 or 601 or permission of instructor.

**661.01 Introduction to Sociolinguistics U G 5**

Survey of approaches to the study of language in its social context: sociology of language, ethnography of speaking, discourse analysis, quantitative sociolinguistics.

**661.02 Introduction to Quantitative Sociolinguistics U G 5**

Exploration of language in its social context through the methods of quantitative analysis of linguistic variation, including the Labovian and implicational models.

Prereq: 661.01.

**672 Language Description U G 3-5**

Informant techniques and (if available) textbooks and published linguistic analyses are employed in analyzing and describing a language.

Prereq: 601. Repeatable to a maximum of 30 cr hrs.

**680 Formal Foundations of Linguistics U G 5**

Applying tools from set theory, symbolic logic, model theory, algebra and formal grammar in the foundations of formal linguistic theories and in linguistic analysis.

Au Qtr. 4 cl, 1 lab. Prereq: 201 or 270 or 601 or equiv.

**681 Algebraic Linguistics U G 5**

Formal properties of grammar and automata; relations between linear, context-free and context-sensitive grammars and finite, pushdown-storage and linear-bounded automata; properties of transformational grammars.

Prereq: 601 and permission of instructor.

**683 Linguistic Semantics****683.01 Semantics I U G 5**

Problems and methods in linguistic semantics, using logic and semantic model theory as analytic tools; reference, compositionality, presupposition, conversational implicature, speech acts, deixis.

Prereq: 680 or equiv.

**683.02 Semantics II U G 5**

Montague semantics and more recent semantic theories; analysis of important problems, such as generalized quantifiers, lattice-based accounts of plurals and events, discourse representation theory.

Prereq: 683.01 or equiv.

**684 Computational Models of Grammar**

Introduction to computational methods used to construct models of grammatical knowledge and sentence processing.

2 2-hr cl.

**684.01 Computational Models of Grammar I U G 5**

Symbolic computation applied to the structure of words and sentences, models of morphology and syntax, parsing algorithms.

Wi Qtr. Prereq: 502 or 602.01, and 680.

**684.02 Computational Models of Grammar II U G 5**

Computational models of semantic interpretation, and the role of pragmatic knowledge in sentence processing; implementation of current grammatical theories.

Sp Qtr. Prereq: 683.01 and 684.01.

**685 Languages in Contact U G 3,5**

Study of the effects of language contact on the structure of the involved languages, and of the characteristics of the individuals and communities involved in language contact.

Prereq: One linguistics course at 500-level or above.

**693 Individual Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq or concur: 601 or permission of instructor. Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Study of topics not regularly scheduled for seminars in linguistics, under the direction of a faculty member.

Prereq: 601. Repeatable to a maximum of 30 cr hrs.

**737 Proseminar in Cognitive Science U G 2**

An in-depth examination of the interdisciplinary field of cognitive science; emphasizes fundamental issues of each discipline, provides illustrations of representative research being conducted at OSU.

Prereq: Cptr/Inf 612, Linguist 612, Psych 612, or Philos 612, or permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in Computer and Information Science, Industrial Systems Engineering, Philosophy, Psychology, and Speech and Hearing Science.

**780 Formal Pragmatics U G 5**

Introduction to contemporary theories of pragmatic phenomena which build on theories of dynamic interpretation in formal semantics.

Prereq: 683.02.

**H783 Honors Research U 3-5**

Informal conferences to allow full scope to the initiative of the student, who will prepare an honors thesis in consultation with the instructor.

Prereq: 4th yr standing and the completion of departmental honors requirements with a grade of A in at least half of the linguistics courses, including approved related courses; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 2 qtrs are required of candidates for the degree BA with distinction in linguistics. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**795 Seminar Discussion Groups in Linguistics**

A selected group study, with emphasis on individual writing and presentation.

Prereq: 600-level or above in linguistics, or permission of instructor.

**795.01 TA Workshop U G 1-5**

Repeatable.

**795.02 Syntax U G 1-5**

Repeatable.

**795.03 Phonetics/Phonology U G 1-5**

Repeatable.

**795.04 Computational Linguistics U G 1-5**

Repeatable.

**795.10 Topics in Linguistics U G 1-5**

Repeatable.

**795.14 Pragmatics U G 1-5**

Repeatable.

**795.61 Sociolinguistics/Historical Linguistics U G 1-5**

Repeatable.

**795.71 Psycholinguistics U G 1-5**

Repeatable.

**801\* Historical Linguistics I G 5**

An introduction to the methods, conventions, and literature of comparative-historical linguistics with primary attention to the comparison and reconstruction of Indo-European phonological systems.

Prereq: 601, and either 611 or written permission of instructor.

**802\* Historical Linguistics II G 5**

Advanced work in the comparison and reconstruction of morphological and syntactic systems, primarily Indo-European; detailed examination of some of the results of past and current scholarship.

Prereq: 801.

**803\* Topics in Indo-European G 5**

Study of various Indo-European languages and language families and exploration in depth of specific problems in Indo-European grammar.

Prereq: 802. Repeatable to a maximum of 30 cr hrs.

**809 Seminar in Morphology G 3,5**

Advanced topics in morphological analysis.

Arr. Prereq: 609. Repeatable to a maximum of 30 cr hrs.

**812 Seminar in Semantics G 5**

Accounts of semantic judgments in languages, especially within the theory of generative grammar; relationships between syntax, semantics, and language use.

Prereq: 602.02; a course in symbolic logic recommended. Repeatable to a maximum of 30 cr hrs.

**814 Seminar in Pragmatics G 5**

An intensive examination of one or more major problems in pragmatics, such as speech acts, implicature, or presupposition.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**820 Seminar in Syntax G 5**

Advanced topics in syntactic analysis.

Prereq: 602.02. Repeatable to a maximum of 30 cr hrs.

**821 Seminar in Phonology G 5**

Advanced topics in phonological analysis.

Prereq: 603.02. Repeatable to a maximum of 30 cr hrs.

**822\* Seminar in Historical Linguistics G 5**

Advanced topics in methods and principles of diachronic analysis.

Prereq: 611 or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**825 Seminar in Advanced Phonetics G 5**

Study of specific problems in articulatory and acoustic phonetics at an advanced level.

Prereq: 600. Repeatable to a maximum of 30 cr hrs.

**830 Teaching Introductory Linguistics G 3**

Designed to train instructors in the techniques and materials used to teach introductory linguistics courses.

Prereq: 601 or equiv. This course is graded S/U.

**861 Seminar in Sociolinguistics G 3-5**

Advanced topics in sociolinguistics.

Arr. Prereq: 661. Repeatable to a maximum of 30 cr hrs.

**871 Seminar in Psycholinguistics G 3-5**

Advanced topics in psycholinguistics.

Sp Qtr. Arr. Prereq: 671. Repeatable to a maximum of 30 cr hrs.

**884 Seminar in Computational Linguistics G 5**

Advanced topics in computational linguistics.

Prereq: 684.01; 684.02 or CS&E 732; or permission of instructor. Repeatable.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest;

topics to be announced.

Prereq: Permission of instructor(s). Repeatable to a maximum of 15 cr hrs. with permission of dept.

**993 Individual Studies G 1-5**

Assigned reading and individual research.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**999 Research in Linguistics G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Master of Business Administration

100 Gerlach Hall, 2108 Neil Avenue, 292-8511

**800 Financial Accounting and Reporting G 4**

Mechanics of income statement, balance sheet, and fund flows; accounting policy choices; financial statement analysis using fund flows; ratios, quality of earnings, sustainable growth rates, and inflation adjustments.

Au Qtr. 2-2-hr cl. Prereq: Enrollment in the structured MBA.

**801 Cost Accounting G 2**

Cost data for inventory valuation; cost data for decision making (pricing, product-mix, make or buy); cost data for performance evaluation and control.

Wi Qtr. 2-hr cl. Prereq: Enrollment in the structured MBA. Not open to students with credit for 802.

**805 Business Solution Teams I G 4**

Two quarter sequence course that engages teams of MBA students in solution of business problems for real world companies who serve as clients.

Au, Wi Qtrs. 2-hr cl. Prereq: Completion of MBA core courses and enrollment in structured MBA or evening MBA program. This is a Progress course. Credit will be awarded upon completion of 806.

**806 Business Solution Teams II G 4**

Two quarter sequence course that engages teams of MBA or evening MBA students in solution of business problems for real world companies who serve as clients. Continuation of 805.

Wi, Sp Qtrs. 2-hr cl. Prereq: Completion of MBA core courses and enrollment in structured MBA program. This is a Progress course.

**808 International Field Study: Emerging Markets P G 1-3**

Course will expand global perspective of business; offer opportunity to apply skills in an emerging market and explore growth strategies of international companies.

Wi, Sp Qtrs. 2 2-hr cl plus spring break study abroad. Prereq: Permission of instructor and completion of successful interview. Students must participate in field study taken during spring break. Repeatable to a maximum of 8 cr hrs. This is a Progress course. Full-time MBA's given first priority.

**810 Financial Management I G 4**

The goal of this course is to present the analytical tools and financial theories necessary to make good decisions in the area of financial management.

Wi Qtr. Prereq: Enrollment in structured MBA.

**812 Managerial Economics G 4**

This course approaches microeconomics from a management and organizational perspective. The objective is to develop a framework grounded in the fundamentals of economic theory.

Au Qtr. 2 2-hr cl. Prereq: Enrollment in structured MBA Program.

**820 Global Macroeconomics G 2**

Enables managers to better understand and utilize the economic information to which they are exposed on a daily basis.

Su, Sp Qtrs. 1 2-hr cl. Prereq: Enrollment in structured MBA.

**825 Successful Practices for the Business Professional G 2**

Provides students with the knowledge, strategies, and experiences that will enhance oral and written communication skills, leading to greater effectiveness and success.

Au Qtr. 1 2-hr cl. Prereq: Enrollment in structured MBA.

**840 Marketing Management G 4**

Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment.

Wi, Sp Qtrs. Prereq: Enrollment in structured MBA program.

**850 Operations Management G 4**

Introduction to basic operations principles; exploration of major operating problems; strategic and tactical decision making; emphasis on determination of policy for managing productive resources; role of operations manager.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: Enrollment in structured MBA.

**860 Organizational Behavior and Teamwork Skills G 4**

An overview of factors that influence individual work performance and techniques to improve it; analytical frameworks for determining effectiveness of given techniques in specific circumstances.

Su, Au Qtrs. 2 2-hr cl. Prereq: Enrollment in structured MBA.

**870 Data Analysis for Managers G 4**

Introduction to statistical inference and its use in decision making; major emphasis on achieving an application-oriented understanding of regression analysis.

Au, Wi Qtrs. Prereq: Enrollment in structured MBA.

**871 Decisions and Decision Models G 2**

The use of quantitative techniques in practical decision-making situations; emphasis on concepts with relatively little mathematics utilized to describe the techniques.

Wi Qtr. 2-hr cl. Prereq: Enrollment in structured MBA.

**880 Legal and Regulatory Environment G 2**

Focuses on the application of law to managerial decisions; designed to provide an appreciation and understanding of the relationship between legal and business strategy.

Su, Sp Qtrs. 1 2-hr cl. Prereq: Enrollment in structured MBA program.

**881 Advanced Legal and Regulatory Environment G 4**

Application of the law in areas of ethics, litigation, personal liability, employment and agency law for strategic level professionals.

Sp Qtr. Prereq: Enrollment in structured MBA program, executive track.

**893 Individual Studies G 1-5**

Individual study projects in selected areas in business not otherwise offered.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**894 Group Studies G 1-5**

Students are given an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 16 cr hrs.

**980 Strategy Formulation and Implementation I G 4**

Introduction to the nature of corporate strategy, development of a conceptual framework for understanding competition in industries, and the factors that shape competitive success or failure.

Su, Sp Qtrs. Prereq: Enrollment in structured MBA.

**Materials Science and Engineering**

477 Watts Hall, 2041 College Road, 292-2553

www.osu.edu/mse, mse@osu.edu

Quarter of offering varies for many 700-900 level MSE courses. See web site for further information.

**194 Group Studies U 1-6**

Special topics.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**205 Introduction to Materials Science and Engineering U 3**

Structure, processing, properties, and applications of metals, ceramics, polymers, and composite materials.

Au, Wi, Sp Qtrs. 3 1-hr lectures, 1 1-hr rec. Prereq: Math 141 or 151 or 161; Physics 131, and Chem 121 or Chem H201.

**281 Materials Processing Laboratory U 1**

Introductory lab course dealing with the appearance, handling, and characteristics of several important materials.

Au Qtr. 1 3-hr lab. Prereq: 205 or concur.

**282 Materials Characterization Laboratory U 1**

Microscopy, diffraction, and chemical analyses of metallic, ceramic, semiconducting, and polymeric materials.

Wi Qtr. 1 1-hr cl, 1 2-hr lab. Prereq: 342 or 571.01 or concur and Matsc&en major or permission of inststuctor. Not open to students with credit for 571.02.

**293 Individual Studies U 1-6**

Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**294 Group Studies U 1-6**

Special topics.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**341 Atomic Scale Structure of Materials U 3**

Crystal structures in metals, ceramics and other materials, point defects in crystals, structure determination by X-Ray diffraction.

Au Qtr. 3 1-hr cl. Prereq or concur: 205. Not open to students with credit for 541.

**342 Microstructure and Characterization of Materials U 3**

Introduction to dislocations, grain boundaries, surfaces and multiphase microstructures. Optical and electron microscopic characterization of microstructures.

Wi Qtr. 3 1-hr lec. Prereq: 205 or concur or 341 and Matsc&en major or permission of instructor. Not open to students with credit for 571.01.

**361 Introduction to Mechanical Behavior of Materials U G 3**

Macroscopic mechanical response of ceramics, metals, polymers and composite materials, with an introduction to the underlying microstructural processes during deformation.

Sp Qtr. 3 1-hr cl. Prereq: 205, Math 153 and prereq or concur Mech Eng 420 or 440, Matsc&en major or permission of instructor. Not open to students with credit for 561.

**371 Electronic Materials U 3**

Structure - properties relations and application of materials in electronics, magnetics and optics.

Sp Qtr. 3 1-hr cl. Prereq: 205, Physics 132, Math 153, Matsc&en major or permission of instructor. Not open to students with credit for 671.

**394 Group Studies U 1-6**

Special topics.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**401 Materials Thermodynamics U 4**

First three laws of thermodynamics; phase equilibria; reaction equilibria; solution theory; phase diagrams.

Au Qtr. 3 1-hr lec, 1 2-hr rec. Prereq: 205, Physics 132, Math 254, and Chem 121, Matsc&en or Weld eng major or permission of instructor.

**489 Professional Practice in Industry U 2**

Preparation of a comprehensive report based on employment experience in a co-op job in industry.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Admission to co-op program. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**493 Individual Studies U 1-6**

Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**494 Group Studies U 1-6**

Special topics.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**525 Phase Diagrams U G 3**

Phase diagrams of unary, binary and ternary materials systems; thermodynamics and applications.

Wi Qtr. 3 1-hr cl. Prereq: 401, Matsc&en or Weld eng major or permission of instructor. Not open to students with credit for 521.01 or 542.01.

**526 Transport and Kinetics U G 3**

Transport of heat, mass and momentum and kinetics as applied to materials processing.

Au Qtr. 3 1-hr cl. Prereq: Math 415; prereq or concur: MatSc&En 341 or permission of instructor. Not open to students with credit for 522.01.

**533 Modeling of Materials Processing Methods U G 3**

Development and application of simple mathematical models of selected Solidification Processing methods, Solid State Processing methods, and Vapor Phase Processing methods.

Sp Qtr. 3 1-hr cl. Prereq: 525 and 526, Matsc&en major or permission of instructor.

**543 Structural Transformations U G 3**

Principles of structural transformations in materials. Thermodynamics and kinetics of nucleation, growth, precipitation, and martensitic reactions.

Sp Qtr. 3 1-hr cl. Prereq: 342, 401, 525 or 542.01, Matsc&en or Weld eng major or permission of instructor.

**564 Mechanical Behavior and Material Microstructure U G 3**

Course provides detailed understanding of how atomic-scale and micro-scale structure controls macroscopic mechanical behavior of ceramics, metals, polymers and composite materials.

Wi Qtr. 3 1-hr cl. Prereq: 341, 342, 361, Matsc&en major or permission of instructor. Not open to students with credit for 562.01.



**581 Materials Science Laboratory**

Laboratory experiments related to material properties and processes. Introduction to experimental techniques in materials science. Development technical writing skills.

1-hr cl and 2-hr lab. Prereq: 205 and 3rd yr engineering standing, Matsc&en major or permission of instructor.

**581.01 Materials Science Laboratory I U 2**

Au Qtr. Not open to students with credit for 521.02. GEC course.

**581.02 Materials Science Laboratory II U 2**

Wi Qtr. Not open to students with credit for 542.02. GEC course.

**581.03 Materials Science Laboratory III U 2**

Sp Qtr. Not open to students with credit for 522.02. GEC course.

**581.04 Materials Science and Engineering Laboratory for Welding Engineering U 2**

Laboratory experiments related to materials characterization and properties for Welding Engineering students.

Wi Qtr. Prereq: 205; prereq or concur: 525. Not open to MatSc&En majors without approval.

**594 Group Studies U G 1-6**

Special topics.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**595 Junior Seminar**

1 1-hr cl. Prereq: Jr standing in MatSc&En.

**595.01^ Junior Seminar I U 1**

Public speaking, lab safety, and Senior Design project.

Au Qtr. This course is graded S/U.

**595.02 Junior Seminar II U 1**

Seminars on Industrial Experience and on Graduate School by outside invited speakers.

This course is graded S/U.

**595.03 Junior Seminar III U 1**

Seminars and participation in senior design projects.

Sp Qtr. This course is graded S/U.

**600 Materials Selection and Performance I U G 3**

Integration of structure, properties, processing, and performance principles to formulate and implement solutions to materials engineering problems.

Wi Qtr. 3 1-hr cl. Prereq: Sr standing in MatSc&En or Ceram En or Metal En or permission of the instructor.

**601 Materials Selection and Performance II U G 3**

Integration of structure, properties, processing and performance principles to formulate and implement solutions to materials engineering problems.

Sp Qtr. 3 1-hr cl. Prereq: 600, Matsc&en major or permission of instructor. Not open to students with credit for 685.

**602\* Analysis of Die Casting Processes U G 3**

Fundamental principles underlying the die casting process; integration of cast component design, process requirements and economics.

Wi Qtr. 2 1.5-hr cl. Prereq: Grad or sr standing in Engineering or the physical sciences. Offered even-numbered academic years. Cross-listed in Industrial and Systems Engineering.

**605 Principles of Materials Science U G 4**

A quantitative survey of processing, structure, and properties relationships in engineering materials. A quantitative introduction for students with non-MatSc&En technical backgrounds.

Au Qtr. 2 2-hr cl. Prereq: Physics 132, Math 254, Chem 121, and MatSc&En 205, or permission of instructor. Not open to Metal En/Ceram En/MatSc&En majors.

**612 Structure and Defects of Crystalline Ceramics U G 3**

Structure of ceramic crystals, point defects and non-stoichiometric structures.

Au Qtr. 3 1-hr cl. Prereq: 205, 341, Matsc&en major or permission of instructor.

**614 Electrical, Optical and Magnetic Properties of Ceramic Materials U G 3**

Ceramic conductors, sensors, varistors; dielectric materials; electro-optic ceramics, fiber optics and magnetic materials.

3 1-hr cl. Prereq: 371 or 671, Matsc&en major or permission of instructor. Not open to students with credit for 672.

**615 Chemical Processing of Ceramics U G 3**

Chemical methods for making ceramic powders, the colloidal behavior of ceramic particulate suspensions and the multicomponent, multiphase equilibria found in thermomechanically processed ceramics.

Au Qtr. 3 1-hr cl. Prereq: 525, Matsc&en major or permission of instructor. Not open to students with credit for 623.

**616 Ceramic Forming Processes U G 3**

Principles of ceramic forming processes and raw materials.

Wi Qtr. 3 1-hr cl. Prereq: Sr or grad standing in MatSc&En or permission of instructor. Not open to students with credit for 624.

**617 Thermal Processing of Ceramics U G 3**

Ceramic drying and firing processes. Emphasis is on microstructure development: calcining, solid state sintering, liquid phase sintering, grain growth, hot pressing and reaction bonding.

Sp Qtr. 3 1-hr cl. Prereq: 616, Matsc&en major or permission of instructor. Not open to students with credit for 625.

**618 Structure, Properties and Processing of Glass U G 3**

Processing, structure and properties of glasses and basic glass manufacturing operations.

Sp Qtr. 3 1-hr cl. Prereq: 341, Matsc&en major or permission of instructor. Not open to students with credit for 632.

**619 Ceramic Processing Laboratory U G 1**

Processing and properties of ceramic materials.

Wi Qtr. 1 3-hr lab. Prereq or concur: 615 or 616, Matsc&en major or permission of instructor. Not open to students with credit for 653.

**642 Polymer Science and Engineering U G 3**

Principles of polymer science and engineering and the important concepts that distinguish plastics from inorganic materials. Structure/property relationships that drive new applications.

Au Qtr. 3 1-hr cl. Prereq: Physics 132, Math 254, Chem 121, Matsc&en major or permission of instructor.

**644 Structure and Properties of Composite Materials U G 3**

Structure and properties of polymer matrix, metal matrix, and ceramic matrix composites. Tailoring of properties by composite design.

Wi Qtr. 3 1-hr cl. Prereq: 341, 361 Matsc&en major or permission of instructor. Not open to students with credit for 684.

**645 Materials in Medicine I U G 3**

The science and engineering of materials having medical applications.

Wi Qtr. 3 1-hr cl. Prereq: 642, Matsc&en major or permission of instructor.

**646 Materials in Medicine II U G 3**

How materials can be modified to meet the needs of specific medical applications.

Sp Qtr. 3 1-hr cl. Prereq: 645 and EEOB 415, Matsc&en major or permission of instructor.

**649 Biomaterials Processing Lab U G 1**

Processing and properties of biomaterials; forming processes used with biomaterials.

Wi Qtr. 1 3-hr lab. Prereq: 205, 642 or ChBE 773, or permission of instructor.

**661 Ferrous Metallurgy U G 3**

Physical metallurgy of plain carbon and alloy steels.

Au Qtr. 3 1-hr cl. Prereq: 543, Matsc&en major or permission of instructor. Not open to students with credit for 651.01.

**662 Corrosion U G 3**

Principles of corrosion engineering; definitions, types of corrosive attack and methods of minimization and prevention.

Au Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: Sr or grad standing in engineering or permission of instructor. Not open to students with credit for 681.

**663 Non-Ferrous Metallurgy U G 3**

Physical metallurgy of important non-ferrous alloys; their properties and applications.

Au Qtr. 2 1.5-hr cl. Prereq: 543, 564, Matsc&en major or permission of instructor. Not open to students with credit for 655.

**666 Deformation Processing U G 3**

Continuum behavior of metals; analysis of common forming operations; slab calculations, ideal work methods, upper bound analysis, other numerical methods.

Wi Qtr. 3 1-hr cl. Prereq: Mech Eng 420 or 440, Matsc&en major or permission of instructor.

**667 Casting and Powder Metallurgy U G 3**

Near net shape manufacturing via solidification and powder metallurgy methods.

Sp Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: 526, 543, Matsc&en major or permission of instructor. Not open to students with credit for 611.

**668 Process Metallurgy U G 3**

Thermodynamics, reaction kinetics, and fluid, heat and mass transfer principles applied to metallurgical processes including their analysis and process design.

Sp Qtr. 3 1-hr cl. Prereq: 526, Matsc&en major or permission of instructor. Not open to students with credit for 630.

**669 Metallic Materials Lab U 1**

Heat treatment, microstructure, phase transformations and mechanical properties of steels. Microstructure control for mechanical property optimization.

Wi Qtr. 1 3-hr lab. Prereq: 661 or 663, MatSc&En major or permission of instructor. Not open to students with credit for 651.02.

**673 Fundamentals of Chemical Sensor Materials U G 3**

Principles of chemical sensing, catalysis, nano-materials/nano-structures and thin-films; includes laboratory group projects.

Wi Qtr. 3 1-hr cl. Prereq: Sr, MatSc&En major or grad standing in engineering or math and physical sciences, or permission of instructor. Not open to students with credit for H659 or Physics H659. Cross-listed in Physics.

**676 Processing Electronic Materials U G 3**

Introduction to microfabrication with emphasis on processing, structure and stability of materials in microelectronics.

Wi Qtr. 3 1-hr cl. Prereq: 371, 543, MatSc&En major or permission of instructor. Not open to students with credit for 621.01.

**679 Electronics Materials Lab U 1**

Laboratory experience in microelectronics processing.

Wi Qtr. .5-hr lecture and 2.5-hr lab. Prereq or concur: 676, MatSc&En major or permission of instructor. Not open to students with credit for 621.02.

**693 Individual Studies U G 1-6**

Investigations in areas of advanced non-thesis research. Library and/or research investigations are under the close direction of instructors. Comprehensive report required.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-6**

Special topics.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**695 Senior Design Project**

An in-depth design project to foster independent thinking and to develop problem solving skills.

Au, Wi, Sp Qtrs. Arr.

**695.01 Senior Design Project I U 1**

Analysis of design problem and formulation of approach to solve problem.

Prereq: Sr standing in MSE or the physical sciences. Must be scheduled in the first 2 qtrs of academic year of projected graduation.

**695.02 Senior Design Project II U 1**

Execution of design projects with written and oral reports.

Prereq: 695.01.

**695.03 Senior Design Project III U 1**

Completion of design projects with written and oral reports. May be taken as an honors course with permission of department.

1 1-hr cl. Prereq: Sr standing in MatSc&En and MatSc&En 695.02.

**711 Solidification Science U G 3**

Thermodynamics of undercooling, local equilibrium, and interface non-equilibrium. Macroanalysis of solidification dynamics; micro-analysis of microstructure formation.

2 1.5-hr cl. Prereq: Grad standing in MatSc&En or permission of instructor.

**715 Principles of the Characterization of Materials U G 3**

Fundamentals of beam-solid interactions and their application to the characterization of materials.

3 1-hr cl Prereq: Math 415 or grad standing in MatSc&En or permission of instructor.

**730 Thermodynamics of Materials U G 4**

Thermodynamics of mixtures and phase equilibria relevant to metallurgy and materials science.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**731 Physical Properties of Glass U G 3**

Viscosity, chemical durability and thermal, electrical, optical, and mechanical properties of commercial glasses. Effects of thermal history and composition.

3 1-hr cl Prereq: 632 or grad standing in MatSc&En or permission of instructor.

**732 Kinetics and Diffusion U G 4**

To provide a detailed understanding of the phenomenological and atomic description of rate limiting steps, diffusion and chemical reaction, during mass transport in solid state materials.

2 2-hr cl Prereq: Grad standing in MatSc&En or permission of instructor.

**735 Advanced Corrosion U G 3**

Theories and mechanisms of corrosion.

3 1-hr cl. Prereq: Grad standing in MatSc&En or permission of instructor.

**736 High Temperature Corrosion U G 3**

Corrosion of metals and alloys in high-temperature gases and salts.

3 1-hr cl. Prereq: Grad standing in MatSc&En or permission of instructor.

**741 Transmission Electron Microscopy Laboratory G 1**

Application of transmission electron microscopy of materials with emphasis on practical experimental methods.

Au, Wi, Sp Qtrs. 1 3-hr lab. Prereq: 715 or equiv.

**745 Structure of Materials U G 4**

Crystallography and crystal structures, effect of symmetry on properties of crystals, and structures of amorphous materials.

2 2-hr cl. Prereq: Grad standing in MatSc&En or permission of instructor.

**750 Materials Microstructures U G 3**

Nature and kinetics of microstructural changes produced by cold work and subsequent aging in ductile materials. Homogeneous and heterogeneous nucleation. Dislocations in crystalline materials with emphasis on FCC materials.

2 1.5-hr cl. Prereq: Grad standing in MatSc&En or permission of instructor.

**756 Computational Materials Modeling U G 3**

Introduction to common computer modeling methods including hands-on work with emphasis on the atomic and nano-scales.

Au Qtr. 2 1.5-hr cl. Prereq: Permission of instructor.

**765 Mechanical Behavior of Materials G 3**

Mechanical response of materials to loads and deformation.

2 1.5-hr cl. Prereq: Grad standing in MatSc&En or permission of instructor.

**774 Polymer Membranes U G 3**

In-depth study of membrane separation mechanisms, transport models, membrane permeability computations/measurements, membrane materials/types/modules and membrane reactions.

Prereq: ChBE 509 or sr standing in MatSc&En or grad standing. Not open to students with credit for ChBE 774. Cross-listed in Chemical and Biomolecular Engineering.

**H783 Honors Research U 1-3**

Honors level analysis of design problem, formulation of approach to solve problem, and execution of design project with written and oral reports.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Sr standing in MatSc&En. Repeatable to a maximum of 3 cr hrs. Must be scheduled in first two quarters of academic year of projected graduation.

**793 Individual Studies U G 1-6**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. This course is graded S/U.

**794 Group Studies U G 1-6**

Special advanced topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**795 Graduate Seminar and Colloquium U G 1**

Discussion of current thesis problems, outstanding current literature and related topics in Materials Science and Engineering.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 30 cr hrs. Required of all grad students in MatSc&En each quarter (Su excluded). Up to 6 hrs may be applied toward a masters degree and up to 12 hrs may be applied toward a doctorate degree. This course is graded S/U.

**835 Point Defects in Crystalline Materials G 3**

A thermodynamic and electrochemical treatment of the formation, concentrations, mobilities, and interactions of atomic, ionic, and electronic point defects in materials at high temperatures.

3 1-hr cl. Prereq: 730 or permission of instructor.

**845 Solid Surfaces and Interfaces G 3**

Thermodynamics and structure of surfaces and interfaces.

3 1-hr cl. Prereq: 730, 732, 745.

**850 Structural Transformations G 3**

Structural transformations in materials with emphasis on basic phenomena. Selected topics will be developed based on classical approaches and recent advances.

2 1.5-hr lec. Prereq: 730, 750.

**855 Electron Diffraction G 3**

Construction, image formation, and performance of electron microscopes. Electron diffraction in crystals. Wave-Optical and Wave-Mechanical forms.

2 1.5-hr cl. Prereq: 715.

**861 Plasticity G 3**

Continuum and micromechanisms of plastic deformation.

2 1.5-hr cl. Prereq or concur: 765, or permission of instructor.

**862 Microstructural Elasticity G 3**

Interaction of elastic defects in crystalline and continuum solids. 2 1.5-hr cl. Prereq or concur: 765, or permission of instructor.

**863 Elevated Temperature Deformation G 3**

Micromechanics of elevated temperature deformation. 2 1.5-hr cl. Prereq or concur: 765, or permission of instructor.

**864 Fatigue of Materials G 3**

An overview of the mechanics and mechanisms of fatigue in metals and non-metals. Will include state-of-the-art fatigue concepts and applications of fatigue theory to structural life prediction. 3 1-hr cl. Prereq: Undergraduate courses in mechanical and materials science.

**881 Advanced Topics in Corrosion Science G 3**

In-depth understanding of the critical issues in the corrosion of metals, and methods for prevention, control, and experimentation. 2 1.5-hr cl. Prereq: 735 or permission of instructor.

**893 Individual Studies G 1-6**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**894 Group Studies G 1-6**

Special advanced topics. Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**995 Advanced Topics**

Individual study, presentation, and group discussion of topics of current interest in materials science and engineering.

1 1-hr cl. Prereq: PhD candidacy in MSE or permission of instructor.

**995.01^ Topics in Microstructure and Characterization G 1**

Repeatable to a maximum of 3 cr hrs.

**995.02^ Topics in Mechanical Behavior and Solid Processing G 1**

Repeatable to a maximum of 3 cr hrs.

**995.03^ Topics in Chemical Behavior and Liquid Processing G 1**

Repeatable to a maximum of 3 cr hrs.

**995.04^ Topics in Physical Properties G 1**

Repeatable to a maximum of 3 cr hrs.

**999 Research in Materials Science and Engineering G 1-18**

Research for thesis or dissertation purposes only. Su, Au, Wi, Sp Qtrs. Arr. Repeatable. This course is graded S/U.

## Mathematical and Physical Sciences, College of

425 Stillman Hall, 1947 College Road, 292-2874

**100 Mathematical and Physical Sciences Survey U 1**

Academic requirements, University procedures, grading system, resources; student rights and responsibilities; overview of Mathematical and Physical Sciences areas of study, Arts and Sciences services.

Au Qtr. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for Agr Int 100, Arts Col 100.01 or 100.02, Arts&Sci 100 or 100.01 or 100.02, Bio Sci 100, Engineer 100, Hum Col 100, SBS Col 100, or any decimal subdivision of Univ Col 100. This course is graded S/U.

## Mathematics

Mathematics Tower, 231 West 18th Avenue, 292-4975

**050 Precollege Mathematics I U 5**

Arithmetic of fractions and decimals, basic algebra, graphing equations, geometry, exponents, applications of exponents, lines and slopes, area. Su, Au, Wi, Sp Qtrs. 5 cl. Not open to students with credit for any higher numbered math course. Credit will not count toward graduation in any degree program.

**075 Precollege Mathematics II U 4**

Factoring, rational expressions and equations, graphs, systems of linear equations and inequalities, problem solving, roots and radicals, quadratic equations, complex numbers.

Su, Au, Wi, Sp Qtrs. 4 cl. Prereq: 050 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for any math course except 050. Credit will not count toward graduation in any degree program.

**076^ Reentry Precollege Mathematics U 4**

Systems of equations, arithmetic of polynomials, factoring, fractional equations, variation, quadratic equations, functions, graphs, and right angle trig.

Wi Qtr. 4 cl. Prereq: At least one yr of high school algebra, out of high school

for 5 or more yrs at time of university enrollment, no formal training in math in the past 5 yrs, and written permission of Dept of Mathematics. Not open to students with a mark in any Ohio State math course within the past 5 yrs. Credit will not count toward graduation in any degree program.

**103^ Enrichment of Basic College Mathematics U 2**

Supplement to Math 104 using small group interaction and active learning to enhance the development of skills necessary to succeed in 104 and subsequent courses.

Au Qtr. 2 cl. Prereq: New first quarter freshman, no math admission condition, and Math Placement T or S; concur: 104. This course is not repeatable under any circumstances (not through audit, repeating a D, repeating an E or NP, Fresh Start, Freshman Forgiveness, transfer credit, or any other means). Credit may not count toward graduation in some degree programs.

**104 Basic College Mathematics U 5**

Systems of equations, arithmetic of polynomials, rational expressions, factoring, fractional equations, inequalities, exponents, quadratic equations, absolute values, functions, and graphs.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 050 or satisfactory score on Ohio State Math Placement Test or permission of dept. Not open to students with credit for 130, or 148, or 150, or 151. Credit may not count toward graduation in some degree programs.

**105 Fundamental Mathematics Concepts for Teachers I U 5**

Development of basic ideas of arithmetic, algebra and geometry as appropriate for school teachers.

Su, Au, Wi Qtrs. 5 cl. Prereq: 075 or 076 or satisfactory score on Ohio State Math Placement Test. 105N open only to Rank 4 and GRD EDU students, and to students who've applied to GRD EDU.

**106 Fundamental Mathematics Concepts for Teachers II U 5**

Continuation of 105.

Wi, Sp Qtrs. 5 cl. Prereq: 105 or written permission of dept. 106N open only to Rank 4 and GRD EDU students, and to students who've applied to GRD EDU.

**107 Topics in Mathematics for Elementary Teachers U 5**

Further topics in mathematics selected by the instructors to broaden the mathematical perspectives of elementary teachers.

Au, Sp Qtrs. 5 cl. Prereq: 106 or written permission of dept.

**108 Number and Algebraic Structures for Middle School Teachers U 5**

Concepts of arithmetic, including number systems, binary operations, combinatorial counting, and number theory. Generalized algebraic structures developed through number systems, matrices, and modulo arithmetic.

Au Qtr. 5 cl. Prereq: 150 or higher, or Math Placement Level L. Open only to middle childhood majors (Major Codes 283 and 187). Partially fulfills OSU mathematics requirements for middle school mathematics concentration.

**109 Geometry and Measurement for Middle School Teachers U 5**

Geometrical concepts of definitions, postulates, congruence, similarity, coordinate geometry, transformations, and non-Euclidean geometry. Measurement concepts of units, conversion, irregular shapes, Pythagorean Theorem, and Cavalieri's Principle.

Wi Qtr. 5 cl. Prereq: 108. Open only to middle childhood majors (Major Codes 283 and 187). Partially fulfills OSU mathematics requirements for middle school mathematics concentration.

**116 Excursions in Mathematics U 5**

Critical thinking and problem solving, with relevant topics met in everyday life; appropriate for non-physical sciences.

Su, Wi, Sp Qtrs. 5 cl. Prereq: 075 or 076 or 104 or satisfactory score on mathematics placement test. Not open to students with credit for 153.

**117 Survey of Calculus U 5**

An introduction to differential and integral calculus.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 148 or 150 or Level L on Ohio State Math Skills Assessment or permission of dept. Not open to students with credit for 132 or 151. This course is not designated for students pursuing majors in business or the sciences.

**130 Mathematical Analysis for Business I U 4**

Equations, inequalities, absolute value, polynomial functions, matrices, applications to business.

Su, Au, Wi, Sp Qtrs. 4 cl. Prereq: 104 or placement M or N on the OSU Math placement test, or written permission of department. Not open to students with credit for 150 or higher numbered mathematics course. This course is available for EM credit.

**131 Mathematical Analysis for Business II U 4**

Differential calculus, limits, definition of derivative, calculation of derivatives, curve sketching, applications.

Su, Au, Wi, Sp Qtrs. 4 cl. Prereq: 130 or 148 or 150 or Math Placement Course Code L. Not open to students with credit for 151 or higher.

**132 Mathematical Analysis for Business III U 5**

Integral calculus, indefinite integration, area and definite integrals, improper integrals, functions of several variables, maxima, minima.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 131 or 151. Not open to students with credit for 152 or higher.

**140<sup>^</sup> Calculus with Review I U 5**

Review of polynomial and rational functions, difference quotients, limits, continuity, derivatives, chain rule, higher order derivatives, implicit differentiation, related rates.

Au Qtr. 5 cl. Prereq: Course Code N placement and 4 or more units of college prep math, including trigonometry; or written permission of dept. Not open to students with credit for 151. The first part of a two-part sequence that consolidates the material of Math 148, 150, 151. The follow up course is Math 141. Students who do not succeed in this course must go back to Math 148.

**141<sup>^</sup> Calculus with Review II U 5**

Trigonometric review, differentiation of the trigonometric functions, review of exponential and logarithmic functions, mean value theorem, applications to curve sketching, applied maxima and minima problems.

Wi Qtr. 5 cl. Prereq: Grade of C- or better in 140. Not open to students with credit for 151. The second of a two-part sequence that consolidates the material from 148, 150 and 151 into two courses and prepares students for 152.

**148 Algebra and Trigonometry and Their Applications U 4**

Applications from chemistry, physics and biology involving integer and rational exponents, solving and graphing linear and quadratic equations, systems of equations, trigonometry of acute angles, vectors and exponential equations.

Su, Au, Wi, Sp Qtrs. 4 cl. Prereq: 104 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for 150 or higher numbered mathematics course.

**150 Elementary Functions U 5**

Inverse functions, logarithmic, exponential and trigonometric functions, and their graphs; complex numbers.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 148 or satisfactory score on Ohio State Math Placement Test or permission of dept. Not open to students with credit for 151, 161, H161, or H190. This course is available for EM credit.

**151 Calculus and Analytic Geometry I U 5**

Limits, continuity, derivatives, Mean Value Theorem, extrema, curve sketching, related rates, differentiation of the trig, log, and exp functions.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: C- or better in 150 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for 152 or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.

**152 Calculus and Analytic Geometry II U 5**

Integrals, area, fundamental theorems of calculus, logarithmic and exponential functions, trigonometric and inverse trigonometric functions, methods of integration, applications of integration, polar coordinates.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: C- or better in 141 or 151. Not open to students with credit for 153 or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.

**153 Calculus and Analytic Geometry III U 5**

Indeterminate forms, Taylor's formula, improper integrals, infinite series, parametric curves, and vectors in the plane; vectors, curves, and surfaces in space.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: C- or better in 152 or 161 or H161. Not open to students with credit for 254 or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.

**161 Accelerated Calculus with Analytic Geometry I U 5**

Functions, limits and continuity, derivatives, applications of the derivative, the integral, inverse functions, techniques of integration, applications of integration.

Au Qtr. 5 cl. H161 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Course Code L placement and high school calculus experience or permission of dept; prereq for H161: Math 151 or permission of dept. 161 not open to students with credit for 152; H161 has no exclusion. The sequence 161-162-263 covers calculus at an accelerated pace for students with superior algebraic and geometric skills, and with previous calculus experience. 161 assumes mastery of the computational aspects of polynomial and trigonometric differentiation and will concentrate on integral calculus.

**162 Accelerated Calculus with Analytic Geometry II U 5**

Improper integrals; polynomial approximations and Taylor's theorem; infinite sequences and series; tests for convergence, vectors, lines and planes.

Wi Qtr. 5 cl. H162 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 161 or written permission of Math Counseling Office. Not open to students with credit for 153.

**187 Topics in Mathematics U 2-5**

An enrichment course for interested and capable students.

Au Qtr. H187 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of dept. Repeatable

to a maximum of 10 cr hrs. This course is graded S/U.

**188<sup>^</sup> Invitation to Actuarial Science U 1**

Introduction to some basic ideas of life, health, and property and casualty insurance; presentations by practicing actuaries on aspects of the actuarial profession.

Sp Qtr. 1 2-hr cl. Prereq: 151, 161, H161, or H190; or permission of instructor. This course is graded S/U.

**H190 Elementary Analysis I U 5**

The first of an enriched honors calculus sequence designed to introduce students to the mathematical underpinnings of analysis.

Au Qtr. 5 cl. Prereq: Permission of dept. H190, H191, and H264 substitute for 151, 152, 153, 254, and 551.

**H191 Elementary Analysis II U 5**

Continuation of H190.

Wi Qtr. 5 cl. Prereq: H190 with a grade of C or better or written permission of Honors Committee chairperson.

**194 Group Studies in Mathematics U 2-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 10 cr hrs.

**254 Calculus and Analytic Geometry IV U 5**

Partial differentiation, Lagrange multipliers, multiple integrals, line integrals, and Green's theorem.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 153. Not open to students with credit for 255 or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.

**255 Differential Equations and Their Applications U 5**

Basic concepts and methods in solving ordinary differential equations, first and second order, linear differential equations, series solutions, numerical methods, Laplace transforms, physical applications.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 254. Not open to students with credit for 415.

**263 Accelerated Calculus with Analytic Geometry III U 5**

Multivariable calculus (vector approach), line and surface integrals, vector differential operators.

Sp Qtr. 5 cl. H263 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 162 or written permission of Math Counseling Office.

**H264 Elementary Analysis III U 5**

Continuation of H191; a rigorous treatment of multivariable calculus including gradients, multiple integrals, line and surface integrals, Green's theorem, the divergence theorem, and Stokes' theorem.

Sp Qtr. 5 cl. Prereq: H191 with a grade of C or better or written permission of Honors Committee chairperson.

**283 Number Theory**

An intensive introduction to mathematics as problem-solving; experimentation, conjecture and proof; divisibility, quadratic fields, geometry of numbers.

Su Qtr. Prereq: Written permission of instructor and performance on a take-home problem set.

**283.01<sup>^</sup> Lectures in Number Theory U 3-6**

5 cl for 8 wks. Repeatable to a maximum of 6 cr hrs.

**294 Special Topics in Mathematics U 2-5**

Designed to give groups of able students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. H294 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of dept. Repeatable to a maximum of 10 cr hrs.

**345 Foundations of Higher Mathematics U 4**

Designed to prepare students for higher mathematics; an introduction to logic, proof techniques, set theory, number theory, integers, real numbers.

Au, Sp Qtrs. 4 cl. Prereq: 254 or equiv with written permission of dept. Intended primarily for math majors.

**366 Discrete Mathematical Structures I U 3**

Mathematical formalization and reasoning, logic, and Boolean algebra; sets, functions, relations, recursive definitions, and mathematical induction; and elementary counting principles.

Su Term 1, Au, Wi, Sp Qtrs. 3 cl. Prereq: 132 or 152 or permission of dept.

**414<sup>A</sup> Differential Equations for Engineering Applications U 3**

Introduction to the basic methods for solving ordinary and partial differential equations, and some applications.

Sp Qtr. 3 cl. Prereq: 254; concur: Aero Eng 414; or permission of instructor. Not open to students with credit for 255 or 415. This course is linked to Aero Eng 414 where significant engineering applications will be presented. Students enrolled in this course must be simultaneously enrolled in Aero Eng 414.

**415 Ordinary and Partial Differential Equations U 4**

Ordinary, partial, linear, and nonlinear differential equations; Fourier series; boundary value problems; and Bessel functions.

Su, Au, Wi, Sp Qtrs. 4 cl. Prereq: 254. Not open to students with credit for 255.

**H487 Advanced Problem Solving U 2**

An advanced enrichment course for interested and capable students.

Au Qtr. 2 cl. Prereq: Permission of dept. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**504 History of Mathematics U G 5**

Development of mathematics from primitive origins to present form; topics include: development of arithmetic, algebra, geometry, trigonometry, and calculus.

Su, Sp Qtrs. 5 cl. Prereq: Math major or grad standing in Edu T&L; and 507, H520, 568, 571, or 580; or equiv with written permission of dept.

**507 Advanced Geometry U G 5**

Advanced topics from Euclidean Geometry.

Au, Wi Qtrs. 5 cl. Prereq: H264 or 345 or grad standing.

**512 Partial Differential Equations and Boundary Value Problems U G 3**

Fourier series, orthogonality relations, vibrating string, steady state heat, Laplace transform, and applications.

Su Term 1, Au, Wi, Sp Qtrs. 3 cl. Prereq: 255 or 415 or equiv with written permission of dept.

**513 Vector Analysis for Engineers U G 3**

Vector algebra, vector operators, line integrals, vector integral theorems, curvilinear coordinates; applications.

Au, Wi Qtrs. 3 cl. Prereq: 254. Not open to students with credit for 551.

**514 Complex Variables for Engineers U G 3**

Introduction to complex variables, analytic functions, complex integral theorems, power series, residues, conformal mapping.

Sp Qtr. 3 cl. Prereq: 254 or equiv with written permission of dept. Not open to students with credit for 552 or 654.

**H520 Linear Algebra U 5**

Vector spaces, linear transformations, systems of equations, determinants, eigenvalues, spectral theorem, and Cayley-Hamilton theorem.

Au Qtr. 5 cl. Prereq: H263 with a grade of C or better, or H264 with a grade of C or better, or written permission of Honors Committee chairperson.

**H521 Differential Equations U 5**

Ordinary, linear and nonlinear differential equations, existence and uniqueness theorems, Fourier series, boundary value problems, systems, Laplace transforms, phase space, stability, and periodic orbits.

Wi Qtr. 5 cl. Prereq: H520 with a grade of C or better or written permission of Honors Committee chairperson.

**H522 Complex Analysis U 5**

Analytic functions, Cauchy integral theory, residue calculus, series representations, and conformal mapping.

Sp Qtr. 5 cl. Prereq: H521 with a grade of C or better or written permission of Honors Committee chairperson. The sequence H520-H521-H522 substitutes for 568; 255 or 415; 514 or 552.

**530 Probability U G 3**

Combinatorial probability, random variables, independence, expectations, variance.

Au Qtr. 3 cl. Prereq: 254.

**532 Mathematical Foundations of Actuarial Science U 3**

Problem workshop for applications of calculus and probability to actuarial science and risk management.

Sp Qtr. 2 1.25-hr cl. Prereq: 530 or Stat 420 or 520, or permission of instructor.

**H540 Geometry and Calculus in Euclidean Spaces and on Manifolds I U G 5**

The topology of n-dimensional Euclidean space, differentiation of vector-valued functions, inverse and implicit function theorems, Riemann and Lebesgue integration in n-dimensional Euclidean space.

Wi Qtr. 5 cl. Prereq: H520, or H263 and 568, or permission of instructor. Offered in odd-numbered years only.

**H541 Geometry and Calculus in Euclidean Spaces and on**

**Manifolds II U G 5**

Curves and line integrals in n-dimensional Euclidean space, tensor and exterior algebras, differential forms, integration on manifolds, divergence and Stokes' theorem and applications.

Sp Qtr. 5 cl. Prereq: H540 or permission of instructor. Offered in odd-numbered years only.

**547 Introductory Analysis I U G 3**

547-548-549 is an integrated sequence in advanced calculus covering sequences, limits, continuous functions, differentiation, Riemann integral; infinite series, sequences and series of functions, Taylor series, improper integrals.

Au, Wi Qtrs. 3 cl. Prereq: 345 or equiv with written permission of dept.

**548 Introductory Analysis II U G 3**

Continuation of 547.

Wi, Sp Qtrs. 3 cl. Prereq: 547 or equiv with written permission of dept.

**549 Introductory Analysis III U G 3**

Continuation of 548; the Riemann-Stieltjes integral; an introduction to the calculus of several variables.

Au, Sp Qtrs. 3 cl. Prereq: 548 or equiv with written permission of dept.

**551 Vector Analysis U G 5**

Vector operations in three dimensions, vector operators, surface area, the theorems of Green and Stokes, the divergence theorem; applications.

Sp Qtr. 5 cl. Prereq: 254. Not open to students with credit for 513.

**552<sup>A</sup> Introduction to the Theory of Functions of a Complex Variable U G 5**

Topics discussed include power series expansions, the formula of Cauchy, residues, conformal mappings, and elementary functions in the complex domain.

Su Qtr. 5 cl. Prereq: 254. Not open to students with credit for 514.

**566 Discrete Mathematical Structures II U G 3**

Algorithms, efficiency of algorithms, pigeonhole principle, combinatorial identities, inclusion-exclusion, general functions, graphs, Euler tours, Hamiltonian cycles, isomorphism, planarity, colorings, algorithms on weighted graphs, and networks.

Su Term 2, Wi, Sp Qtrs. 3 cl. Prereq: 366 or permission of dept.

**568 Introductory Linear Algebra U G 3**

The n-dimensional Euclidean space and its subspaces; matrices as mappings; matrix algebra; systems of equations; determinants; dot product; geometric interpretations.

Su Term 1, Au, Wi, Sp Qtrs. 3 cl. Prereq: 254 or equiv with written permission of dept. Not open to students with credit for 571.

**571 Linear Algebra for Applications I U G 3**

Linear systems of equations; vector spaces, matrices, linear operators; inner products, projections and least squares, approximations or eigenvalue problems; applications.

Su Term 1, Au, Wi, Sp Qtrs. 3 cl. Prereq: 254. Not open to students with credit for 601.

**572 Linear Algebra for Applications II U G 3**

The eigenvalue problem or inner product spaces, projections and least squares approximation; classification of operators and quadratic forms; applications.

Su Term 2, Wi Qtr. 3 cl. Prereq: 571 or written permission of dept. Not open to students with credit for 601.

**573 Elementary Number Theory U G 5**

Utilization of concrete examples to introduce concepts of modern algebra; prime numbers, congruences, Diophantine equations, elementary combinatorial analysis.

Sp Qtr. 5 cl. Prereq: H264 or 345 or grad standing or permission of dept. Offered in odd-numbered years only.

**575 Combinatorial Mathematics and Graph Theory U G 5**

Some classical puzzles of recreational mathematics; matching theory, graph theory, network flows, and optimization; enumeration techniques; combinatorial designs and coding theory.

Wi, Sp Qtrs. 5 cl. Prereq: 568, 571, H520, or written permission of dept. Offered SP even years only.

**H576<sup>A</sup> Number Theory through History I U G 5**

The integrated honors sequence H576-H577 includes elementary analytic and algebraic number theory and traces its unifying role in development of mathematics through history.

Wi Qtr. 3 80-min cl. Prereq: H191 and H520, or permission of dept. Offered in even-numbered years only.

**H577<sup>A</sup> Number Theory through History II U G 5**

Continuation of H576.

Sp Qtr. 3 80-min cl. Prereq: H576 or permission of dept. Offered in even-numbered years only.

**578 Discrete Mathematical Models U G 5**

Analysis and solution of various applied problems using discrete mathematical models; methods used include graph theory, linear optimization, Markov chains and queues.

Sp Qtr. 5 cl. Prereq: 530, Stat 420, 427, 520, or equiv; 568 or 571 or H520; CS&E 201, 202 or 221 or En Graph 167.

**580 Algebra I U G 3**

The integrated algebra sequence 580-581-582 includes elementary number theory, group theory, vector spaces, and linear transformations, field theory.

Au, Wi Qtrs. 3 cl. Prereq: 345 and prereq or concur: 568 or equiv with written permission of dept. Not open to students with credit for H590.

**581 Algebra II U G 3**

Continuation of 580.

Wi, Sp Qtrs. 3 cl. Prereq: 580.

**582 Algebra III U G 3**

Continuation of 581.

Au, Sp Qtrs. 3 cl. Prereq: 581.

**588 Practicum in Actuarial Science U 4**

Presentations by practicing actuaries on topics drawn from their fields of expertise; oral presentations by students on selected topics in actuarial science.

Sp Qtr. 2 1hr 48 min cl. Prereq: 3rd yr standing and completion of second writing course. Open only to actuarial science majors.

**H590 Algebraic Structures I U G 5**

Integers, congruence relations, structure preserving maps, topics from groups, rings, modules, vector spaces, fields.

Au Qtr. 5 cl. Prereq: H522 with a grade of C or better or written permission of Honors Committee chairperson. The sequence H590-H591-H592 substitutes for the sequence 580-581-582.

**H591 Algebraic Structures II U G 5**

A continuation of H590.

Wi Qtr. 5 cl. Prereq: H590 with a grade of C or better or written permission of Honors Committee chairperson.

**H592 Algebraic Structures III U G 5**

Continuation of H591; further topics in group and field theory and their interrelation; Galois theory.

Sp Qtr. 5 cl. Prereq: H591 with a grade of C or better or written permission of Honors Committee chairperson.

**593 Individual Studies U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**594 Group Studies U 2-5**

Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. H594 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**601 Mathematical Principles in Science I U G 3**

Linear algebra in finite dimensions, abstract vector spaces, linear transformations, fundamental subspaces; complex inner product spaces.

Au Qtr. 3 cl. Prereq: 568 or 571 or equiv.

**602 Mathematical Principles in Science II U G 3**

Eigenvalue and eigenvector analysis in finite dimensions, quadratic forms, singular value decomposition, linear analysis in infinite dimensions, Sturm-Liouville theory, Hilbert spaces.

Wi Qtr. 3 cl. Prereq: 601.

**603 Mathematical Principles in Science III**

An introduction to partial differential equations (pdes) that arise in the mathematical and engineering sciences.

Sp Qtr. 3 cl. Prereq: 415 or equiv, and 602.

**603.01^ Mathematical Principles in Science III, A U G 3**

General properties and methods of solution of hyperbolic, parabolic, and elliptic pdes that arise in science and engineering.

**603.02 Mathematical Principles in Science III, B U G 3**

Mathematical principles and methods in the physical and engineering sciences including Fourier theory, Green's function theory, study of pdes illustrated mainly by the Helmholtz equation.

**606 Introduction to Numerical Analysis of Partial Differential Equations U G 3**

Classification of partial differential equations; finite difference methods for elliptic, parabolic and hyperbolic PDE's; stability, convergence, error estimates; introduction to finite elements.

Sp Qtr. 3 cl. Prereq: 512 and 572 or equiv with permission of instructor.

**607 Essentials of Numerical Analysis U G 5**

Standard problems of numerical analysis, error analysis, and actual computational algorithms.

Wi Qtr. 3 2-hr cl. Prereq: 548 or 652 or permission of the Graduate Studies Committee.

**609 Applications of Mathematical Software U G 3**

Familiarize mathematics majors with some mathematical software encountered in a university setting: Matlab, Maple or Mathematica and Latex.

Su Qtr. 3 cl. Prereq: 255 or 415 or H521, and 568 or 571 or H520, and grad standing or permission of instructor. Open only to math majors.

**610 Topics in Mathematics for Teachers**

Special topics in mathematics for teachers at the secondary level.

Prereq: 1 yr teaching experience or permission of instructor. Designed for in-service teachers.

**610.01^ Geometry U G 1-5**

Repeatable to a maximum of 10 cr hrs.

**610.02^ Algebra U G 1-5**

Repeatable to a maximum of 10 cr hrs.

**610.03^ Approximation Methods U G 1-5**

Repeatable to a maximum of 10 cr hrs.

**610.04^ Probability U G 1-5**

Repeatable to a maximum of 10 cr hrs.

**610.25^ Special Projects U G 1**

Prereq: Enrollment in mathematics MA specialization or written permission of dept. This course is graded S/U.

**618 Theory of Interest U G 3**

Mathematical techniques of use in analyzing financial transactions involving interest: measurement of interest, force of interest, annuities-certain, applications to actuarial science.

Au Qtr. 2 1.5-hr cl. Prereq: 254 or permission of instructor.

**630 Actuarial Mathematics I U G 3**

Problem workshop for applications of economics, finance, and theory of interest to actuarial science.

Au Qtr. 2 1.5-hr cl. Prereq: 530 or Stat 420 or 520; prereq or concur: Math 618.

**631 Actuarial Mathematics II U G 3**

Actuarial models and their application to insurance and other financial risks.

Wi Qtr. 2 1.5-hr cl. Prereq: 630.

**632 Actuarial Mathematics III U G 3**

Continuation of 631; actuarial models and their application to insurance and other financial risks.

Sp Qtr. 2 1.5-hr cl. Prereq: 631.

**640 Introductory Topology U G 3**

The topology of the line, plane, Euclidean n-space, and metric spaces; emphasis on elementary ideas in topology.

Su Qtr. 3 cl. Prereq: 549 or equiv or math grad status. Not open to students with credit for 655.

**647 Set Theory U G 3**

Axiomatic set theory, transfinite induction and theory of ordinals, order type of characterizations, cardinal arithmetic and structure, and principles of choice.

Au Qtr. 3 cl. Prereq: 547 or 580 or equiv with permission of dept.

**648 Mathematical Logic I U G 3**

The syntax and semantics of sentential logic and first order logic; completeness and compactness theorems for first order logic.

Wi Qtr. 3 cl.

**649 Mathematical Logic II U G 3**

Continuation of 648; decidability and undecidability of systems and structures for number theory; Godel's incompleteness theorems and recursive functions; second order logic.

Sp Qtr. 3 cl. Prereq: 648 or permission of instructor.

**650^ Principles of Mathematical Analysis U G 5**

Riemann-Stieltjes integral; uniform convergence and interchange of limit processes, special functions, Fourier series.

Su Qtr. 5 cl. Prereq: 547 or permission of Graduate Advising Committee.

**651 Introduction to Real Analysis I U G 5**

Real numbers, infinite sequences, and series.

Au Qtr. 5 cl. Prereq: permission of dept.

**652 Introduction to Real Analysis II U G 5**

Continuous functions, differentiable functions and functions of bounded variation; Riemann-Stieltjes integral.

Wi Qtr. 5 cl. Prereq: 651.

**653 Introduction to Real Analysis III U G 5**

Measurable sets and functions, elementary theory of the Lebesgue integral. Sp Qtr. 5 cl. Prereq: 652.

**654<sup>^</sup> Complex Variables U G 3**

Complex arithmetic, geometry, conformal mapping, analytic functions, and residues.

Su Qtr. 3 cl. Prereq: Permission of dept. Not open to students with credit for 514 or 552. Recommended primarily for grad students in science and engineering.

**655 Elementary Topology I U G 5**

Continuity, compactness, product spaces, quotient spaces, connectedness in metric and general topological spaces, surface manifolds, cell complexes.

Au Qtr. 5 cl. Prereq: Permission of dept.

**656 Elementary Topology II U G 5**

Continuation of 655; the fundamental group and covering spaces.

Wi Qtr. 5 cl. Prereq: 655.

**657 Elementary Topology III U G 5**

Continuation of 656; homology.

Sp Qtr. 5 cl. Prereq: 656.

**660 Introductory Complex Analysis U G 5**

A beginning graduate course in complex analysis for doctoral students in the Department of Mathematics.

Su Qtr. 5 cl. Prereq: 548 or equiv or math grad status. Not open to students with credit for 654. Designed primarily for math graduate students, emphasizing rigorous proofs.

**665 Modern Mathematical Methods in Relativity Theory I U G 4**

Geometry in Minkowski space-time; physical interpretations; tensors; exterior calculus; manifolds; Lie derivatives; parallel transport; torsion; curvature; Cartan's two structural equations; Einstein Field equations.

Wi Qtr. 4 cl. Prereq: 254 and Physics 133 or equiv with permission of dept.

**666 Modern Mathematical Methods in Relativity Theory II U G 4**

Fluid dynamics, Hamilton-Jacobi theory in curved geometries; geometry and dynamics of homogeneous cosmologies; black holes; local-global properties; entropy; gravitational collapse; space-time symmetries.

Sp Qtr. 4 cl. Prereq: 665 or equiv.

**667<sup>^</sup> Introduction to the Mathematics of Cryptography U G 3**

Introduction to cryptography including public key and RSA, discrete logarithms, Diffie-Hellman, ElGamal, elliptic curve methods, and signature schemes.

8 weeks, 3-60 minute classes. Prereq: 582 or H592 or permission of instructor.

**669 Introduction to Number Theory U G 5**

Basic concepts of divisibility, congruence, reciprocity, and primitive roots as introduction to algebra with emphasis on techniques of proof.

Su Qtr. 5 cl. Prereq: 254 or equiv.

**670 Algebra I U G 5**

Elementary theory of groups, permutation groups, Polya theory of counting, rings and ideals, polynomials.

Au Qtr. 5 cl. Prereq: Permission of dept.

**671 Algebra II U G 5**

Continuation of 670; vector spaces, linear transformations, canonical forms for matrices, linear programming, orthogonality.

Wi Qtr. 5 cl. Prereq: 670 or permission of dept.

**672 Algebra III U G 5**

Continuation of 671; quadratic forms, finite fields, various applications.

Sp Qtr. 5 cl. Prereq: 671 or permission of dept.

**674<sup>^</sup> Survey of Combinatorial Mathematics U G 4**

Enumeration, equivalence relations, generating functions, graph theory, optimization, and combinatorial designs.

Su Qtr. 4 cl. Prereq: 568 or 571 or grad standing.

**683<sup>^</sup> Topics in Number Theory and Algebra U G 4**

Joint creative problem activity through daily problem solving sets in number theory.

Su Qtr. 4 cl. Prereq: Permission of instructor.

**693 Individual Studies U G 1-5**

Individual conferences, assigned readings, and reports on minor investigations.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**701<sup>^</sup> Mathematical Methods in Science G 5**

Introduction to tensor analysis with applications to geometry; elements of the calculus of variations with applications to physical problems.

Sp Qtr. 3 1.5-hr cl. Prereq: 601 or equiv or permission of dept.

**705<sup>^</sup> Special Functions U G 3**

Power series developments, asymptotic expansion, gamma functions, cylindrical functions, spherical harmonics, orthogonal polynomials, hypergeometric functions, theta functions, elliptic functions and integrals, numerical techniques.

Wi Qtr. 3 cl. Prereq: 601 and 602.

**707 Numerical Methods in Scientific Computing I G 3**

Numerical solution of dynamical systems and evolution equations, linear and nonlinear systems, boundary value problems, bifurcation diagrams, form fit of data, interpolation, and approximation theory.

Au Qtr. 3 cl. Prereq: 255 or 415, 572 or equiv and working knowledge of Fortran, or written permission of instructor.

**708 Numerical Methods in Scientific Computing II G 3**

Continuation of 707; numerical quadrature, integral equations, iterative procedures, multi-grid techniques, computation of eigenvalues and eigenvectors, Hopf bifurcation, and optimization.

Wi Qtr. 3 cl. Prereq: 707.

**709 Numerical Methods in Scientific Computing III G 3**

Numerical solution of ordinary differential equations, consistency, stability and convergence, reaction-diffusion equations, phase diagrams, domains of attraction, strange attractors, and chaos.

Sp Qtr. 3 cl. Prereq: 708.

**712<sup>^</sup> Applied Functional Analysis I G 3**

Advanced linear algebra; introduction to normed and Hilbert spaces; projections and bounded operators; emphasis on matrix and function space applications.

Au Qtr. 3 cl. Prereq: 653 and 671, or 601 and 602, or permission of instructor. Not open to students with credit for 857

**713<sup>^</sup> Applied Functional Analysis II G 3**

Dual spaces, bilinear functionals, compact operators; Sobolev norms, applications to finite elements and integral equations.

Wi Qtr. 3 cl. Prereq: 712 or permission of instructor. Not open to students with credit for 857

**714<sup>^</sup> Applied Functional Analysis III G 3**

Spectral theory of linear operators, distribution theory, and applications.

Sp Qtr. 3 cl. Prereq: 713 or permission of instructor. Not open to students with credit for 857

**715 Differential Equations I U G 3**

Linear and non-linear systems of ordinary differential equations; phase plane analysis; stability, bifurcation, and chaos.

Au Qtr. 3 cl. Prereq: 255, 572, and 652; or permission of instructor.

**716 Differential Equations II U G 3**

Partial differential equations of mathematical physics, classification, characteristics; Sturm-Liouville theory, separation of variables.

Wi Qtr. Prereq: 514, 653, and 715; or permission of instructor.

**717 Differential Equations III U G 3**

Eigenfunction expansions, special functions, Green's functions, Fourier and Laplace transforms.

Sp Qtr. 3 cl. Prereq: 514 and 716, or permission of instructor.

**722<sup>^</sup> Theory of Probability I G 4**

Measure and integration; random variables; independence; convergence in probability, almost everywhere, and in the mean; conditional probability and expectation.

Au Qtr. 4 cl. Prereq: 653. Not open to students with credit for Stat 722. Cross-listed in Statistics.

**723<sup>^</sup> Theory of Probability II G 4**

Weak convergence; characteristic functions; central limit theorems; random walks; introduction to martingales.

Wi Qtr. 4 cl. Prereq: 722. Not open to students with credit for Stat 723. Cross-listed in Statistics.

**724<sup>^</sup> Theory of Probability III U G 4**

Continuation of 723.

Sp Qtr. 4 cl. Prereq: 723.

**727 Scientific Computing Laboratory I G 1**

Designed to teach the computational tools required to write and use numerical codes to study physical systems.

Au Qtr. 1 2-hr cl. Prereq: A good working knowledge of FORTRAN (or another high-level language); concur: 707.

**728 Scientific Computing Laboratory II G 1**

Designed to teach the computational tools required to write and use numerical codes to study physical systems.

Wi Qtr. 1 2-hr cl. Prereq: 727; concur: 708.

**729 Scientific Computing Laboratory III G 1**

Designed to teach the computational tools required to write and use numerical codes to study physical systems.

Sp Qtr. 1 2-hr cl. Prereq: 728; concur: 709.

**735 Seminar in Teaching College Mathematics for International Graduate Students G 3**

Preparation of international graduate students for the teaching of college level mathematics courses.

Su Qtr. 3 2-hr cl. Prereq: Permission of Graduate Advising Committee. This course is graded S/U.

**736 Seminar in Teaching College Mathematics for Domestic Graduate Students G 3**

Preparation for teaching lower-division mathematics courses.

Su Qtr. 3 2-hr cl. Prereq: Permission of Graduate Advising Committee. This course is graded S/U.

**745 Advanced Mathematical Logic I U G 3**

Basic proof theory and model theory; completeness, interpolation and definability theorems, elimination of quantifiers, compactness, Lowenheim-Skolem Theorems, elementary extensions, and categoricity.

Au Qtr. 3 cl. Prereq: 649 or permission of instructor.

**746 Advanced Mathematical Logic II U G 3**

Incompleteness and undecidability; basic recursion theory; Turing machines, Church's thesis, recursive and recursively enumerable sets, Turing degrees, and the arithmetical hierarchy.

Wi Qtr. 3 cl. Prereq: 745 or permission of instructor.

**747 Advanced Mathematical Logic III U G 3**

Basic axiomatic set theory; Zermelo-Frankel set theory, the cumulative hierarchy, ordinals and cardinals, constructibility, and forcing.

Sp Qtr. 3 cl. Prereq: 746 or permission of instructor.

**750 Real Analysis I U G 5**

Relative extremes in partial orders; additive and countable additive set functions; extensions of set functions; integration, differentiation, applications.

Au Qtr. 5 cl. Prereq: 653.

**751 Real Analysis II U G 5**

Continuation of 750.

Wi Qtr. 5 cl. Prereq: 750.

**752 Real Analysis III U G 5**

Continuation of 751.

Sp Qtr. 5 cl. Prereq: 751.

**753 Complex Analysis I U G 5**

Families of holomorphic and meromorphic functions, geometrical methods of the theory of functions, conformal transformations; including the Cauchy integral theorem, Runge's theorem, Riemann mapping theorem.

Au Qtr. 5 cl. Prereq: Math 653, and Math 660 or equivalent.

**754 Complex Analysis II U G 5**

Analytic continuation, general analytic functions, algebraic, entire, elliptic, the gamma and zeta function, Dirichlet's series, Picard's theorems, Mittag-Leffler's theorem, Stirling's formula.

Wi Qtr. 5 cl. Prereq: 753.

**767<sup>^</sup> Introduction to the Theory of Approximation I U G 4**

Approximation by polynomials and trigonometric polynomials, Chebeshev's theory of best approximation and its generalizations; interpolation processes and mechanical quadrature; orthogonal polynomials and elements of harmonic analysis.

Au Qtr. 4 cl. Prereq: 653 or equiv with permission of dept.

**768<sup>^</sup> Introduction to the Theory of Approximation II U G 4**

A continuation of 767.

Wi Qtr. 4 cl. Prereq: 767 or equiv with permission of dept.

**770 Abstract Algebra I U G 5**

Permutation groups, solvable groups, composition series, polynomial rings, unique factorization domains, canonical forms, bilinear forms, free modules, tensor products, Galois theory, algebraic closure, transcendental extensions.

Au Qtr. 5 cl. Prereq: 672 or equiv with permission of instructor.

**771 Abstract Algebra II U G 5**

A continuation of 770.

Wi Qtr. 5 cl. Prereq: 770 or equiv with permission of dept.

**772 Abstract Algebra III U G 5**

A continuation of 771.

Sp Qtr. 5 cl. Prereq: 771 or equiv with permission of dept.

**775 Combinatorics and Graph Theory I U G 5**

Transversal theory, network flows, matroids, linear programming, Ramsey theory.

Au Qtr. Prereq: 672.

**776 Combinatorics and Graph Theory II U G 5**

Combinatorial designs and geometries, difference sets, orthogonal Latin squares, coding theory, enumeration theory including Mobius inversion, Polya theory, and generating functions.

Wi Qtr. Prereq: 775.

**777 Combinatorics and Graph Theory III U G 5**

Planar graphs and embeddings in surfaces, graph connectivity, algebraic graph theory.

Sp Qtr. Prereq: 776.

**780<sup>^</sup> Number Theory I U G 3**

Algebraic number theory.

Au Qtr. 3 cl. Prereq: 772.

**781<sup>^</sup> Number Theory II U G 3**

Diophantine equations.

Wi Qtr. 3 cl. Prereq: 780.

**782<sup>^</sup> Number Theory III U G 3**

Analytic number theory.

Sp Qtr. 3 cl. Prereq: 781.

**H783 Honors Research U 3-5**

A program of reading and research for each student with individual conferences, reports, and honors thesis.

Su, Au, Wi, Sp Qtrs. arr cl. Prereq: 4th yr standing with a cumulative pt-hr ratio of 3.50 in math; permission of instructor under whose supervision the work is to be completed and of the ASC Honors Committee. Repeatable to a maximum of 10 or hrs. This course is graded S/U.

**787 Graduate Problem Seminars**

Topics helpful in problem solving in fundamental areas of mathematics; practice with problems in a specific area of mathematics.

Su Qtr. 3 cl. Prereq: Permission of Graduate Advising Committee.

**787.01 Problems in Abstract Algebra U G 3**

Repeatable to a maximum of 9 or hrs.

**787.03 Problems in Real Analysis U G 3**

Repeatable to a maximum of 9 or hrs.

**804<sup>^</sup> Applied Complex Variables and Asymptotics I G 3**

Methods of complex variables.

Au Qtr. 3 cl. Prereq: 653, 654, and 717; or permission of instructor.

**805<sup>^</sup> Applied Complex Variables and Asymptotics II G 3**

Asymptotic methods and their application to ordinary differential equations.

Wi Qtr. 3 cl. Prereq: 804.

**806<sup>^</sup> Applied Complex Variables and Asymptotics III G 3**

Asymptotic and complex variable methods applied to linear and nonlinear partial differential equations.

Sp Qtr. 3 cl. Prereq: 805.

**807<sup>^</sup> Numerical Solution of Partial Differential Equations I G 3**

Finite difference methods for parabolic and hyperbolic partial differential equations.

Au Qtr. 3 cl. Prereq: 602 or 717, 709, and Fortran experience; or permission of instructor.

**808<sup>^</sup> Numerical Solution of Partial Differential Equations II G 3**

Continuation of 807.

Wi Qtr. 3 cl. Prereq: 807.

**809<sup>^</sup> Numerical Solution of Partial Differential Equations III G 3**

Special topics in the numerical solution of partial differential equations.

Sp Qtr. 3 cl. Prereq: 808.



**820\* Ordinary Differential Equations I G 3**

Modern theory of ordinary differential equations; stability, asymptotic analysis, Lyapunov exponents, stable manifolds, perturbation methods, and bifurcation theory.

Au Qtr. 3 cl. Prereq: 715 or permission of instructor.

**821\* Ordinary Differential Equations II G 3**

Continuation of 820; differential equations on manifolds, structural stability, integrable and nonintegrable systems; chaos and strange attractors; applications.

Wi Qtr. 3 cl. Prereq: 820.

**822\* Ordinary Differential Equations III G 3**

Continuation of 821.

Sp Qtr. 3 cl. Prereq: 821 or permission of instructor.

**835\*\* Partial Differential Equations I G 3**

First order PDE's, theory of characteristics, second order PDE's, classifications, standard methods of solution; nonlinear equations.

Wi Qtr. 3 cl. Prereq: 717 or permission of instructor.

**836\*\* Partial Differential Equations II G 3**

Continuation of 835.

Sp Qtr. 3 cl. Prereq: 835 or permission of instructor.

**840\*\* Algebraic Geometry I G 3**

Varieties over algebraically closed fields.

Au Qtr. 2 72-min cl. Prereq: 772.

**841\*\* Algebraic Geometry II G 3**

Schemes, sheaves, and cohomology.

Wi Qtr. 2 72-min cl. Prereq: 840.

**842\*\* Algebraic Geometry III G 3**

Curves and surfaces.

Sp Qtr. 2 72-min cl. Prereq: 841.

**846^ Topics in Discrete Mathematics G 2-5**

Su, Au, Wi, Sp Qtrs. 2-5 cl. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**851^ Differential Geometry I G 3**

Curves, surfaces, fundamental forms, tensors, and connections.

Au Qtr. 3 cl. Prereq: 655, 751, and 771.

**852^ Differential Geometry II G 3**

Continuation of 851.

Wi Qtr. 3 cl. Prereq: 851.

**854\* Lie Groups I G 3**

Integration on manifolds, Lie groups, classical groups, homogeneous spaces.

Wi Qtr. 3 cl. Prereq: 651, 751, and 771.

**855\* Lie Groups II G 3**

Continuation of 854.

Sp Qtr. 3 cl. Prereq: 854.

**857^ Introduction to Functional Analysis G 3**

Linear topological spaces, normed spaces, Hilbert spaces, convex sets, integration of vector-valued functions.

Au Qtr. 3 cl. Prereq: 552 and 751.

**860\* Algebraic Topology I G 3**

Singular homology theory.

Au Qtr. 3 cl. Prereq: 657.

**861\* Algebraic Topology II G 3**

Continuation of 860; general cohomology theories.

Wi Qtr. 3 cl. Prereq: 860.

**862\* Algebraic Topology III G 3**

Continuation of 860 and 861; fibrations and homotopy theory.

Sp Qtr. 3 cl. Prereq: 861.

**863^ Potential Theory G 3**

Newtonian potentials, boundary value problems; logarithmic potential, elliptic partial differential equations.

Sp Qtr. 3 cl. Prereq: 552 and permission of dept.

**865 Topics in Applied Mathematics G 2-5**

Au, Wi, Sp Qtrs. 2-5 cl. Prereq: Written permission of dept. Repeatable to a maximum of 20 cr hrs.

**866\*\* Differential Topology I G 3**

Differential manifolds and differential maps, tangent bundles, vector bundles and transversality.

Au Qtr. 3 cl. Prereq: 657 or permission of instructor.

**867\*\* Differential Topology II G 3**

Singular homology and cohomology, Poincare duality, intersection numbers, cobordism theory.

Wi Qtr. 3 cl. Prereq: 866 or permission of instructor.

**868\*\* Differential Topology III G 3**

Characteristic classes and the theory of fibre bundles.

Sp Qtr. 3 cl. Prereq: 867 or permission of instructor.

**870^ Topics in Graph Theory G 2-5**

Topics of current research interest.

Au, Wi, Sp Qtrs. Prereq: 777 and permission of dept. Repeatable to a maximum of 15 cr hrs.

**872\* Group Theory I G 4**

Properties of groups, extensions, transfer, generators and defining relations, representation theory, permutation groups.

Au Qtr. 4 cl. Prereq: 672 or 772.

**873\* Group Theory II G 4**

Continuation of 872.

Wi Qtr. 4 cl. Prereq: 872.

**874\* Group Theory III G 4**

Continuation of 873.

Sp Qtr. 4 cl. Prereq: 873.

**875 Combinatorics Seminar G 2-5**

Recent research articles in combinatorics are read and presented by the students.

Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 15 cr hrs.

**893 Individual Studies G 1-5**

Individual assigned readings and reports on research investigations.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies G 1-5**

When need is sufficient, the department will offer under this number a course on some phase of mathematics not covered in its regular offerings.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 30 cr hrs.

**931 Ergodic Theory I G 3**

Measurable transformations, mixing and ergodicity, existence of invariant measures, contraction operations on function spaces, ergodic theorems.

Au Qtr. 3 cl. Prereq: 751.

**932 Ergodic Theory II G 3**

Continuation of 931.

Wi Qtr. 3 cl. Prereq: 931.

**939 Topics in Probability Theory G 2-5**

Various advanced topics in probability theory.

Au, Wi Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**949^ Topics in Logic G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**950^ Topics in Real Analysis G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**951^ Topics in Complex Analysis G 2-5**

Su, Au, Wi, Sp Qtrs. 2-5 cl. Prereq: 754. Repeatable to a maximum of 20 cr hrs.

**953 Topics in Topology G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 45 cr hrs.

**957^ Topics in Differential Geometry G 2-5**

Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**961^ Topics in Functional Analysis G 2-5**

Topics to be chosen from current research papers.

Su, Au, Wi, Sp Qtrs. 2-5 cl. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**970 Topics in Representation Theory G 2-5**

Topics in the representation theory of various algebraic structures.

Au, Wi, Sp Qtrs. 2-5 cl. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**974<sup>^</sup> Topics in Homological Algebra G 2-5**

Topics selected from current research articles.

Au, Wi, Sp Qtrs. 2-5 cl. Prereq: permission of dept. Repeatable to a maximum of 20 cr hrs.

**975 Topics in Geometry G 2-5**

Topics to be chosen from current research papers.

Wi Qtr. 2-5 cl. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**978<sup>^</sup> Topics in Ring Theory G 2-5**

Topics selected from current research papers.

Su, Au, Wi, Sp Qtrs. 2-5 cl. Prereq: 772. Repeatable to a maximum of 20 cr hrs.

**981<sup>^</sup> Topics in the Theory of Groups G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**982<sup>^</sup> Topics in Algebra G 2-5**

Topics selected from current research papers.

Su, Au, Wi, Sp Qtrs. 2-5 cl. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**983 Topics in Number Theory G 2-5**

Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs.

**984 Seminar on Actuarial Science G 2-5**

Current topics in actuarial science.

Arr. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**985 Seminar in Group Theory G 2-5**

Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**986 Seminar on Algebra G 2-5**

Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**988 Seminar on Number Theory G 2-5**

Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**990 Seminar on Geometry G 2-5**

Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**991 Seminar in Probability Theory G 2-5**

Topics selected from current research papers.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**992 Seminar in Applied Mathematics G 2-5**

Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**995 Seminar in Ergodic Theory G 2-5**

Topics selected from current research papers.

Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**996 Seminar in Analysis G 2-5**

Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**997 Seminar in Topology G 2-5**

Prereq: Permission of dept. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Mechanical Engineering**

N350 Scott Laboratory, 201 West 19th Avenue, 292-2289

**H210 Honors Statics U 4**

Vector concepts of static equilibrium for isolated and connected body force systems. Analysis techniques of trusses, frames and machines. Construction of shear and moment diagrams.

Sp Qtr. 4 cl. Prereq: Physics 131G; prereq or concur: En Graph H167 and Math 254 or equiv. Not open to students with credit for 410, or Eng Mech H210, 220, 293, or 400. This course is part of the Freshman Engineering Honors Program.

**250 Numerical Methods and Analysis in Mechanical Engineering U 4**

Computing methods for nonlinear equations, interpolation, and ordinary differential equations applied to mechanical engineering problems.

Au, Wi, Sp Qtrs. 2 2-hr cl, 1 1-hr recitation. Prereq: Math 415 or 255; and enrollment in engineering major.

**294 Group Studies in Mechanical Engineering U 1-6**

Special topics in mechanical engineering; the particular topic, credit hours, and the instructor will be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable.

**410 Statics U 4**

Vector concepts of static equilibrium for isolated and connected bodies, centroids, inertia, truss, frame and machine analysis, shear force and bending moment diagrams, and friction.

Au, Wi, Sp Qtrs. 3 64-min cl, 1 1-hr recitation. Prereq: Engineer 182 or 183 or H192 or En Graph 167 or H167 or Cptr/Inf 201 or Cptr/Inf 202, and Physics 131, and Math 254 (prereq or concur). CPHR 2.00 or above recommended. Not open to students with credit for H210 or 400.

**420 Introduction Strength of Materials U 4**

Stress and strain analysis of structural components subjected to unidirectional and combined loads; pressure vessels; beam deflections, Mohr's Circle, and columns.

Au, Wi, Sp Qtrs. 3 64-min cl, 1 1-hr recitation. Prereq: H210 or 410, or Eng Mech H210, or permission of instructor. Not open to students with credit for 440 or Eng Mech 440.

**430 Dynamics U 4**

Dynamics of particles and rigid bodies; linear and angular motion; work and energy; and single degree of freedom vibration analysis.

Au, Wi, Sp Qtrs. 3 64-min cl, 1 1-hr recitation. Prereq: H210 or 400 or 410, or Eng Mech H210 or 220 or 400. Not open to students with credit for Eng Mech 430.

**481 System Dynamics and Vibrations U 3**

Modeling of mechanical and electrical systems; first and second order systems; and analytical, computer, and experimental solution methods.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 1-hr recitation. Prereq: 250 and Elec Eng 300 or permission of the dept.

**482 System Dynamics and Electromechanics U 4**

Dynamics of general linear systems, thermofluid system dynamics, and electromechanics with emphasis on applications in mechanical engineering.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab. Prereq: 481 and prereq or concur: 504.

**489 Professional Practice in Industry U 2**

Actual employment in a co-op program job in industry and the preparation of a comprehensive report based on a pre-assigned outline.

Su, Au, Wi, Sp Qtrs. Prereq: Admission to Co-op program in Mech Eng. Repeatable to a maximum of 8 cr hrs. This course may only be counted as a free elective. This course is graded S/U.

**494 Group Studies in Mechanical Engineering U 1-4**

Short term project organization, design, construction, marketing and budgeting.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs.

**500 Engineering Thermal Sciences U G 4**

Introduction to thermodynamics, fluid mechanics and heat transfer with engineering applications.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Math 255 or 415, Physics 132, Chem 121 or permission of dept. Not open to students majoring in Mech Eng. Open to students enrolled in College of Engineering only.

**501 Thermodynamics I U G 4**

A study of basic engineering thermodynamics.

Au, Wi, Sp Qtrs. 2 2-hr cl, 1 1-hr recitation. Prereq: 430 or Eng Mech 430, Chem 121, Math 255 or 415 and enrollment as an engineering major.

**502 Thermodynamics II U G 3**

Continuation of 501.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 1-hr recitation. Prereq: 250 and 501.

**503 Fluid Dynamics I U G 3**

A study of the basic concepts, fundamental equations, and applications of fluid mechanics to engineering problems.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 1-hr recitation. Prereq: 250 and 501.

**504 Fluid Dynamics II U G 3**

Continuation of 503.

Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 502 and 503.

**505 Introduction to Nuclear Science and Engineering U G 3**

Discussion of nuclear energy and nuclear radiation; sources, methods of utilization, and projections for future engineering uses.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: Math 255 or 415 and Physics 133, or permission of instructor. Not open to students with credit for Nuclr En 505. Cross-listed in Nuclear Engineering.

**510 Heat Transfer U G 3**

A study of the fundamentals of conduction, convection, and thermal radiation energy transfer with engineering applications.

Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 501, and 504 or Civil En 413.

**512 Fluid Mechanics and Heat Transfer Laboratory U G 2**

Experiments in fluid mechanics and heat transfer.

Au, Wi, Sp Qtrs. 1 4-hr lab. Prereq: 510 or permission of department. This course represents the labs formerly included in Mech Eng 504 and 510.

**553 Kinematics and Dynamics of Machinery U G 4**

Motion and force analysis in mechanisms such as plane linkages and cams; introduction to the synthesis of plane linkages and simple cam systems.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 430 or Eng Mech 430 or Physics 263, Mech Eng 250, 561, and enrollment in an engineering major or permission of the Mech Eng dept.

**561 Failure Modes, Stress Analysis, and Failure Prevention Principles U G 5**

A study of the application of the general principles and empiricisms of mechanics of solids to the creative design of mechanical equipment.

Au, Wi, Sp Qtrs. 2 2-hr cl, 1 2-hr lab, 1 1-hr recitation. Prereq: 420 or equiv and MatSc&En 205 or equiv.

**562 Design of Selected Machine Elements I U G 3**

Continuation of 561.

Au, Wi, Sp Qtrs. 2 1.5-hr cl Prereq: 561.

**563 Design of Selected Machine Elements II U G 3**

Continuation of 562.

Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 562 and 553.

**564 Senior Design Group Project U G 4**

Methodology of intermediate design and practice in the design of a specific system which may utilize principles of any engineering discipline; written assignments and oral presentation.

Au, Wi, Sp Qtrs. 3 2-hr lab. Prereq: 510; a second writing course and prereq or concur: 563. Offered in cooperation with Nuclear Engineering. GEC course.

**565 Mechanical Engineering Design**

Three courses in an integrated sequence constituting a capstone mechanical design experience including technical communications.

Au, Wi, Sp Qtrs. 1 cl, 2 2-hr lab. Not open to students with credit for 564 or 581. These courses will integrate design and engineering practice with a focus on real mechanical engineering design problems provided by industrial sponsors.

**565.01 Mechanical Engineering Design U 3**

First course in a three quarter capstone design sequence.

Au Qtr. Prereq: 562 and 2nd writing course, 3.4 or higher GPA or permission of instructor. This is a Progress course. A "P" mark as defined by the University may be assigned until completion of the three course sequence.

**565.02 Mechanical Engineering Design U 3**

Second course in a three quarter capstone design sequence.

Wi, Sp Qtrs. Prereq: 565.01. This is a Progress course. A "P" mark as defined by the University may be assigned until completion of the three course sequence.

**565.03 Mechanical Engineering Design U 3**

Final course in a three quarter capstone design sequence.

Au, Sp Qtrs. Prereq: 565.02. This is a Progress course.

**570 Mechanical Engineering Measurements U G 5**

A theoretical and experimental study of the principles of operation and performance characteristics of measuring instruments used in mechanical engineering; written assignments and oral presentation.

Au, Wi, Sp Qtrs. 2 cl, 1 4-hr lab. Prereq: 482 or equiv, Elec Eng 320 or ECE 320, a second writing course. GEC course.

**571 Principles of Automatic Control U G 4**

A theoretical and experimental study of the principles of operation of feedback control systems, including servomechanisms and process control.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab. Prereq: 482 or Agri Eng 525 or FA&B Eng 525.

**578 Senior Program Review U 0**

An interactive assessment of graduating seniors' overall achievements in Mechanical Engineering and their assessment of the program.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Enrolled in quarter of graduation. This course is graded S/U.

**580 Special Topics in Vehicle Development**

Topics of special interest in vehicle development. Studies include analysis, design, fabrication and testing of vehicles. Topics are announced in quarter prior to quarter offered.

Su, Au, Wi, Sp Qtrs. Prereq: Jr standing in Engineering or written permission of instructor.

**580.01 High Performance Vehicle Development U 2**

Repeatable to a maximum of 8 cr hrs.

**580.02 All Terrain Vehicle Development U 2**

Repeatable to a maximum of 8 cr hrs.

**580.03 Flight Vehicle Development U 2**

Repeatable to a maximum of 8 cr hrs.

**580.04 Analysis, Design, Fabrication and Testing of Non-Conventional Vehicles U 2**

Repeatable to a maximum of 8 cr hrs.

**581 Mechanical Engineering Laboratory U G 4**

The study and application of methods of experimental analysis.

Au, Wi, Sp Qtrs. 2 2-hr lab and 5 hrs lab planning and report writing. Prereq: 570. Offered in cooperation with Nuclear Engineering. GEC course.

**593 Individual Studies in Mechanical Engineering U G 1-5**

Provides the opportunity to pursue special studies in mechanical engineering not otherwise covered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**H610 Direct Energy Conversion U G 5**

Introduction to principles and operation of devices that convert thermal, chemical, and electromagnetic energy directly into electricity. Lectures are complemented by hands-on laboratory experience.

Wi Qtr. 2 2-hr lec, 2 2-hr labs. Prereq: Physics 133 or equiv, Mech Eng 500 or equiv prereq or concur; or permission of instructor.

**612 Principles of Heat Exchangers U G 3**

A study of principles of heat and mass transfer as applied to the design of heat exchangers.

Au Qtr. 2 1.5-hr cl. Prereq: 510 or grad standing in Mech Eng or permission of instructor.

**621 Introduction to Parametric Design U G 3**

Design of components, assemblies, molds and dies using parametric and feature-based design principles.

Au, Wi Qtrs. 2 1.5-hr cl. Prereq: 561 or Ind Eng 656 or Weld Eng 600 or grad standing in Ind Eng, Mech Eng or manufacturing systems and engineering program. Not open to students with credit for Ind Eng 621. Cross-listed in Industrial and Systems Engineering.

**622 Tool Engineering U G 4**

Design of tools, jigs and fixtures. Basic elements of fixture design, such as form, locating points, clamping devices, and the use of standardized parts.

Sp Qtr. 2 1.5-hr cl, 1 3-hr lab. Prereq: Ind Eng 311; prereq or concur: Ind Eng/Mech Eng 621. Not open to students with credit for Ind Eng 622 or 631. Cross-listed in Industrial and Systems Engineering.

**623 Machine Tool Control and Programming U G 4**

Provides an introduction to numerically controlled machine tools including principles of operation, programming systems, computer-assisted programming, performance characteristics, and applications.

Au, Wi Qtrs. 2 1.5-hr cl, 2 3-hr labs. Not open to students with credit for Ind Eng 605 or Ind Eng 623. Cross-listed in Industrial and Systems Engineering.

**627 Introduction to Turbomachinery U G 4**

An introduction to the design and analysis of turbomachinery.

Sp Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 503 and 504 or equiv. Not open to students with credit for 527.

**628 Experimental Methods in Mechanics U G 3**

Static and dynamic strain analysis by electrical gauges; grid techniques; brittle coatings; analogies; reflective photoelasticity in normal and oblique incidence; motion measurements.

Sp Qtr. 2 cl, 2 lab hrs. Prereq: 420 or 440 or Eng Mech 440 or equiv. Not open to students with credit for Eng Mech 627.

**630 Energy Conversion in Internal Combustion Engines U G 3**

A study of combustion chambers, valve mechanisms, and the dynamic balance of internal combustion engines.

Au Qtr. 2 1.5-hr cl. Prereq: 502 or 500 or equiv, or grad standing in mech eng, or permission of instructor.

**631 Automotive Powertrain Laboratory U G 3**

Focuses on aspects of the internal combustion engine, and is for engineering undergraduate and graduate students who are interested in the field of automotive powertrains.

Sp Qtr. 1 2.5-hr lab. Prereq: 502 or 630 or permission of instructor. Introduction to the experimental components of the current courses offered in the area of automotive powertrains.

**634 Gas Turbine Power Plants U G 3**

A study of the principles, performance, and design of gas turbine power plants.

Wi Qtr. 2 1.5-hr cl. Prereq: 510 or grad standing in mech eng or permission of instructor.

**638 Introduction to Ultrasonics U G 4**

Ultrasonic waves in solids and fluids; ultrasonic generators and systems; physical ultrasonics; applications of ultrasonics.

Au Qtr. 4 cl. Prereq: 420 or 440 or Eng Mech 440; Math 255 or 415. Not open to students with credit for Eng Mech 634, Weld Eng 634 or 638. Cross-listed in Welding Engineering.

**639 Applied Finite Element Method U G 4**

Overview of finite element method, description of finite element software, modeling requirements and techniques, analysis using general purpose software, case studies.

Au Qtr. 2-hr cl, 2-hr recitation. Prereq: 420 or 440 or Eng Mech 440 or equiv. Not open to students with credit for Eng Mech 639.

**641 Heating, Ventilating, and Air Conditioning U G 3**

Design techniques, practices, and components in heating, ventilating, and air-conditioning.

Sp Qtr. 2 1.5-hr cl. Prereq: 500; or 501 and prereq or concur 510; or grad standing in mech eng.

**650 Vibration of Mechanical Systems U G 3**

Techniques for the analysis of vibratory mechanical systems - free and forced response, damping, multiple degree of freedom systems, vibration design and experimental vibration methods.

Wi Qtr. 2 1.5-hr cl. Prereq: 482 or permission of instructor.

**652 FIRST Design Experience**

Design, analysis, and construction of a remote control robot that plays a sport with other robots.

**652.01 FIRST Design Concepts U G 1**

Fundamental principles for FIRST robot design, analysis, and construction.

Au Qtr. 1 cl. Prereq: Active participation in FIRST. CPHR of 2.00 or above is recommended. Not open for mech eng graduate credit. Not open to students who have exceeded the credit limit for 552. Repeatable to a maximum of 3 cr hrs.

**652.02 FIRST Robot Construction U G 1-3**

Design, analysis, and construction of a remote control robot that plays a sport against other robots.

Wi Qtr. Arr. Prereq: Active participation in FIRST. CPHR of 2.00 or above is recommended. Not open for mech eng graduate credit. Not open to students who have exceeded the credit limit for 552. Repeatable to a maximum of 9 cr hrs.

**654 Land Vehicle Dynamics U G 3**

Study of the principles and design methodology of automotive vehicles; design and analysis of suspension and braking systems.

Sp Qtr. 2 1.5-hr cl. Prereq: 482 and 562 or equiv, or grad standing in mech eng or permission of instructor.

**662 Introduction to Mechanics of Composite Structures U G 4**

An introduction to the macromechanical analysis of anisotropic composite structures including governing constituent equations, strength and stiffness advantages and failure envelopes.

Au Qtr. 4 cl. Prereq: 420 or 440 or Eng Mech 440 or equiv, or permission of instructor. Not open to students with credit for Civil En 662 or Eng Mech 662. Cross-listed in Civil Engineering.

**666 Acoustic Problems in Engineering U G 3**

A study of the fundamentals of acoustics and noise control including design criteria based on hearing damage and other human responses to sound.

Wi Qtr. 2 1.5 - hr cl. Prereq: 3rd yr or grad standing in science or ENG or permission of instructor.

**672 Control Systems Design U G 3**

A study of the theoretical procedures involved in the analysis and design of feedback control systems including servomechanisms and process control.

Sp Qtr. 2 1.5-hr cl. Prereq: 571 or grad standing in Mech Eng or permission of instructor.

**674 Introduction to Mechatronics U G 3**

Introduction to multi-domain systems. Mechanical, thermal, fluid, electrical, electronic, electro-mechanical system dynamics. Emphasis on modeling and simulation of hybrid systems using modern computer-aided tools.

Au Qtr. 2 1.5-hr lec. Prereq: 482 or Elec Eng 320 or equiv, or permission of instructor.

**H680 Digital Data Acquisition and Signal Processing U G 3**

Methodology and practice of computer-aided experimentation and signal processing techniques; frequency analysis, diagnostics, system identification, and random data processing.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq or concur: 481, jr standing in dept or equiv, 3.40 cumulative pt-hr ratio, and permission of dept. Not available for audit. Open to Honors and combined BS/MS students only.

**682 Product Design Fundamentals U G 4**

Principles of concurrent engineering, design for manufacture and assembly, and lean manufacturing; integration of design and manufacturing; design prototyping.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab. Prereq: 561 or Ind Eng 523 or grad standing. Not open to students with credit for Ind Eng 682. Cross-listed in Industrial and Systems Engineering.

**683 CAD/CAM Laboratory for Rapid Design Prototyping U G 3**

Rapid design prototyping using engineering workstations, CAD/CAM software, table-top CNC milling machines, and rapid prototyping machines.

Sp Qtr. 1 2-hr cl, 1 3-hr lab. Prereq: Mech Eng or Ind Eng 623; and 561 or Ind Eng 523 or grad standing in Mech Eng or Ind Eng. Not open to students with credit for Ind Eng 683. Cross-listed in Industrial and Systems Engineering.

**687 Introduction to Design in Biomedical Engineering U G 3**

Introduction of engineering students to design problems in bio-medical engineering; analysis in bio-mechanics, bio-fluid mechanics, diffusion, and elementary physiology.

Sp Qtr. 2 1.5-hr cl. Prereq: 561 or grad standing in engineering or permission of instructor.

**693 Individual Studies in Mechanical Engineering U G 2-10**

Designed to give the advanced student opportunity to pursue special studies not otherwise offered; work undertaken will be selected from automotive and internal combustion machinery, combustion and fuels, heat transfer, heating, ventilating, air conditioning, industrial hydraulics, machine design, refrigeration, steam power plants, and thermodynamics.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**694 Group Studies in Mechanical Engineering U G 1-6**

Special topics in mechanical engineering. The particular topic, credit hours, and the instructor will be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**701 Gas Dynamics U G 3**

An analytical study of one and two dimensional steady flows and one dimensional unsteady flow.

Au Qtr. 2 1.5-hr cl. Prereq: 504 and Math 415 or grad standing in mech eng or permission of instructor.

**702 Advanced Engineering Thermodynamics U G 3**

A study of the fundamentals of thermodynamics from the classical viewpoint with emphasis on the use of the first and second laws for the analysis of thermal systems.

Sp Qtr. 2 1.5-hr cl. Prereq: 502 and Math 415 or written permission of course supervisor.

**705 Fundamental Concepts in Fluid Mechanics G 3**

In-depth derivation of equations and principles governing fluid flow with an emphasis on formulation of problems.

Au Qtr. 2 1.5-hr cl. Prereq: Grad standing in Mech Eng or permission of instructor.

**707 Numerical Methods in Particle Diffusion, Heat Transfer, and Radiation Transport U G 3**

Computer solution of neutron diffusion, heat conduction, and radiation transport based on finite difference methods using marching, iterative, and direct-solution schemes.

Wi Qtr. 2 1.5-hr cl. Prereq: 510 or Math 512 or Nuclr En 660, Cptr/Inf 541, and En Graph 167. Not open to students with credit for Nuclr En 707 or 767. Cross-listed in Nuclear Engineering.

**710 Fundamental Concepts in Heat and Mass Transfer G 3**

In-depth derivation of equations and principles governing heat and mass transfer with an emphasis on formulation of problems.

Au Qtr. 2 1.5-hr cl. Prereq: Grad standing in mech eng or permission of instructor.

**712 Energy Principles in Mechanics U G 3**

Theoretical development of energy principles in mechanics; strain energy and complementary energy with related minimal principles; applications to problems in elasticity, dynamics, and vibrations.

Au Qtr. 3 cl. Prereq: 420 or 440 or Eng Mech 400 and Math 255, or equivs. Not open to students with credit for Eng Mech 712. Offered even numbered years.

**715 Introduction to Micro and Nano Fluidics U G 3**

Introduction to basic principles of incompressible fluid mechanics appropriate to micro and nano fluidics.

Au Qtr. 2 1.5-hr cl. Prereq: 504 or permission of instructor. Not open to students with credit for Biomed E 763. Cross-listed with Biomed E 763.

**726 Introduction to Combustion U G 3**

Introduction to thermodynamics and kinetics of combustion and to the role of diffusion in combustion systems; applications to evaporation of fuel droplets, catalytic conversion, and coal combustion.

Wi Qtr. 2 1.5-hr cl. Prereq: 504; prereq or concur: 510.

**727 Applications of Jet Propulsion U G 4**

Characteristics and performance of air breathing flight vehicle power plants and their components.

Au Qtr. 2 2-hr cl. Prereq: 510 or permission of instructor. Distance Learning version may be available/developed at a later date.

**730 Internal Combustion Engine Modeling G 3**

Comprehensive coverage of spark-ignited internal combustion engines modeling (fluid dynamics, thermodynamics and combustion).

Sp Qtr. 2 1.5-hr cl. Prereq: Mech Eng 630 or permission of instructor. Specifically targeted to grad students and selected undergrads working in the area of internal combustion engine development, modeling and control. Offered odd numbered years.

**731 Vibrations of Discrete Systems U G 4**

Free and forced vibrations of mechanical systems having lumped mass and elasticity; multiple degrees of freedom; dissipative systems; random vibrations; engineering applications.

Au Qtr. 4 cl. Prereq: 430 or Eng Mech 430 and Math 255 or 415, or grad standing in Engineering. Not open to students with credit for Eng Mech 731.

**733 Advanced Engineering Dynamics U G 3**

Three-dimensional dynamics of particles and rigid bodies; rotating reference frames; rigid body kinematics; rotation transformations; Euler angles; engineering applications.

Au Qtr. 2 1.5-hr cl. Prereq: 430 and Math 255 or equiv or grad standing in Engineering. Offered even numbered years.

**734 Vibrations of Continuous Systems U G 3**

Equations of motion for strings, membranes, prismatical bars, and plates for various boundary conditions; approximate methods for complicated shapes; wave propagation in elastic media.

Wi Qtr. 3 cl. Prereq: 430 or Eng Mech 430 and Math 255, or equivs. Not open to students with credit for Eng Mech 734.

**735 Analytical Dynamics U G 3**

Analytical dynamics of particles, rigid bodies, and continua; elements of variational calculus; constraints; virtual work, Hamilton's principle, and Lagrange's equations; computational methods; engineering applications.

Au Qtr. 2 1.5-hr cl. Prereq: 430 and Math 255 or equiv; or grad standing in Engineering. Offered odd numbered years.

**736 Nuclear Power Plants U G 3**

A study of thermal and mechanical design aspects and economics of nuclear power plants and processes. The thermodynamics of operating nuclear power plants (BWR's and PWR's) are emphasized.

Wi Qtr. 2 1.5-hr cl. Prereq: Nuclr En 505 and 501 or 500 with permission of instructor. Not open to students with credit for 636 or Nuclr En 636 or 736. Cross-listed in Nuclear Engineering.

**737 Heat Transfer Applications in Nuclear Reactor Systems U G 3**

The heat transfer applications in nuclear reactor systems include but are not limited to: heat transfer in PWR and BWR fuel rods, coolant, and reactor

internals.

Sp Qtr. 2 1.5-hr cl Prereq: Mech Eng 510 or 500 with permission of instructor. Not open to students with credit for Mech Eng 637, or Nuclr En 637, or 737. Cross-listed in Nuclear Engineering.

**738 Introduction to Two-phase Flow and Heat Transfer U G 3**

Introduction to two-phase flow and heat transfer in mechanical and nuclear engineering applications. Students learn analytical tools for system design and performance evaluation.

Au Qtr. 2 1.5-hr cl. Prereq: 510 or ChBE521 or equiv or permission of instructor. Not open to students with credit for Nuclr En 738. Cross-listed in Nuclear Engineering. Introduction to gas-liquid two-phase flow phenomena.

**740 Elasticity U G 4**

Classical problems in elasticity; St-Venant torsion and bending theory; plane problems in rectangular and polar coordinates; axisymmetric problems.

Au Qtr. 4 cl. Prereq: 420 or 440 or Eng Mech 440 or equiv, and prereq or concur: Math 512. Not open to students with credit for Eng Mech 740.

**743 Introduction to Continuum Mechanics U G 4**

Continuum mechanics in Cartesian coordinates, analysis of deformation and stress, balance principles, constitutive equations; introductory concepts in viscoelasticity and plasticity.

Wi Qtr. 4 cl. Prereq: 420 or 440 or Eng Mech 440 and Math 255, or equiv, or grad standing in Eng. Not open to students with credit for Eng Mech 743.

**744 Engineering Fracture Mechanics U G 3**

Fracture and fatigue; stress intensity factors; the stability of cracks; compliance and energy role analysis; plane stress, plane strain; crack propagation and arrest.

Wi Qtr. 3 cl. Prereq: 420 or 440 or Eng Mech 440 and Math 512 or equiv. Not open to students with credit for 644 or Eng Mech 644.

**751 Application of Computer Graphics to Kinematic Synthesis and Analysis U G 4**

Application of interactive computer graphics to the kinematic synthesis of linkages; extensive use of the RCGL computer graphics facility.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: 553 and En Graph 167 or equiv. Not open to students with credit for 651.

**752 Mechanical Design of Manipulators and Robots U G 3**

Principles of hardware and software design of industrial robots and related devices; includes use of actual industrial robot programming procedures.

Au Qtr. 2 1.5-hr cl. Prereq: Eng Mech 430 and Math 568, or permission of instructor.

**753 Elastic Stability U G 3**

Buckling of struts, rings, arches, and plates; torsional instability; stability criteria, exact and approximate methods.

Au Qtr. 3 cl. Prereq: 420 or 440 or Eng Mech 440 and Math 255, or equiv. Not open to students with credit for Eng Mech 751. Offered odd numbered years.

**754 Land Vehicle Dynamics Lab U G 1**

Lab and field tests of an action vehicle to measure vehicle inertia, geometric, suspension and steering characteristics in order to generate parameters for computer simulations.

Sp Qtr. 1 2-hr lab. Prereq or concur: 654. Existing software packages such as ADAMS, VDANL and MATLAB will be used in solving vehicle dynamic problems using principles of multi-body system analysis.

**755 Plates and Shells U G 4**

Basic equations; classical solutions and approximate methods in the theory of thin plates; Membrane theory of shells of revolution.

Sp Qtr. 4 cl. Prereq: 420 or 440 or Eng Mech 440 or equiv, and prereq or concur: Math 512. Not open to students with credit for Eng Mech 754. Offered even numbered years.

**760 Form Synthesis and Applied Stress Analysis of Machinery U G 3**

A study of concepts, principles, and procedures related to stresses and strains for the design and analysis of machine parts.

Wi Qtr. 2 1.5-hr cl. Prereq: 562 and 563 or grad standing in engineering. Not open to students with credit for 861. This class is one of the core courses in the M.S. program in Mechanical Engineering.

**761 Optimization in Mechanical Design U G 3**

Application of analytical optimization methods to the solution of deterministic and probabilistic mechanical design problems; introduction to interactive optimization using RCGL computer graphics facilities.

Sp Qtr. 2 1.5-hr cl. Prereq: 562 or 563 or permission of instructor. Not open to students with credit for 661.

**762 Structural Composites U G 3**

An introduction to the analysis and design synthesis of beams, columns, rods, plates, and panels made of structural composites.

Wi Qtr. 3 cl. Prereq: 662, or Civil En 662 or Eng Mech 662 or permission of instructor. Not open to students with credit for Civil En 762 or Eng Mech 762. Cross-listed in Civil Engineering.

**763 Advanced Strength of Materials for Design U G 4**

Mohr's circle for strain; curved beams; bending of non-symmetrical sections; non-circular torsion; beams on elastic foundations; load-deflection relations by energy methods; applications to design.

Au Qtr. 2 2-hr cl. Prereq: 420 or 440 or Eng Mech 440, and Math 255 or 415 or grad standing in mech eng. Not open to students with credit for 620 or Eng Mech 622.

**764 Advanced Gear Design U G 3**

A survey of advanced computer techniques to design spur and helical gears. Techniques will be taught in form of several small and one large capstone project.

Wi Qtr. 4 1-hr cl. Prereq: 562, 563 or permission of instructor. Offered odd numbered years.

**765 Principles of Tribology U G 3**

Mechanisms of friction, wear, and lubrication that govern interfacial behavior; applications of basic theories to solutions of friction and wear problems.

Au Qtr. 2 1.5-hr cl. Prereq: Grad standing or permission of instructor.

**766 Engineering Acoustics U G 3**

A course in engineering acoustics covering the phenomenon by which acoustic energy is generated and transmitted, with applications to mechanical machinery.

Wi Qtr. 2 1.5-hr cl. Prereq: 666 or permission of instructor. Offered odd numbered years.

**767 Fluid Film Lubrication U G 3**

Hydrodynamic lubrication applied to journal and thrust bearings; elastohydrodynamic lubrication applied to rolling-element bearings and gears.

Sp Qtr. 2 1.5-hr cl. Prereq: 561 or permission of instructor.

**768 Introduction to the Finite Element Method U G 4**

Basic concepts, formulation, and application of finite element techniques for numerical solution of problems in structural and continuum mechanics, geotechnical engineering, and water resources engineering.

Au, Wi Qtrs. 4 cl. Prereq: En Graph 167 or equiv, and Civil En 406 or Math 568 or equiv. Not open to students with credit for Civil En 763 or 768 or Eng Mech 763. Cross-listed in Civil Engineering.

**770 Measurement System Application and Design U G 4**

A theoretical and experimental study of measurement instrumentation; emphasis on both principles of operation and analysis and design techniques for measurement systems of a mechanical and electromechanical nature.

Wi Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 570 or grad standing in mech eng or permission of instructor. Not open to students with credit for 671.

**772 Control Systems Design Laboratory U G 1**

A study of experimental procedures involved in the analysis and design of feedback control systems including servomechanisms and process control.

Sp Qtr. 1 2-hr lab. Prereq or concur: 672.

**773 Applied Digital Control U G 4**

Theory and application of digital control system design techniques to the control of physical systems; lab sessions deal with implementation of controllers using personal computer.

Wi Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 571 or equiv. Not open to students with credit for Mech Eng 673.

**774 Smart Materials and Intelligent Systems U G 3**

Macromechanical modeling and control of smart structures to include piezoceramics, piezopolymers, shape memory alloys, electro-rheological structures.

Sp Qtr. 2 1.5-hr cl. Prereq: 482 or grad standing in engineering.

**776 Reliability Engineering**

Engineering system reliability modeling and prediction; reliability of engineering devices, systems, and processes; study of practical applications.

Cross-listed in Electrical Engineering, and Industrial and Systems Engineering. Repeatable for different titled topics only of 776.xx.

**776.01 Reliability Engineering I U G 4**

Engineering system reliability modeling and prediction; reliability of programmable devices and human reliability; reliability and risk management of engineering systems.

Au Qtr. 2 2-hr cl. Prereq: 481 or Elec Eng 351 or Ind Eng 509 or grad standing. Field experience at the site of Honda in Marysville.

**776.02 Reliability Engineering II U G 4**

Reliability of mechanical and electrical devices, systems, and engineering processes.

Wi Qtr. 2 2-hr cl. Prereq: 776.01 or Elec Eng 776.01 or Ind Eng 776.01 or permission of instructor. Field experience at the site of Honda in Marysville.

**776.03 Reliability Engineering Applications U G 1**

Study and design of a complete reliability program for a selected engineering system.

Wi Qtr. 1 cl. Prereq or concur: 776.02 or Elec Eng 776.02 or Ind Eng

776.02 or permission of instructor. Field experience at the site of Honda in Marysville.

**777 Automotive Noise, Vibration, and Harshness Control I U G 3-4**

An integrated study of acoustics, shock and vibration, and dynamic design issues with emphasis on automotive case studies and problem solving methodology.

Au Qtr. 2 1.5-hr cl (3 cr option); 4th cr for project work, arr. Prereq: Grad standing in mech eng, elec eng, or permission of instructor. Offered odd numbered years. Part of a sequence emphasizing automotive systems engineering designed for MS degree students and practicing engineers.

**778 Automotive Noise, Vibration, and Harshness Control II U G 3-4**

Continuation of 777 with focus on source-path-receiver identification, modal analysis, passive/active control, and machinery diagnostics.

Wi Qtr. 2 1.5-hr cl (3 cr option); 4th cr for project work, time arr. Prereq: 777 or permission of instructor. Offered even numbered years. Part of a sequence emphasizing automotive systems engineering designed for MS degree students and practicing engineers.

**779 Automotive Noise, Vibration, and Harshness Control III U G 3-4**

Continuation of 778 with focus on advanced modeling and experimental methods, structural-acoustic interactions, and flow-induced noise and vibration.

Sp Qtr. 2 1.5-hr cl (3 cr option); 4th cr for project work, time arr. Prereq: 778. Offered even numbered years. Part of a sequence emphasizing automotive systems engineering designed for MS degree students and practicing engineers.

**780 Lumped Parameter System Analysis U G 3**

Lumped parameter system analysis of mechanical, thermal, hydraulic, pneumatic, and electromechanical systems; system response to periodic, transient, and random excitation; computer and physical system demonstrations.

Au Qtr. 2 1.5-hr cl. Prereq: Math 415 or permission of instructor. Not open to students with credit for Mech Eng 880.

**781 Powertrain Dynamics G 4**

Overview of the major dynamic phenomena that characterize powertrain behavior. Emphasis on interaction between subsystems. The predominant natural frequencies of the powertrain will be described.

Au Qtr. 4 lec. Prereq: Grad standing or permission of instructor. Offered even numbered years. Distance learning version available.

**782 Powertrain Control G 4**

Classical and modern control methods applied to automotive powertrains; overview of production hardware; sensors and actuators; modeling for control.

Wi Qtr. 4 lec. Prereq: ECE 551 or grad standing. Not open to students with credit for ECE 753.01. Offered odd numbered years. Offered only as distance learning course.

**H783 Honors Program Research U G 1-3**

Honors program students are offered the opportunity to pursue independent project/research. Student presentations and thesis writing included.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Sr standing in mech eng (or equiv). Students must have a CPHR of at least 3.4 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**784 Energy Modeling of Hybrid-Electric Vehicles U G 4**

Energy conversion, storage, utilization and optimization of complete road vehicle systems (conventional or hybrid-electric).

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Offered odd numbered years. This is the first course in a series of two courses.

**785 Modeling, Simulation and Control of Hybrid-Vehicles U G 4**

Mathematical modeling, computer simulation and control design with application to hybrid-electric vehicles.

Wi Qtr. 2 2-hr cl. Prereq: 784 or permission of instructor. Offered even numbered years. This is the second course in a series of two courses.

**787 Biomechanics U G 3**

Discrete mass and continuum mechanics; description of biological materials; biodynamics of limb and gross body motions; various models for injury to head, neck and torso.

Wi Qtr. 3 cl. Prereq: 420 or 440 or Eng Mech 440 or equiv, and Math 415 or 512, or permission of instructor. Not open to students with credit for Eng Mech 770.

**794 Group Studies in Mechanical Engineering U G 1-5**

Special topics in mechanical engineering. The particular topic, credit hours, and the instructor will be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**800 Methods of Engineering Analysis G 3**

Solution of boundary value, eigenvalue, and initial value problems arising in mechanics by approximate methods; weighted residual and stationary functional methods.

Au Qtr. 3 cl. Prereq: 10 or hrs of 700-level courses in Eng Mech or Mech Eng and Math 512 or equiv. Not open to students with credit for Eng Mech 800.

**803 Fundamentals of Thermodynamics II G 3**

Introduction to the fundamentals of thermodynamics from the microscopic viewpoint.

Au Qtr. 2 1.5-hr cl. Prereq: 702. Offered odd numbered years.

**804 Fluid Physics G 3**

The physics of chemically reacting thermodynamically nonequilibrium flowing fluids, with application to energy conversion systems, propulsion, plasma processors, high speed flows, and gas lasers.

Wi Qtr. Prereq: 803 or equiv or permission of instructor. This course is part of a sequence of graduate instruction in the fluid and thermal science area of the Dept of Mechanical Engineering, which treat modern engineering systems for which understanding molecular-scale process is critical. Offered even numbered years.

**805 Electrical Gas Discharges G 3**

Introduction to the physics of low-temperature plasmas involving electrical discharges in gases. Plasma chemistry and solid-state plasmas are also considered.

Sp Qtr. 2 1.5-hr cl. Prereq: 803 or 804 or equiv or permission of instructor. Offered even numbered years.

**806 Viscous Flow of Fluids G 3**

Theory of viscous fluids; exact solutions of the Navier Stokes equations, creeping flows, and boundary layers.

Wi Qtr. 2 1.5-hr cl. Prereq: 504. Offered even numbered years.

**807 Conduction Heat Transfer G 3**

A study of the general heat transfer equations and their application to heat transfer in solids.

Sp Qtr. 2 1.5-hr cl. Prereq: 510. Offered even numbered years.

**808 Laminar Convection Heat Transfer G 3**

Laminar forced convection in pipes; laminar thermal boundary layers and entrance effects; stagnation point heat transfer; free convection boundary layers and plumes.

Wi Qtr. 2 1.5-hr cl. Prereq: 806 and 807. Offered odd numbered years.

**809 Thermal Radiation Heat Transfer G 3**

Black body radiation, gray body approximation, radiation surface properties, radiation exchange in non-participating media, conduction-radiation interaction, convection-radiation interaction, and introduction to radiation in participating media.

Au Qtr. 2 1.5-hr cl. Prereq: 807. Offered even numbered years

**810 Inviscid Flows G 3**

Kinematics of inviscid flows; circulation and vorticity; the structure of vortices; two and three dimensional vortex flows; the Euler equations and the effect of compressibility.

Wi Qtr. 2 1.5-hr cl. Prereq: 705 or equiv. Offered odd numbered years.

**811 Computational Methods for Incompressible Flows G 4**

Advanced numerical methods for solving the incompressible (low mach number) Navier-Stokes equations using pressure-based techniques.

Sp Qtr. 2 2-hr cl. Prereq: 707 or Aero Eng 615. Offered odd numbered years.

**813 Turbulent Flow and Heat Transfer G 3**

Study of turbulent flows, with emphasis on the calculation of heat transfer in turbulent internal and external flows.

Sp Qtr. 3 cl. Prereq: 705 and 710. Offered even numbered years.

**814 Optical Techniques in Reacting and Nonreacting Flows G 3**

Measurements and visualizations based on elastic and inelastic scattering and laser-induced fluorescence and background materials on optics, quantum mechanics, lasers, and detectors.

Wi Qtr. 2 1.5-hr cl. Prereq: Grad standing in engineering/ science. Offered even numbered years.

**815 Multiphase Flow, Heat, and Mass Transfer in Porous Media G 3**

Current theories on flow, heat, and mass transfer in porous media and an understanding of the mechanisms involved in multiphase transport in porous media.

Sp Qtr. 2 1.5-hr cl. Prereq: 806 or permission of instructor. Offered odd numbered years

**818 Advanced Analytical Methods in Mechanical Engineering G 3**

Transform and Green's function methods for solution of problems arising in heat conduction, vibration of continuous bodies, and mechanics of fluids; asymptotic evaluation of integral representations of these solutions.

Au Qtr. 2 1.5-hr cl. Prereq: 807 or 850 or equiv. Not open to students with credit

for 881. Offered odd numbered years.

**820 Wave Dynamics in Fluids G 4**

Small and finite amplitude wave propagation and attenuation in fluids, nonlinear flow-acoustic coupling.

Sp Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 705 or permission of instructor. Offered odd numbered years.

**826 Combustion G 3**

A study of chemical thermodynamics and kinetics, the basic equations of change, and application of fundamentals to combustion in engineering systems.

Sp Qtr. 2 1.5-hr cl. Prereq: 726 or permission of instructor. Offered odd numbered years

**832 Nonlinear Vibrations G 3**

Vibration of undamped and damped nonlinear systems, perturbation techniques, self-excited oscillations, forced vibrations, bifurcations, time-varying systems, Poincare maps, chaos.

Sp Qtr. 3 cl. Prereq: 731 or equiv or permission of instructor. Offered even numbered years.

**833 Elastic Wave Propagation G 3**

Dispersion and group velocity; waves in extended media; propagation and reflection in half space; Lamb problem; waves in plates and rods by exact theory scattering of waves.

Sp Qtr. 3 cl. Prereq: 731 or 734 or Eng Mech 731 or 734. Not open to students with credit for Eng Mech 833. Offered odd numbered years.

**834 Advanced Methods of Vibration Analysis G 3**

Analytical methods for the formulation, solution, and physical understanding of conservative and non-conservative vibratory systems. Gyroscopic and damped systems. Approximate methods.

Sp Qtr. 2 1.5-hr cl. Prereq: 731 or equiv. Offered odd numbered years.

**835 Random Vibrations G 3**

Description of random processes; statistical properties of the response of mechanical systems; optimization of systems subjected to random inputs; instrumentation.

Au Qtr. 3 cl. Prereq: 731 or Eng Mech 731. Not open to students with credit for Eng Mech 835.

**837 Advanced Topics in Tribology G 3**

Current and advanced research topics in friction, wear, and lubrication vital to the successful operation of machine elements.

Wi Qtr. 2 1.5-hr cl. Prereq: 765 and 767 or permission of instructor. Offered even numbered years.

**839 Finite Element Method in Engineering Science G 5**

Approximation of boundary value and initial value problems; variational methods, hybrid and mixed method; convergence and accuracy of finite element approximations; recent developments, advanced applications.

Sp Qtr. 5 cl. Prereq: 763 or 768 or Civil En 763 or 768 or Eng Mech 763, and Math 601 or equiv. Not open to students with credit for Civil En 839 or Eng Mech 839. Cross-listed in Civil Engineering.

**840 Theory of Continuous Media G 3**

Equilibrium, compatibility, and strain displacement relationships for a general continuum; constitutive equations for problems of elasticity, fluid dynamics, and inelasticity.

Sp Qtr. 3 cl. Prereq: 740 or Eng Mech 740. Not open to students with credit for Eng Mech 840. Offered even numbered years.

**843 Advanced Elasticity G 3**

Complex variable methods; anisotropic elasticity; three-dimensional elasticity; mixed boundary value problems; variational methods.

Wi Qtr. 3 cl. Prereq: 740. Offered even numbered years.

**844 Advanced Fracture Mechanics G 3**

Treatment of advanced topics in fracture mechanics; elastic-plastic fracture, dynamic crack propagation and arrest, time dependent fracture, fracture of composites, and fatigue crack growth.

Sp Qtr. 3 cl. Prereq: 744 or Eng Mech 644 or permission of instructor. Not open to students with credit for Eng Mech 844. Offered even numbered years.

**847 Theory of Plasticity G 3**

Plastic range stress-strain relations; elasto-plastic behavior of beams and trusses; torsion of prismatic bars; plane strain; shear lines; limit analysis.

Wi Qtr. 3 cl. Prereq: 740 or Eng Mech 740 and Math 512. Not open to students with credit for Eng Mech 847. Offered odd numbered years.

**851 Kinematic Geometry of Mechanisms G 3**

Kinematics and statics of spatial mechanisms including robotic mechanisms.

Sp Qtr. 2 1.5-hr cl. Prereq: 752 or permission of instructor. Offered odd numbered years.

**859 Sliding Mode Control in Electro-Mechanical Systems G 3**

Sliding mode control for decoupling of the design procedure and low sensitivity with respect to uncertainties, and application to control of electromechanical systems.

Au Qtr. 3 1-hr cl. Prereq: 571 or Elec Eng 551. Cross-listed in Electrical Engineering. Offered odd numbered years.

**864 Theory of Viscoelasticity G 3**

Basic concepts of time dependent inelastic behavior; viscoelastic constitutive laws; correspondence principles; quasi-static and dynamic problems.

Sp Qtr. 3 cl. Prereq: 740 or Eng Mech 740. Not open to students with credit for Eng Mech 864. Offered odd numbered years.

**870 Digital Signal Analysis of Mechanical Systems G 3**

Conceptual, measurement, and numerical aspects of digital data acquisition and signal processing, random data analysis, and system identification and diagnostic techniques used for mechanical systems.

Sp Qtr. 2 1.5-hr cl. Prereq: permission of instructor. Offered odd numbered years.

**873 State Space Methods for Dynamic Systems Analysis and Control G 3**

Application of state-space methods to the analysis and synthesis of dynamic systems with emphasis on control applications.

Sp Qtr. 2 1.5 cl. Prereq: Math 568 or equiv and Mech Eng 571 or equiv, or permission of instructor. Not open to students with credit for Elec Eng 750. Offered even numbered years.

**874 Fault Diagnosis in Mechatronic Systems G 3**

Fault detection and diagnosis in engineering systems based on dynamic models. Theory and case studies drawn from industrial application.

Au Qtr. 2 1.5-hr cl. Prereq: 780 or Elec Eng 750 or Aero Eng 720 or permission of instructor. Offered odd numbered years.

**888 Mechanical Engineering Seminar G 1**

Lecture and discussion of current topics related to mechanical engineering presented by graduate students, staff, and guest speakers.

Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Mech eng grad standing. Repeatable. Does not count toward course work required for MS or Phd degrees. This course is graded S/U.

**890 Metal Forming Machines and Tooling G 3**

Design and application of mechanical and hydraulic presses. Advanced techniques (FEM) for estimating material flow, tool geometry and stresses for stamping and forging.

Sp Qtr. 2 1.5-hr cl. Prereq: Permission of instructor.

**894 Group Studies in Mechanical Engineering G 1-6**

Special topics in mechanical engineering. The particular topic, credit hours, and the instructor will be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**993 Advanced Problems in Mechanical Engineering G 1-5**

Provides the opportunity to pursue special problems in mechanical engineering not otherwise covered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**999 Research in Mechanical Engineering G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Medical Dietetics**

School of Allied Medical Professions

306 Atwell Hall, 453 West 10th Avenue, 292-0635

**201 Careers in Dietetics U 1**

Roles, responsibilities, and educational requirements for a career in dietetics; current employment opportunities.

Wi Qtr. 1 cl.

**H210 Interdisciplinary Research: Osteoporosis Diagnosis, Prevention, and Treatment U 3**

An interdisciplinary team approach to research on the diagnosis, prevention, and treatment of osteoporosis is presented. Students will complete a pre-pilot project of their own design.

Wi Qtr. 2-hr cl, 4 hrs clinical. Prereq: 2nd yr standing honors student. Not open to students with credit for Rad Tech H210. Cross-listed in Radiologic Technology.

**420 Management in Medical Dietetics U 5**

Application of management process to nutritional care of patients in the health care institution.

Sp Qtr. 5 cl. Prereq: Humn Ntr 310 and 314; Alli Med 630.

**422 Food Service Systems Practicum U 6**

Applications of food service management in health care institutions.

Su, Au, Wi, Sp Qtrs. 32 hrs/wk in practice setting (6 wks). Prereq: 420 or equiv. Enrollment in med diet. This course is graded S/U.

**520 Nutrition and Human Metabolism I**

Prereq: 545 or Humn Ntr 610 and biochemistry.

**520.01 Nutrition and Human Metabolism I U 4**

Introduction to medical nutrition therapy in prevention and treatment of disease states. Pathology, physiology, labs, procedures and drugs for the various disease states are covered.

Wi Qtr. 2 2-hr cl. Prereq: Concurrently enrolled in 520.02 or permission of instructor.

**520.02 Nutrition and Human Metabolism I Lab U 1**

Application of medical nutrition therapy in prevention and treatment of disease states. Case examples, presentations, development of teaching tools included.

Wi Qtr. 1 3-hr lab. Prereq: Concurrently enrolled in 520.01 or permission of instructor.

**521 Nutrition and Human Metabolism II**

Prereq: 520.01, 520.02, 545 or Humn Ntr 610 and biochemistry.

**521.01 Nutrition and Human Metabolism II U 4**

Continuation of medical nutrition therapy in prevention and treatment of disease states. Pathology, physiology, labs, procedures and drugs for the various disease states are covered.

Sp Qtr. 2 2-hr cl. Prereq: Concurrent enrollment in 521.02 or permission of instructor.

**521.02 Nutrition and Human Metabolism II Lab U 1**

Application of medical nutrition therapy in prevention and treatment of disease states (part 2). Case examples, presentations, development of teaching tools included.

Sp Qtr. 1 3-hr lab. Prereq: Concurrent enrollment in 521.01 or permission of instructor.

**530 Nutritional Care Process U 4**

Gathering and evaluating assessment data for planning, implementing, documenting and evaluating nutritional care. Nutrition counseling theory, practice and evaluation.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 520 or 520.01 or 520.02 or Humn Ntr 612.01. Admission to medical dietetics or permission of instructor.

**545 Human Nutrition and Dietetics U 4**

Integration of principles related to foods, nutrients, physiology, and biochemistry as they apply to nutritional care for the promotion of health and prevention of disease.

Au Qtr. 4 cl. Prereq: Chem 102, Biology 101, and Humn Ntr 310 and 314. Admission to medical dietetics or human nutrition or permission of instructor

**546 Physical and Nutritional Assessment U 2**

Methods of gathering, interpreting, and reporting nutritional assessment information.

Au Qtr. 1 hr cl, 3-hr lab. Prereq: Humn Ntr 310; EEOB 232 or Zoology 232 or equiv.

**595 Seminar U 1-3**

Conferences, group discussions, and presentations of selected topics.

Su, Au, Wi, Sp Qtrs. 1-3 cl. Prereq: Permission of instructor.

**620 Management Applications in Dietetics U 3**

Emphasis on managerial skills in food service or nutrition care units in health care organizations.

Wi Qtr. 2 1.5-hr cl. Prereq: 420 or equiv. Admission to medical dietetics or permission of instructor

**622 Human Resource Management in Dietetics U 3**

Emphasis on human resource development in nutrition and food service environment.

Wi Qtr. 3 cl. Not open to students with credit for Alli Med 622. Cross-listed in Allied Medicine.

**636 Nutrition Education and Counseling U 3**

Principles of individual and group teaching and nutrition counseling as applied to responsibilities of the dietitian.

Wi Qtr. 2 cl, 3-hr lab. Prereq: Humn Ntr 310. Admission to medical dietetics or permission of instructor



**637 Health Promotion and Community Nutrition**

Study of nutrition and health risk appraisal, intervention strategies, and cost effectiveness of risk reduction for selected populations in public and private health programming.

2 1.5-hr cl. Prereq: Humn Ntr 310.

**637.01 Basic Concepts in Health Promotion and Community Nutrition U 3**

Sp Qtr.

**637.02 Advanced Concepts in Health Promotion and Community Nutrition U 3**

Wi Qtr. Prereq: 637.01 or Humn Ntr 704.

**638 Maternal and Pediatric Nutrition U 3**

Physiological basis of nutritional needs for pregnancy, lactation, infancy, and childhood. Nutritional management of selected pediatric disorders in hospitalized and ambulatory infants and children.

Wi Qtr. 2 1.5-hr cl. Prereq: Humn Ntr 310 or 506 or permission of instructor.

**639 Geriatric Nutrition U 3**

Study of nutritional requirements, nutritional status assessment, and other selected issues in delivery of health care to older adults.

Au Qtr. 3 cl. Prereq: Humn Ntr 506 or permission of instructor.

**645 Advanced Medical Dietetics U 3**

Study of medical nutrition therapy in trauma and hypermetabolic conditions. Emphasis on enteral and parenteral nutrition.

Au Qtr. 2 1.5-hr cl. Prereq: 521 or Humn Ntr 612.02, or permission of instructor. Admission to medical dietetics or human nutrition or permission of instructor

**646 Medical Nutrition Therapy Practicum U 10**

Clinical experiences and post clinical conferences with emphasis on assuming responsibility for patient nutrition care in the acute care, community, and outpatient settings.

Su, Au, Wi, Sp Qtrs. 1 cl, 32 hrs clinic. Prereq: Sr standing in Medical Dietetics. May require travel to off-campus clinical facility. This course is graded S/U.

**647 Complementary Nutrition Therapy: Supplements and Herbs U G 3**

Uses, efficacy, safety, physiological function, and evidence-based recommendations for dietary supplements and herbs in the treatment of nutrition related diseases.

Wi Qtr. 2 1.5-hr cl. Prereq: Introductory nutrition course (Humn Ntr 310 or equiv) and 10 cr hrs of science, intro biochem, physiology or permission of instructor.

**685 Dietetics Practicum**

Clinical experience and post-clinical conferences with emphasis on observation and practice in pediatric, geriatric, community, and health promotion sites.

Su, Au, Wi, Sp Qtrs. 2 cl, 32 hrs clinic (4 wks). Prereq: Sr standing in med diet. Not open to students with credit for 689.

**685.01 Long-Term/Subacute Nutrition Care Practicum U 4**

Not open to students with credit for 689.01. This course is graded S/U.

**685.02 Community Dietetics Practicum U 4**

Not open to students with credit for 689.03. This course is graded S/U.

**688 Medical Dietetics Advanced Practicum U 6**

Supervised professional practice in various health care settings.

Su, Sp Qtrs. 1 cl, 40 hrs clinic (6 wks). Prereq: 422 and 646; and senior standing in medical dietetics. Not open to students with credit for 646.04. May require travel to off-campus clinical facility. This course is graded S/U.

**688.01 Advanced Practice in Subacute/Long-Term Care Dietetics U 6**

This course is graded S/U.

**688.02 Advanced Practice in Community Dietetics U 6**

This course is graded S/U.

**688.03 Advanced Practice in Medical Nutrition Therapy U 6**

This course is graded S/U.

**688.04 Advanced Practice in Nutrition Counseling and Education U 6**

Su, Sp Qtrs. This course is graded S/U.

**693 Individual Studies in Nutrition or Dietetics U G 1-5**

Problems in various phases of nutrition or medical dietetics not included in current course offerings.

Su, Au, Wi, Sp Qtrs. Prereq: Grad or sr standing in med diet and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**695 Seminar U G 1-3**

Conferences and group discussions of selected topics.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**720 Management Applications in Dietetics G 3**

Emphasis on leadership skills for nutrition and dietetics in health care settings.

Sp Qtr. 2 1.5-hr cl. Prereq: Approved undergrad program in dietetics.

**838 Maternal and Pediatric Nutrition**

Physiology of pregnancy and lactation including women with special needs; physiology of the neonate, normal growth and development 0-12 months, and nutritional disorders of infancy.

Prereq: Grad standing, 5 hrs physiology and biochemistry, Humn Ntr 310 or above, permission of instructor.

**838.01 Physiological and Theoretical Bases for Maternal and Pediatric Needs G 3**

Physiology of pregnancy and lactation including special needs; physiological changes in the neonate; normal growth and development during the first year; and nutritional disorders of the pediatric patient.

Sp Qtr. 3 cl.

**838.02 Clinical Applications in Maternal and Pediatric Nutrition G 2**

Experiences in the perinatal and pediatric setting to enhance the students' clinical assessment and counseling skills in these specialized settings.

6 hrs clinical. This course is graded S/U.

**856 Nutrition in Critical Care**

The pathophysiological background in systemic disease, surgical intervention and nutritional interrelationships among disease, treatments, and nutrition.

Au Qtr. 2 1.5-hr cl. Prereq: Permission of instructor. Not open to students with credit for Prev Med 856.

**856.01 Lecture G 3**

Au Qtr. 2 1.5-hr cl.

**856.02 Practicum G 2**

Au Qtr. 1 4-hr clinic. This course is graded S/U.

**857\* Nutrition and Metabolic Imbalance G 3**

The pathophysiological background of metabolic imbalances encountered in the clinical setting and the rationale for nutritional therapies.

Sp Qtr. 2 1.5-hr cl. Prereq: 856.01, Fd Sc&Nu 761 or permission of instructor.

**858\* Community Nutrition G 3**

Methods of discovering problems in public health nutrition and practical application of nutrition information for improvement of nutritional status at various age levels.

Au Qtr. 2 1.5-hr cl Prereq: 638 and 856, or permission of instructor. Not open to students with credit for Prev Med 858.

**889 Clinical Practicum**

Advanced, specialized orientation to clinical dietetics including resource and patient management through individual conferences, group conferences, team conferences, and clinical practice.

Prereq: Permission of instructor. Subdivisions are repeatable to a maximum of 10 cr hrs.

**889.01 Crisis Care Practicum G 2-5**

Su, Au, Wi, Sp Qtrs. 3 clinic hrs/credit. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**889.02 Primary Care Practicum G 2-5**

1 cl, 16-hrs clinic. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**Medical Technology**

School of Allied Medical Professions  
535 Atwell Hall, 453 West 10th Avenue, 292-7303

**400 Principles of Phlebotomy U 2**

The principles and practice of sample collection as it relates to clinical laboratory testing.

Au Qtr. 1 cl, 1 3-hr lab. Prereq: Admission to Med Tech or permission of instructor.

**480 Introduction to the Laboratory Environment**

Overview of issues surrounding working in the modern laboratory environment. Topics include: safety, instrumentation, and quality assurance.

Au Qtr. Prereq: Chem 121, 122 and Biology 113.

**480.01 Lecture U 2**

2 cl.

**480.02 Laboratory U 1**

1 3-hr cl.

**500 Clinical Laboratory Microbiology II**

Theory and application of clinical laboratory techniques used to identify microorganisms pathogenic to humans.

Wi Qtr. Prereq: Admission to Med Tech or permission of instructor.

**500.01 Lecture U 3**

2 1.5-hr cl.

**500.02 Laboratory U 3**

3 3-hr labs.

**510 Clinical Laboratory Hematology**

Basic theory and application of clinical laboratory techniques used to evaluate the formed elements in blood and the hemostatic mechanism.

Wi Qtr. Prereq: 480 or permission of instructor.

**510.01 Lecture U 3**

2 1.5-hr cl.

**510.02 Laboratory U 2**

2 3-hr labs.

**520 Management and Education in Clinical Laboratory Science U 3**

Theory and application of management and education principles directed specifically to the Clinical Laboratory Scientist.

Wi Qtr. Prereq: Admission to Med Tech program or permission of instructor.

**525 Clinical Laboratory Microbiology I**

Theory and application of clinical laboratory techniques used to identify microorganisms pathogenic to humans.

Au Qtr. Prereq: Admission into Med Tech or permission of instructor.

**525.01 Lecture U 3**

3 1-hr cl.

**525.02 Laboratory U 2**

2 3-hr labs.

**569 Clinical Practice in Laboratory Science U 12**

Application of medical laboratory techniques under supervision in clinical laboratories or other non-hospital laboratory settings.

Su, Au, Wi, Sp Qtrs. 280 hrs. Prereq: All Med Tech undergrad courses for the professional curriculum except 579. OSU and/or non-OSU laboratory sites available. This course is graded S/U.

**570 Body Fluid Analysis**

Physical, chemical and microscopic analysis of urine and other body fluids including correlational pathophysiology.

Sp Qtr. Prereq: Admission to Med Tech, 480 or permission of instructor.

**570.01 Lecture U 2**

2 cl.

**570.02 Laboratory U 1**

1 3-hr lab.

**579 Clinical Practice in Transfusion Service U 2**

Application of medical laboratory techniques under supervision in immunohematology and transfusion service.

Su, Au, Wi, Sp Qtrs. Prereq: 605, 635.01, 635.02. OSU and non-OSU laboratory sites available. This course is graded S/U.

**589 Interdisciplinary Studies in Clinical Laboratory Science U 1-5**

The application of medical laboratory science in interdisciplinary settings.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Admission to Med Tech or permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**595 Seminar U 1-3**

Discussion of issues and trends in laboratory medicine; topics to be announced.

Su, Au, Wi, Sp Qtrs. H595 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Admission to Med Tech and permission of instructor. Repeatable.

**600 Molecular Investigations of Infectious Disease Outbreaks**

Sp Qtr. Prereq: Admission to Med Tech or permission of instructor.

**600.01 Lecture U 2**

Basic theory of molecular techniques used to investigate infectious disease outbreaks.

2 cl. Prereq: Mol Gen 500 and admission to Med Tech or permission of instructor. E600.01 may be available for honors embedded experience.

**600.02 Laboratory U 1**

Application of molecular techniques used to investigate infectious disease outbreaks.

1 3-hr lab.

**602 Clinical Correlations in Microbiology U G 3**

Provides the student with a basic theory of the pathogenic mechanisms involved in diseases caused by microorganisms.

Wi Qtr. 2 1.5-hr cl. Prereq: Admission to Med Tech or permission of instructor. E602 may be available for honors embedded experience.

**604 Clinical Correlations in Chemistry U G 2**

The study of pathologic conditions in chemistry with emphasis on problem-based study, group work, and written and oral presentation skills.

Au Qtr. 2 1-hr cl. Prereq: Admission to Med Tech or permission of instructor. E604 may be available for honors embedded experience.

**605 Clinical Correlations in Immunohematology U G 3**

A problem-based study of the pathological principles of transfusion medicine.

Wi Qtr. 2 1.5-hr cl. Prereq: Admission to Med Tech or permission of instructor. E605 may be available for honors embedded experience.

**610 Administration in Laboratory Medicine G 3**

Principles of administration applied to the management of health care services in laboratory medicine.

Wi Qtr. 3 cl. Prereq: Grad standing in Pathol or Alli Med, pathol resident or permission of instructor. Cross-listed in Pathology.

**615 Advanced Clinical Laboratory Hematology**

Advanced theory and application of clinical laboratory techniques used to evaluate the formed elements of the blood and hemostatic mechanism.

Au Qtr. Prereq: 510.01 or permission of instructor.

**615.01 Lecture U G 4**

2 1.5-hr cl, 1 1-hr cl. E615.01 may be available for honors embedded experience.

**615.02 Laboratory U 2**

2 3-hr labs.

**630 Clinical Laboratory Immunology**

Theory and application of clinical laboratory techniques employing antigen-antibody reactions in the study of disease.

Sp Qtr. Prereq: Admission to Med Tech or permission of instructor.

**630.01 Lecture U G 4**

2 1.5-hr cl, 1 1-hr cl. E630.01 may be available for honors embedded experience.

**630.02 Laboratory U 2**

2 3-hr labs.

**635 Immunohematology**

Theory and practice of blood banking and transfusion medicine.

Wi Qtr. Prereq: Admission to Med Tech or permission of instructor.

**635.01 Lecture U G 5**

5 1-hr cl. E635.01 may be available for honors embedded experience.

**635.02 Laboratory U G 3**

3 3-hr labs.

**640 Advanced Laboratory Techniques U G 4**

Applications of theory in quality control, method selection and evaluation, and advanced diagnostic techniques with an emphasis on instrumentation, automation and problem solving.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Chem 121, Biology 113 or permission of instructor. Offered as a distance education course. E640 may be available for honors embedded experience.

**645 Clinical Chemistry**

Principles in clinical chemistry with an emphasis on principles of analysis, correlation of biochemical parameters with disease, instrumentation and automation, and problem solving.

Au Qtr. Prereq: Admission to Med Tech or permission of instructor.

**645.01 Lecture U G 5**

2 1.5-hr cl, 1 2-hr cl. E645.01 may be available for honors embedded experience.

**645.02 Laboratory U G 2**

2 3-hr labs. E645.02 may be available for honors embedded experience.

**693 Individual Studies U G 1-15**

Guided study or individual readings, research, or experiences related to medical technology.

Su, Au, Wi, Sp Qtrs. Prereq: Admission to Med Tech or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**695 Seminars in Medical Laboratory Science U G 1-5**

Problems and current issues in laboratory science.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Admission to Med Tech, grad standing or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**Medicine, College of**

209 Meiling Hall, 370 West 9th Avenue, 292-5674

**600 Introduction to Medicine P 0**

An introductory course describing curriculum choices and requirements, support services, and security procedures for new medical students in the College of Medicine and Public Health.

Au Qtr. Prereq: Enrollment in the College of Medicine. Registered, first-year medical students only. This course is graded S/U.

**660 Physician Development P 2,4**

A multidisciplinary study of the interpersonal, examination, and diagnostic skills necessary to be a practicing physician.

Au, Wi, Sp Qtrs. Prereq: Enrollment in College of Medicine. Registered medical students only. Repeatable to a maximum of 12 cr hrs. This is a Progress course. 12 hours required of all medical students. Personal transportation for community practica. This course is graded S/U.

**661 Patient-Centered Medicine P 2,4**

A multidisciplinary study of human behavior and the patient's central role in the practice of medicine.

Au, Wi, Sp Qtrs. Prereq: Enrollment in College of Medicine. Registered medical students only. Repeatable to a maximum of 12 cr hrs. This is a Progress course. 12 hours required of all medical students with a grade rendered each SP quarter. This course is graded S/U.

**662 MED I: Medical Sciences P 5,20**

Study of human biology and pathophysiology in a patient-oriented organ-system interdisciplinary manner.

Au, Wi, Sp Qtrs. Concur: 660, 661. Registered medical students only. Repeatable. This is a Progress course. Grade rendered in SP. This course is graded S/U.

**663 MED II: Medical Sciences P 5,20**

Study of human biology and pathophysiology in a patient-oriented organ-system interdisciplinary manner.

Au, Wi, Sp Qtrs. Prereq: 660, 661. Registered medical students only. Repeatable. This is a Progress course. Grade rendered in SP. This course is graded S/U.

**664 MED III and IV: Clinical Medicine P 4-6,8,16,24**

Didactic and clinical instruction in family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, psychiatry, and surgery; experience in outpatient, community, and inpatient services.

Su, Au, Wi, Sp Qtrs. Prereq: 663. Repeatable. This is a Progress course. Must repeat 152 cr hrs. This course is graded S/U.

**670 Patient-Centered Research P 2**

Lectures and small group discussions will cover an introduction to humanistic aspects of medical research and human experimentation, including historical, socio-political, economic, and ethical aspects.

Au, Wi, Sp Qtrs. Arr. Prereq: Enrollment in the College of Medicine. Repeatable to a maximum of 12 cr hrs. This is a Progress course. Cross-listed in Integrated Biomedical Science. This is a progress course with a grade rendered each SP quarter. This course is graded S/U.

**689 Practicum in Medicine P 0**

Applied experiences in medicine for 3rd and 4th year medical students rotating through clinical disciplines, externship experiences for medical students chosen for competitive programs at various agencies for field experience.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Med students with permission of Dean's Office. Repeatable to a maximum of 4 quarters. This course is graded S/U.

**693 Individual Studies P 1-24**

Special studies in introduction to medicine; nature of life processes; the pathophysiology and manifestation of disease; and supervised individualized program.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Limited to students working toward the MD degree. Repeatable to a maximum of 96 cr hrs. This course is graded S/U.

**700 Interprofessional Education**

Focus on ethical issues, changing professional/consumer rights, and interprofessional cooperation.

3 cl. Limited to students in allied medical professions, education, law, medicine, nursing, social work, and theology.

**700.01 Interprofessional Care U P G 3**

Treatment of the whole person through the analysis of the interrelated problems of actual cases.

Wi Qtr. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**700.02 Changing Societal Values U P G 3**

Identification and clarification of values considerations as they relate to professional problems in dealing with consumer/clients/patients.

Sp Qtr. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**700.03 Ethical Issues U P G 3**

Ethical issues of concern to the professions and arising out of advanced technology: euthanasia, mind control, malpractice, and social responsibility of the professions.

Au Qtr. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**700.04 Interprofessional Practicum in Clinical Settings P 3,5**

Interprofessional teamwork in clinical settings.

Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**700.07 Interprofessional Approaches to Child Abuse and Neglect G 3**

Interprofessionally explores issues in the identification, treatment, and prevention of child abuse and neglect.

Au Qtr. Prereq: Permission of instructor. Repeatable to a maximum of 9

cr hrs.

**797 Interdepartmental Seminar P G 1-5**

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced. Repeatable by permission.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. This course is graded S/U.

**Medieval and Renaissance Studies**

308 Dulles Hall, 230 West 17th Ave, 292-7495

**210 Court of Charlemagne U 5**

The Carolingian Renaissance: a unified interpretation of a crucial period in the transition of Europe from the classical age to the early Middle Ages.

2 2-hr cl. GEC arts and hums cultures and ideas course.

**211 Medieval Kyoto: Portraits and Landscapes U 5**

Exploration of cultural, political and economic life in Kyoto, Japan from ca. 900-1467 with emphasis on role of imperial court and rising warrior class.

Sp Qtr. 2 2-hr cl. Taught in English. GEC arts and hums cultures and ideas, international issues non-western or global course.

**212 Culture of a City-State in the Renaissance U 5**

The study of an Italian Renaissance city-state with attention to its political, social, and economic structure; its religious, intellectual, and artistic activity.

5 cl. GEC arts and hums cultures and ideas course.

**213 Medieval Moscow U 5**

The diversity of medieval Russian culture as represented by Moscow: religion, society, politics, art, and architecture.

2 2-hr cl. GEC arts and hums cultures and ideas course.

**214 Golden Age of Islamic Civilization U 5**

The Baghdad Caliphate of Harun ar-Rashid from 786 to 861A.D.

2 2-hr cl. GEC arts and hums cultures and ideas course.

**215 Gothic Paris: 1100-1300 U 5**

Medieval Paris, its art, music, history, theatre, literature, and important individuals.

2 2-hr cl. GEC arts and hums cultures and ideas course.

**216 The Medieval Jewish Experience U 5**

A survey of ten centuries of medieval Jewish culture from the rise of Islam to the death of Shabbetai Zvi, the false Messiah (1676).

2 2-hr cl. Not open to students with credit for Hebrew 216. Cross-listed in Hebrew. GEC arts and hums cultures and ideas course.

**217 Early Modern London U 5**

An exploration of the history, politics, and culture of London beginning with the Protestant Reformation and ending with the great fire of London in 1666.

2 2-hr cl. GEC arts and hums cultures and ideas course.

**218 Colonial Mexico: The Medieval and Renaissance Legacy U 5**

An examination of how Medieval and Renaissance cultural sites were reframed and recreated in Colonial Mexico to construct new identities and cultural expressions.

2 2-hr cl. Not open to students with credit for Spanish 330, except by permission of director of the Center for Medieval and Renaissance Studies. GEC arts and hums cultures and ideas course.

**219 The Golden Age of the Netherlands 1500-1672: From Antwerp to Amsterdam U 5**

Examination of factors (economic, religious, political) contributing to the transformation of Antwerp and subsequently Amsterdam and the responsive and influential role of the arts.

2 2-hr cl. GEC arts and hums VPA course.

**226 Byzantine Civilization: Constantinople and the Empire of New Rome U 5**

A survey of Byzantine civilization, focusing on life in the capital, literature, and the court, Orthodox Christianity, and the formation of Medieval Europe.

5 cl. Not open to students with credit for Classics 226. Cross-listed in Classics. GEC arts and hums cultures and ideas and western (non-US) course.

**240 Magic and Witchcraft in the Middle Ages and Renaissance U 5**

A study of the history of witchcraft and magic from 400 to 1700 C.E. within sociological, religious and intellectual contexts.

4 cl. GEC arts and hums cultures and ideas course.

**294 Group Studies U 3-5**

Topic varies; special subjects not covered by regular courses.

Arr. Repeatable to a maximum of 20 cr hrs.

**504 The Arthurian Legends U 5**

The medieval tales of King Arthur's court and the Knights of the Round Table in history, myth, literature, art, and music.

Prereq: 10 cr hrs in literature. Not open to students with credit for Comp Stds 504 or 510.

**610 Manuscript Studies U G 5**

An examination of the development of Latin book production from late antiquity to the Renaissance in the cultural context of the Middle Ages.

2 2-hr cl. Prereq: Jr, sr, or grad standing.

**611 History of the Book Studies U G 5**

A study of the construction and transmission of books during the era of the hand press (c.1450-1800).

Prereq: Jr, sr or grad standing or permission of instructor.

**631 Survey of Latin Literature: Medieval and Renaissance U G 5**

Survey of selected authors representative of the medieval and renaissance periods of Latin literature with discussion of historical background and critical approaches.

Prereq: Latin 104 or equiv. Repeatable to a maximum of 10 cr hrs.

**692 Workshop U G 1-8**

arr cl. Prereq: Varies with the topic offered. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**693 Individual Studies U 1-5**

Students may register for individual directed study under this number for work not normally offered in courses.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Open only to majors in medieval. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

Interdisciplinary group studies of selected topics in Medieval and Renaissance culture and civilization.

Prereq: 10 cr hrs in medieval at the 200 level. Repeatable to a maximum of 15 cr hrs.

**695 Advanced Seminar in Medieval and Renaissance Studies U G 5**

A seminar in interdisciplinary research and analysis providing experience in presenting ideas in oral and written form.

2 2-hr cl. Prereq: Jr, sr, or grad standing; or permission of instructor Repeatable to a maximum of 15 cr hrs. GEC third writing course.

**H783 Honors Research U 3-5**

A program of study will be arranged for each student, with individual conferences, reports, and Honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the courses in the student's major area of study and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 2 qtrs are required of candidates for the BA degree with distinction in Medieval and Renaissance studies. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**792 Interdepartmental Studies in the Humanities U G 5**

Two or more departments may collaborate in presenting colloquia on studies of mutual interest; topics to be announced.

1 or 2 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**899 Interdepartmental Seminar in the Humanities G 5**

Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced.

1 or 2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**Microbiology**

376 Biological Sciences Building, 484 West 12th Avenue, Tel: 292-2301; Fax: 292-8120. Web page: [www.osumicrobiology.org](http://www.osumicrobiology.org)

**294 Group Studies U 1-5**

Study of selected topics in microbial and cellular biology.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**301 The Biology of Pollution U 2**

A general consideration of the interactions of environmental pollutants and biological systems.

Au Qtr. 1 2-hr cl. Prereq: 5 cr biology. Credit counts toward a major in microbiology. NS Admis Cond course.

**509 Basic and Practical Microbiology U G 5**

Provides an understanding of microorganisms and their interaction with the human experience.

Su, Au, Wi, Sp Qtrs. 509N: Sp Qtr. 3 cl, 2 2-hr labs. Prereq: Biology 101 or 113 or H115. GEC bio sci course. NS Admis Cond course.

**520 General Microbiology I U G 5**

Fundamental principles of microbiology and the characteristics of microorganisms with emphasis on their structure, molecular biology, growth and classification.

Au, Sp Qtrs. 3 cl, 2 3-hr labs. Prereq: Biology 114 or H116. May not be taken concur with 509.

**521 General Microbiology II U G 5**

Continuation of 520; basic principles of microbiology with emphasis on physiology, ecology, biotechnology, ecology, and applied and pathogenic microbiology.

Wi Qtr. 3 cl, 2 3-hr labs. Prereq: 520 and Chem 252, or concur.

**522 Immunobiology****522.01 Immunobiology Lecture U G 3**

Cellular and molecular properties of the immune system.

Wi Qtr. 3 cl. Prereq: 520 for majors; 509 for nonmajors. Not open to students with credit for 522.

**522.02 Immunobiology Laboratory U G 3**

Methods in immunobiology.

Wi Qtr. 1 cl, 2 2-hr lab. Prereq or concur: 522.01. Not open to students with credit for 522.

**524 Microbial Disease**

Sp Qtr. Not open to students with credit for 724.

**524.01 Mechanisms of Microbial Disease U G 4**

Overview of microbe-host interactions with an emphasis on pathogenic mechanisms of microorganisms; the influence of the etiologic agent, route of contact, host species, and the environment.

2 2-hr cl. Prereq: 522.

**581 Microbial Genetics U G 5**

Structure, maintenance, expression, and exchange of genetic materials in microbial cells.

Au, Sp Qtrs. 3 cl, 2 2.5-hr labs. Prereq: 520 or Mol Gen 500. Not open to students with credit for 680.

**591 DNA Finger Printing Workshops in Columbus Public Schools U 2**

A service learning course whereby undergraduates mentor high school students in molecular biology workshops.

Sp Qtr. Repeatable to a maximum of 6 cr hrs. Undergraduates present workshops in Columbus Public Schools. Cross-listed in Biochemistry and Molecular Genetics. This course is graded S/U.

**H610<sup>A</sup> Bioinformatics and Molecular Microbiology U G 5**

Application of computational tools to the analysis of genomes and their gene products.

Au Qtr. 2 2.5-hr labs. Prereq: 581 or Mol Gen 605, and Biochem 511; or permission of instructor.

**629<sup>A</sup> Cellular and Molecular Biology of Pathogenic Eukaryotes U G 5**

Cellular biology and molecular aspects of parasitism.

Sp Qtr. 4cl, 1-hr recitation. Prereq: 520 and/or 522 or permission of instructor. 647 recommended.

**632 Cellular Aspects of the Immune Response****632.01<sup>A</sup> Lecture U G 3**

Cellular and molecular mechanisms of the immune response; characterization of cell products elaborated subsequent to antigenic stimulation; significance of these products in immunologic response.

Sp Qtr. 3 cl. Prereq: 522 or equiv with permission of instructor.

**636 Food Microbiology****636.01 Food Microbiology Lecture U G 3**

Microorganisms in relation to the production, processing and handling of food with emphasis on food transmitted pathogens and minimizing public health risks.

Au, Sp Qtrs. 3 cl. Prereq: 509 or 520. Not open to students with credit for 636 or Fd Sc&Te 636. Cross-listed in Food Science and Technology.

**636.02 Food Microbiology Laboratory U G 3**

Laboratory training for determining the microbiological safety and quality of food with emphasis on handling pathogens and observing analyst's safety.

Au, Sp Qtrs. 2 2-hr labs, 1 cl. Prereq: 636.01 or concur. Not open to students with credit for 636 or Fd Sc&Te 636. Cross-listed in Food Science and Technology.

**647 Eukaryotic Pathogens U G 3**

Pathogenesis, virulence factors, host-parasite interactions, ecology, epidemiology, immunity, laboratory diagnosis, and chemotherapy of eucaryotic pathogens.

Au Qtr. 2 1.5-hr cl. Prereq: 520 or 524, or Biochem 511, or Mol Gen 500 or 605, or permission of instructor. Not open to students with credit for MVIMG 647. Cross-listed in Molecular Virology, Immunology and Medical Genetics.

**649 Introductory Virology U G 5**

Basic principles of virology with discussion of structures; virus-host cell interactions, detection, production and control; animal bacterial, insect and plant viruses used as examples.

Wi Qtr. 2 2-hr cl, 1 hr rec. Prereq: 520.

**661 General Microbial Physiology U G 5**

Principles of microbial growth, metabolism, microbial structure and function, and regulation of microbial metabolism.

Au Qtr. 5 cl. Prereq: 521 and Biochem 511.

**664 Microbial Ecology U G 3**

A study of microbial functions, interactions and diversity as influenced by biological, chemical and physical factors in the environment.

Au Qtr. 2 1.5-hr cl. Prereq: 509 or equiv.

**665<sup>^</sup> Environmental Microbiology U G 3**

The role of microorganisms and underlying biological principles in elemental cycles and degradation of natural and man-made compounds.

Au Qtr. 3 cl. Prereq: 509 or equiv. Not open to students with credit for H&CS 665. Not available for audit. Cross-listed in Horticulture and Crop Science.

**H669<sup>^</sup> Microbial Evolution U G 5**

Evolution and evolutionary ecology of bacteria, viruses, and other microorganisms: mutation, selection, gene exchange, macroevolution, social interactions, coevolution, endosymbioses, emerging virulence, and increasing complexity.

Au Qtr. 2 2-hr cl. Prereq: 10 cr hrs of biological sciences coursework taken at the 300 level or higher.

**680 Advanced Microbial Genetics U G 3**

Molecular mechanisms of gene regulation and gene transfer in prokaryotes.

Wi Qtr. 3 cl. Prereq: 581 or Mol Gen 605.

**693 Individual Studies U G 1-5**

Outlined by instructor to meet individual student's needs.

Su, Au, Wi, Sp Qtrs. Prereq: Microbiol major or grad standing and permission of instructor. Not open to Plan B MS students. Repeatable to a maximum of 15 cr hrs. Not repeatable by grads. No more than 5 cr hrs can be counted toward an undergrad microbiol major. This course is graded S/U.

**694 Group Studies U G 2-5**

Group work on special topics in microbial or cellular biology.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr cl. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Research in Microbiology U 1-15**

Laboratory and bioinformatics based research in all areas of microbiology.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**701 Cellular and Molecular Immunology U G 5**

Cellular and molecular mechanisms of immune response, cell recognition and communication, molecular biology of cell recognition structures, cytokines, and effector mechanisms.

Au Qtr. 5 cl. Prereq: Biochem 613, Mol Gen 500 or 605. Not open to students with credit for MVIMG 701. Cross-listed in Medical Virology, Immunology, and Medical Genetics.

**720<sup>\*</sup> Molecular Basis for Microbial Biodiversity G 4**

Introduction to the diversity of organisms found in the microbial world and molecular mechanisms by which select organisms adapt or modify the environment.

Wi Qtr. 2 2-hr cl. Prereq: 521, Biochem 511, and Mol Gen 500; or equivs; or permission of instructor.

**723 Molecular Immunology**

Molecular biological properties of antibodies, T-cell receptors, cytokines, complement and MHC.

**723.01<sup>^</sup> Lecture U G 3**

Au Qtr. 3 cl. Prereq: 522 or equiv with written permission of instructor.

**724 Molecular Pathogenesis U G 5**

In-depth presentation and discussion of the molecular and cellular mechanisms of pathogenesis, emphasizing current research in the field.

Au Qtr. 3 1.5-hr lec Prereq: Grad standing, advanced undergrads must have permission of instructor.

**736 Advanced Food Microbiology G 3**

Microbiological aspects of food preservation, detection of microbiological contaminants, hazards, and microorganisms of public health significance.

Wi Qtr. 3 cl. Prereq: 636 or Fd Sc&Te 636 and Chem 123. Not open to students with credit for Fd Sc&Te 736. Cross-listed in Food Science and Technology.

**750<sup>^</sup> Fermentation Biotechnology U G 5**

Fundamentals of modern fermentation technology and industrial microbiology; with emphasis on product formation, culturing techniques and computer-controlled fermentation.

Su Qtr. 3 cl, 2 3-hr labs. Prereq: 521 or equiv with permission of instructor.

**760<sup>^</sup> Advanced Bacterial Physiology U G 3**

Specialized metabolic pathways, regulation and control mechanisms, and bacterial biochemistry.

Sp Qtr. 3 cl. Prereq: 661 or permission of instructor.

**H783 Honors Research U 1-5**

Laboratory and bioinformatics based research culminating in an Honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 3rd or 4th yr standing and permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 8 cr hrs are required of candidates for completion of honors thesis for BS degree and distinction in microbiology. This course is graded S/U.

**795 Host-Pathogen Interactions: Research Seminar U P G 1**

Faculty, students and outside speakers will give research presentations on microbial-host interactions.

Au, Wi, Sp Qtrs. 1 hr cl. Prereq: Registration as a graduate student or permission from both course director and undergraduate major advisor for undergraduates. Repeatable to a maximum of 12 cr hrs. Cross-listed in Integrated Biomedical Science. This course is graded S/U.

**799 Microbiology Colloquium U G 1**

Au, Wi, Sp Qtrs. 1 cl. Repeatable. This course is graded S/U.

**832<sup>^</sup> Advanced Cellular Immunology G 3**

Student presentations of primary literature with emphasis on genetic, biochemical, and cellular aspects of signal transduction by receptors of hematopoietic cells.

Au Qtr. 3 cl. Prereq: 701 or permission of instructor.

**850<sup>\*</sup> The RNA World G 3**

Evolution, structure and function of RNA with topics including RNA catalysis, RNA editing and modification, ribosomes, ribozymes, tRNA, telomerase, tmRNA and alternative translation strategies.

Sp Qtr. 3 1-hr cl. Prereq: 12 cr hrs of completed graduate level course work in the sciences.

**880 Seminar in Microbiology G 1-3**

Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**893 Individual Studies G 3-5**

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in Plan B master's program and written permission of instructor. Not open to Plan A MS candidates or PhD candidates. Repeatable to a maximum of 10 cr hrs. Outlined by instructor to meet individual student's needs for Plan B library research. This course is graded S/U.

**894 Group Studies G 2-5**

Group work on special topics in microbial or cellular biology.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**999 Research in Microbiology G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Military Science**

Army ROTC

253 Converse Hall, 2121 Tuttle Park Place, 292-6075

The Department of Military Science offers instruction to all Ohio State students in basic soldier skills, leadership, organization of the Army and military history. Additionally, those individuals meeting the requirements as outlined by the Department of Defense may choose to receive a commission in the United States Army, the United States Army Reserve, or the Army National Guard.

Military Science 100 and 200 level courses are open to all students. Students taking military science courses for credit and not seeking a commission will attend the classroom portion only. Military science 300 and 400 level courses are open to those students who meet the prerequisites as indicated below or receive the permission of the Professor of Military Science. The Department of Military Science offers two programs of instruction leading to a commission as a second Lieutenant.

The four-year program consists of a basic course and an advanced course. The basic course requires successful completion of Military Science 100- and 200-level courses during the freshman and sophomore years. The advanced course requires successful completion of Military Science 300- and 400-level courses during the junior and senior years. The courses are two and three credit hours for the basic program and four credit hours for the advanced program with three hours of classroom instruction. There are approximately 20 hours of leadership laboratory, in addition to the classroom instruction each quarter. Additionally, all advanced course students choosing to receive a commission in the United States Army, must attend the Leaders Development and Assessment Course between their junior and senior years.

No military obligation is incurred for the first two years of the program. Following completion of the basic course, students may enter the advanced course of instruction. Those qualified students wishing to receive a commission must sign an ROTC contract which obligates the student to complete the program of instruction and accept a commission in the U.S. Army, U.S. Army Reserve, or the Army National Guard. Contracted students receive a subsistence allowance of up to \$400 for each academic month of enrollment.

The two-year program is offered for students wishing to receive a commission who transfer from colleges that did not offer ROTC, who are veterans, or students whose academic course load did not permit them to take military science courses during their first two years. Students may qualify for the two-year program in one of several ways. The first is by attending Army ROTC Leader's Training Course. Upon successful completion, the student may enter the advanced course. Attending Leader's Training Course does not require the student to continue in the program nor does it incur any military obligation. The second is to receive credit for honorable prior military service of at least one year, as determined by the professor of military science. Additionally, a student may receive credit for two years or more of Junior ROTC at the high school level. After receiving credit for the basic course, the student proceeds with the advanced course as previously described.

**101 Introduction to Leadership and Military Officership Foundations I U 2**

Introductory course to leadership and first course in Army ROTC. Review of basic life skills, introduction to, and organization of the Army, the Army value system and ethical behavior are covered.

Au, Wi, Sp Qtrs. 1 1-hr cl, 1 2-hr leadership lab. Prereq: Wi, Sp Qtrs, Permission of the instructor.

**102 Introduction to Leadership and Military Officership Foundations II U 2**

Continuation of 101 and open to all university students who want to become an Army officer, world leader or to learn more about the Army. Builds on lessons learned from 101 and develops problem-solving skills.

Wi Qtr. 1 1-hr cl, 1 2-hr leadership lab.

**103 Introduction to Leadership and Military Officership Foundations III U 2**

The culmination of topics taught in 101-102, although they do not need to be taken first. Focuses on leadership theory, decision-making, factors that influence leadership. "Life Skills" continue to be developed.

Sp Qtr. 1 1-hr cl, 1 2-hr leadership lab.

**201 Individual Leadership I U 3**

Develops knowledge of self, self-confidence and individual leadership skills. Instruction includes practical exercises in and out of the classroom to develop problem solving and critical thinking skills.

Au, Wi, Sp Qtrs. 2 1-hr cl, 1 2-hr leadership lab. Prereq: Wi, Sp Qtrs, Permission of instructor.

**202 Individual Leadership II U 3**

Continuation of 201 focusing on developing knowledge of self, self-confidence and individual leadership skills. Instruction includes practical exercises in and out of the classroom to develop problem solving and critical thinking skills.

Wi Qtr. 2 1-hr cl, 1 2-hr leadership lab.

**203 Leadership and Teamwork U 3**

Focuses on self-development guided by knowledge of self and group processes.

Challenges student's current beliefs, knowledge, and skills. Provides equivalent preparation for the ROTC Advance Course as the Leader's Training Course.

Sp Qtr. 2 1-hr cl, 1 2-hr leadership lab.

**301 Military Operations at Small Unit Level U 4**

Overview of military tactics conducted at the infantry squad, platoon, and company level; analyze military missions and plan military operations, train and lead squad in execution of battle drills.

Au Qtr. 3 1-hr cl, 1 2-hr leadership lab, 3 1-hr physical training labs. Prereq: Credit for the Army ROTC Basic Program and approval of the professor of military science.

**302 Leadership and Problem Solving U 4**

Develops knowledge of self, self-confidence and individual leadership skills; provides overview of national defense policy and analyzes role officers played in transition of the Army from Vietnam to the 21st Century; practical exercises in application of general problem-solving model.

Wi Qtr. 3 1-hr cl, 1 2-hr leadership lab, 3 1-hr physical training labs, 1 1-day field training exercise. Prereq: 301 or permission of the professor of military science.

**303 Leadership and Ethics U 4**

Develop cadet leadership competencies through study of leadership to include trait theory, motivation theory, and contemporary leadership models; apply principles and techniques of effective written and oral communication; prepare for success at National Advanced Leadership Camp.

Sp Qtr. 3 1-hr cl, 1 2-hr leadership lab, 3 1-hr physical training labs, 1 4-day field training exercise. Prereq: 302 or permission of the professor of military science.

**401 Military Operations, Training Management and Ethics U 4**

Designed to acquaint student with Army management systems including staff organization and functions, training management and military professionalism and ethics. Practical exercises using the ethical decision-making process.

Au Qtr. 3 1-hr cl, 1 2-hr leadership lab, 3 1-hr physical training labs, 1 1-day field training exercise. Prereq: 301, 302, 303 or permission of professor of military science.

**402 Military Leadership, Operations and Administration U 4**

Designed to acquaint student with leadership, ethics, and the foundations of military and non-judicial law in leadership. Topics include personal, professional and leadership development.

Wi Qtr. 3 1-hr cl, 1 2-hr leadership lab, 3 1-hr physical training labs. Prereq: 401 or permission of professor of military science.

**403 Army Officership U 4**

The study of military leadership and contemporary military subjects that will prepare the student to perform the duties of a commissioned officer. This course focuses on final preparation for commissioning. Student will participate in spring Field Training Exercise (FTX) at local training area.

Sp Qtr. 3 1-hr cl, 1 2-hr leadership lab, 3 1-hr physical training labs, 1 4-day field training exercise. Prereq: 401, 402 or written permission of professor of military science.

**Modern Greek**

414 University Hall, 230 North Oval Mall, 292-2744

**101 Elementary Modern Greek I U 5**

Introduces students to the language, covering the basic skills of reading, understanding and writing.

Au Qtr. 5 cl. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of instructor. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**102 Elementary Modern Greek II U 5**

Offers intensive study of grammar and syntax, with extensive oral and written practice.

Wi Qtr. 5 cl. Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**103 Intermediate Modern Greek I U 5**

Offers grammar review and introduces longer prose texts.

Sp Qtr. 5 cl. Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**104 Intermediate Modern Greek II U 5**

Continues the previous year's 101-103 sequence. The course helps students expand their vocabulary and improve their fluency in speaking the language.

Au Qtr. 5 cl. Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**241 Culture of Contemporary Greece U 5**

A general survey of socio-cultural trends and issues in modern Greece through close analysis of literature and the other arts.

Wi, Sp Qtrs. 5 cl. H241 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 341.

**H250 Greek Identities: Ancient and Modern U 5**

This class explores how Greeks defined themselves by comparing ethnic and national identity in ancient and modern Greece. What does it mean to be Greek?

2 2-hr cl. Prereq: Honors standing. Taught in English. GEC arts and hums lit course.

**268 Folklore of Contemporary Greece U 5**

A general survey of socio-cultural trends and issues in modern Greece through close examination of ethnographies and other folk expressions.

Wi Qtr. GEC arts and hums VPA course.

**293 Individual Studies U 1-3**

Su, Au, Wi, Sp Qtrs. Prereq: 104 or equiv or permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Topics in Modern Greek studies.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**367 Issues in Greek-American Society and Culture U 5**

Exploration of representative features of Greek-American culture and reflection on the social diversity in the United States.

Wi Qtr. 2 2-hr cl. Prereq: English 110 or 111 or equiv, and soph standing. GEC second writing and social diversity course.

**371 Modern Greek Literature in Translation U 5**

Review of the Modern Greek literary tradition of the last two centuries through representative works and from a theoretical perspective.

Sp Qtr. 2 2-hr cl. Prereq: Jr or Sr standing. GEC arts and hums lit and third writing course.

**401 Advanced Modern Greek I U 5**

Introduces journalism, literary prose, and media. Students practice discussion and composition.

Wi Qtr. 5 cl. Prereq: 104.

**402 Advanced Modern Greek II U 5**

Completes the language sequence. Students develop translation skills and continue practicing conversation and composition.

Sp Qtr. 5 cl. Prereq: 401.

**628 Byzantine Greek Prose U G 5**

Reading and analysis of prose texts representative of major developments and trends in Byzantine Greek writing from the 4th to the 15th century.

Au Qtr. 5 cl. Prereq: 402 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**651 Contemporary Greek Prose U G 5**

Reading and analysis of short stories and novels representative of major developments and trends in Greek prose of the 19th and 20th centuries.

Wi Qtr. 5 cl. Prereq: 402.

**652 Contemporary Greek Poetry U G 5**

Reading and analysis of short and longer poems representative of major developments and trends in Greek poetry of the 19th and 20th centuries.

Sp Qtr. 5 cl. Prereq: 402.

**693 Individual Studies U G 1-6**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-6**

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**721 Studies in Modern Greek Literature U G 5**

Advanced study of specific literary periods, figures, and/or topics, involving extensive reading and discussion of appropriate primary and secondary source materials.

Wi, Sp Qtrs. 4-5 cl. Prereq: 5 cr hrs of Modern Greek literature at the 600 level

or equiv. Repeatable to a maximum of 15 cr hrs.

**H783 Honors Research U 3-5**

A program of research for each student which includes individual conferences and which culminates in an honors thesis or oral defense.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC Honors Committee approval of project, a minimum 3.50 pt-hr ratio in the field of distinction, sr standing, and CPHR commensurate with honors program membership. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**811 Seminar in Modern Greek Studies G 5**

Intensive, in-depth exploration of a selected topic or issue in Modern Greek literature, criticism, or intellectual culture.

Wi, Sp Qtrs. 3-5 cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**998 Research in Modern Greek G 1-10**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**Molecular and Cellular Biochemistry**

333 Hamilton Hall, 1645 Neil Avenue, 292-5451. Fax: 292-4118.

For instructors names see department at [www.medicine.osu.edu/mcbiochem/courses.htm](http://www.medicine.osu.edu/mcbiochem/courses.htm).

**311 Fundamentals of Medical Biochemistry U 5**

Basic structures and interactions of biomolecules in health and disease. Relevant organic chemistry included. Topics essential to human nutrition, dietetics, clinical chemistry, nursing, premedical education.

Au Qtr. 3 1.5-hr cl. Prereq: Chem 102 or 122.

**312 Fundamentals of Medical Biochemistry and Molecular Biology U 5**

A continuation of 311.

Wi Qtr. 3 1.5-hr cl. Prereq: 311.

**641 Dental Biochemistry P 4**

Chemistry and metabolism of carbohydrates, lipids, and proteins; digestion and absorption; elements of nutrition as they relate to dentistry, especially mineral and bone metabolism.

Au Qtr. 4 cl. Prereq: Chem 252 and enrollment in college of Dentistry.

**642 Dental Biochemistry P 3**

Continuation of 641.

Wi Qtr. 3 cl. Prereq: 641 and enrollment in College of Dentistry.

**733 Human Genetics G 3**

The principles of human genetics covering mapping of disease genes, defects causing human disease, the cloning of disease genes, gene therapy and transgenes.

Sp Qtr. 3 cl. and cptr time arr. Prereq: Mol Gen 500 or 606 or equiv. Not open to students with credit for Mol Gen 733 or Pathol 733. Cross-listed in Pathology and Mol Gen.

**761 Advanced Biochemistry: Proteins U G 3**

An advanced treatment of protein biochemistry.

Au Qtr. 3 cl. Prereq: Biochem 614 and Chem 253, 255 and 521; or equivs. Not open to students with credit for Biochem 761, or Chem 761. Cross-listed in Biochemistry and Chemistry.

**762 Advanced Biochemistry: Enzymes U G 3**

An advanced treatment of enzymology.

Au Qtr. 2 1.5-hr cl. Prereq: Biochem 615 and Chem 253, 255, and 521; or equivs. Not open to students with credit for Biochem 762, or Chem 762. Cross-listed in Biochemistry and Chemistry.

**763 Advanced Biochemistry: Membranes and Bioenergetics U G 2**

An advanced treatment of membranes and bioenergetics.

Sp Qtr. 2 cl. Prereq: Biochem 615 and Chem 253, 255, and 521; or equivs. Not open to students with credit for Biochem 763 or Chem 763. Cross-listed in Biochemistry and Chemistry.

**764 Advanced Biochemistry: Integration of Metabolism U G 3**

An advanced treatment of the regulation and integration of mammalian biochemical systems.

Sp Qtr. 3 cl. Prereq: Chem 253, 255, 521 and Biochem 615 or equivs. Not open to students with credit for Biochem 764 or Chem 764. Cross-listed with Biochemistry and Chemistry.

**765 Advanced Biochemistry: Physical Biochemistry U G 2**

Diffusion, electrophoresis, sedimentation, light and x-ray scattering, x-ray and neutron diffraction, fluorescence, polarimetry, mass spectroscopy, and nuclear magnetic resonance.

Wi Qtr. 2 cl. Prereq: Chem 253, 255, 521 and Biochem 615; or equivs. Not open to students with credit for Biochem 765 or Chem 765. Cross-listed with Biochemistry and Chemistry.

**766 Advanced Biochemistry: Nucleic Acid Chemistry and Structure U G 2**

Reactions, synthesis, and conformations of nucleosides, nucleotides, oligonucleotides, and polynucleotides.

Sp Qtr. 2 cl. Prereq: Chem 253, 255, 521, and Biochem 615; or equivs. Not open to students with credit for Biochem 766 or Chem 766. Cross-listed with Biochemistry and Chemistry.

**781 Animal Models of Human Disease U P G 1**

Transgenic and knockout mouse technology and examples of models for genetic diseases with each pattern of inheritance.

Wi Qtr. 1 cl. Prereq: Mol Gen 701 or IBGP 701.

**785 DNA Microarray Technology U P G 2**

This course will cover all the major areas of microarray technology including theory, target preparation and labeling, manufacturing methods, imaging and data analysis/mining.

Sp Qtr. 1 2-hr cl. Prereq: Biochem 511 or equiv.

**793 Individual Studies U P G 2-16**

Qualified students can conduct a minor investigation under the direction of a faculty member.

Su, Au, Wi, Sp Qtrs. Prereq: A previous biochemistry course and permission of instructor. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**823\* Control of Cell Growth and Proliferation G 3**

Role of cell surface receptors, cytoplasmic signaling molecules, transcription factors and chromatin remodeling complexes in the regulation of cell growth and in mechanisms causing cancer.

Wi Qtr. 2 1.5-hr cl. Prereq: 1 yr of grad biochem or permission of instructor.

**824\* Enzymology G 3**

Selected topics in structure/function relationships, mechanisms of catalysis, kinetics, and metabolic interrelations of enzyme systems.

Sp Qtr. 3 cl. Prereq: 1 yr of grad biochem or permission of instructor.

**828\* Signaling Pathways and Human Disease G 3**

Current concepts of biological signaling pathways and the biochemical defects in these pathways that lead to cardiovascular disease, cancer, diabetes and neurodegenerative diseases in humans.

Wi Qtr. 2 1.5-hr cl. Prereq: 1 yr of grad biochemistry or permission of instructor. Course is offered every other year.

**831 Eukaryotic Genome: Structure and Expression G 3**

Current research on the structure and expression of genes in higher eukaryotes.

Wi Qtr. 3 cl. Prereq: Biochem 702 or equiv. Not open to students with credit for Biochem 781. Repeatable to a maximum of 6 cr hrs. Cross-listed in Biochemistry and Molecular Genetics.

**840 Practical Macromolecular Crystallography G 3**

Practical aspects of using x-ray crystallography to determine the three dimensional structures of macromolecules.

Sp Qtr. 2 1.5-hr cl. Prereq: One yr of grad biochem or permission of instructor.

**850 Seminar G 1-2**

Prereq or concur: One yr of biochem. Repeatable. This course is graded S/U.

**880 Research Seminars**

Intensive study of problems in graduate fields of specialization.

Prereq: 10 grad cr hrs or permission of instructor.

**880.07 Gene Expression: Post-Transcriptional Control G 3**

Sp Qtr. 3 cl. Not open to students with credit for Mol Gen 880.07 or Vet Bios 880.07. Cross-listed in Molecular Genetics and Veterinary Biosciences.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Molecular Genetics**

984 Biological Sciences Building, 484 West 12th Avenue, 292-8084

**H220 Introduction to Molecular Life Sciences: Research Opportunities and Career Options U 1**

Faculty presentations and facility tours to introduce first- and second- year

students to research opportunities in molecular life sciences.

Au Qtr. 1 cl. Prereq: Biology 113 or H115. This course is graded S/U.

**500 General Genetics U G 5**

The principles of genetics, including molecular genetics, transmission genetics of prokaryotes and eukaryotes, developmental and non-chromosomal genetics, and the genetics and evolution of populations.

Su, Au, Wi, Sp Qtrs. 3 1.5-hr cl. Prereq: Biology 101 or 113 or H115, plus 5 additional cr hrs in biological sciences.

**H500^ General Genetics U G 6**

The principles of genetics, including transmission, molecular, developmental and population genetics; class presentations and laboratory.

Au Qtr. 3 1.5-hr cl, 1 3-hr lab. Prereq: Biology 101 or 113 or H115, plus 5 additional cr hrs in biological sciences.

**503 Molecular Genetics Writing Project U 2**

Practice in searching, reading, and analyzing literature in molecular genetics, and in written and oral presentation.

Su, Au, Wi, Sp Qtrs. 2 cl. Open to mol gen majors only or by permission of instructor. GEC third writing course.

**591 DNA Finger Printing Workshops in Columbus Public Schools U 2**

A service learning course whereby undergraduates mentor high school students in molecular biology workshops.

Sp Qtr. Repeatable to a maximum of 6 cr hrs. Undergraduates present workshops in Columbus Public Schools. Cross-listed in Biochemistry and Microbiology. This course is graded S/U.

**601 Eukaryotic Molecular Genetics Laboratory U G 5**

Current laboratory techniques used in the genetic and molecular analyses of *Saccharomyces cerevisiae* and *Drosophila*.

Wi Qtr. 1 cl, 3 3-hr labs. Prereq: Biochem 511 or permission of instructor.

**602 Eukaryotic Cell and Developmental Biology Laboratory U G 5**

Laboratory course emphasizing recent advances in techniques and methods central to cell biology and developmental biology of eukaryotes.

Sp Qtr. 2 cl, 2 4-hr labs. Prereq: Biochem 511 or permission of instructor.

**605 Molecular Genetics I U G 4**

Hereditary information as sequence information; DNA replication, transcription, and translation; analysis and manipulation of genes at the molecular level; asexual, sexual reproduction in eukaryotes.

Wi Qtr. 3 1-hr cl, 1-hr recitation. Prereq: Biochem 511 and Math 152. Not open to students with credit for 500.

**606 Molecular Genetics II U G 4**

Sexual reproduction in prokaryotes, viruses and organelles; molecular mechanisms of DNA replication, repair, mutation, recombination, and expression; genome structure; molecular evolution.

Sp Qtr. 3 1-hr cl, 1 1-hr recitation. Prereq: 605.

**607 Cell Biology U G 3**

Analysis of the structure and function of cells and their components stressing molecular genetic and biochemical approaches.

Au Qtr. 3 1-hr cl. Prereq: 500 or 606.

**H607 Honors Cell Biology U 4**

Analysis of the structure and function of cells and their components stressing molecular genetic and biochemical approaches.

Au Qtr. 3 1-hr cl. Prereq: 500 or 606.

**608 Genes and Development U G 3**

Analysis of development using modern genetic approaches.

Wi Qtr. 3 1-hr cl. Prereq: 500 or 606.

**622 Plant Molecular Biology U G 4**

An in-depth survey of molecular biology of plants with emphasis on current research topics.

Wi Qtr. 3 cl, 1 2-hr discussion. Prereq: 500 and Biochem 511; or 605; or permission of instructor. Not open to students with credit for 632 or PCMB 622. Cross-listed in Plant Cellular and Molecular Biology.

**632 Insect Molecular Genetics U G 3**

Structure, genetics and methodology of insect genes and genomes.

Wi Qtr. Prereq: Biochem 511, Mol Gen 500 or equiv. Cross-listed in Entomology.

**640 The Genetic Basis of Evolution U G 5**

The modern theory of evolution and its underlying genetic basis.

Sp Qtr. 3 1.5-hr cl. Prereq: 500 or 606 or equiv. Not open to students with credit for EEOB 640. Cross-listed in Evolution, Ecology, and Organismal Biology.



**650 Analysis and Interpretation of Biological Data I U G 5**

Methods of analyzing biological data including: sampling, descriptive statistics, distributions, analysis of variance, inference, regression, and correlation. Emphasizes practical applications of statistics in the biological sciences. Au Qtr. 3 1-hr lec, 1 1-hr rec, 1 hr arr for computer analysis of data. Prereq: Math 150 or equiv. and 15 cr hrs at 300-level or higher in a dept of agriculture or in biological sciences.

**693 Individual Studies**

Individual work in the field of the chosen problems. Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 35 cr hrs. This course is graded S/U.

**699 Undergraduate Research in Molecular Genetics U 1-15**

Undergraduate research in molecular genetics. Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 35 cr hrs. This course is graded S/U.

**700 Systems of Genetic Analysis U G 3**

Analysis of several major systems used in modern experimental genetics. Au Qtr. 3 1-hr cl. Prereq: 606 or equiv.

**701 Molecular Genetics: DNA Transactions U G 3**

Survey of experimental methods of molecular genetics and their application to the elucidation of pathways of DNA replication, mutation, repair, and recombination. Au Qtr. 3 cl. Prereq: 500 or 606, Biochem 511 or equiv; and 10 additional cr hrs in the bio sci above the 300 level.

**705 Advances in Cell Biology U G 3**

An advanced study of selected key areas of research in eukaryotic cell biology. Wi Qtr. 3 1-hr cl. Prereq: 607 and 701 or equiv.

**711\*\* Molecular Evolution U G 3**

Evolution and population genetics as seen at the molecular level: phenomena, concepts, methods of study, and implications for molecular biology and other disciplines. Wi Qtr. 3 cl. Prereq: 500 or 606, and 640 or 701 or EEOB 400 or EEOB 640 or equivs or permission of instructor. Not open to students with credit for EEOB 711. Cross-listed in Evolution, Ecology, and Organismal Biology.

**715 Developmental Genetics U G 3**

A study of the regulation of developmentally significant genes and cellular interactions involved in differentiation and pattern formation in Drosophila and metazoans. Sp Qtr. 3 1-hr cl. Prereq: 608, 700, and 701 or equiv.

**733 Human Genetics U G 3**

The principles of human genetics covering mapping of disease genes, defects causing human disease, the cloning of disease genes, gene therapy and transgenes. Sp Qtr. 3 cl. Prereq: 500 or 606 or equiv. Not open to students with credit for MolBioch 733 or Pathol 733. Cross-listed in MolBioch and Pathol.

**734\*\* Cancer Genetics: High Throughput Technologies U G 4**

An introduction to the high throughput technologies and bioinformatics in Cancer Genetics. Sp Qtr. 2 2-hr cl. Prereq: Biochem 511 or equiv. Not open to students with credit for MVIMG 734. Offered every two years. Cross-listed in Molecular Virology, Immunology and Medical Genetics.

**770\* Molecular Biology of Animal and Plant Viruses U G 3**

An advanced virology course using selected animal and plant. Sp Qtr. 3 cl. Prereq: Biochem 702 or equiv with permission of instructor.

**H783 Honors Research U 3-5**

A program of reading and research for each student with individual conferences, reports, and honors thesis. Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a grade of A in at least half of the courses in biological sciences and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 2 qtrs are required of candidates for the degree BA or BS with distinction in mol gen. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**795 Special Topics in Molecular Genetics U G 2**

Lecture/discussion in a seminar format of publications; current research or research techniques in molecular genetics, cell biology, or developmental biology. Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: 500 and permission of instructor. Repeatable to a maximum of 56 cr hrs. This course is graded S/U.

**800 Molecular Genetics Seminar G 1-3**

Faculty, graduate students, and outside speakers will participate. Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**801 Research Opportunities in Molecular Genetics G 2**

Discussion of research projects being carried out in laboratories of the department. Au Qtr. 1 2-hr cl. Prereq: Grad standing in mol gen. This course is graded S/U. This course is graded S/U.

**804 Molecular Genetics Laboratory Rotations G 3**

Laboratory research procedures, literature readings, and discussions to familiarize the students with a specific research area. Su, Au, Wi, Sp Qtrs. Arr lab. Prereq: Grad standing in mol gen. Repeatable to a maximum of 9 cr hrs. Required of all 1st yr molecular genetics grad students. This course is graded S/U.

**831 Eukaryotic Genome: Structure and Expression G 3**

Current research on the structure and expression of genes in higher eukaryotes. Wi Qtr. 3 cl. Prereq: Biochem 702 or equiv. Not open to students with credit for MolBioch 831. Cross-listed in Molecular and Cellular Biochemistry.

**880 Research Seminars**

Intensive study of problems in graduate fields of specialization. Su, Au, Wi, Sp Qtrs. Prereq: 10 grad cr hrs or permission of instructor.

**880.01 Developmental Genetics G 1-3**

Repeatable to a maximum of 30 cr hrs.

**880.02 Cell Biology G 1-3**

Repeatable to a maximum of 30 cr hrs.

**880.03 Molecular Evolution/Population Genetics G 1-3**

Repeatable to a maximum of 30 cr hrs.

**880.05 DNA Replication, Recombination, Repair G 1-3**

Repeatable to a maximum of 30 cr hrs.

**880.06 Gene Expression: Transcriptional Control G 1-3**

Repeatable to a maximum of 30 cr hrs.

**880.07 Gene Expression: Post-Transcriptional Control G 3**

Sp Qtr. 3 cl. Not open to students with credit for MolBioch 880.07 or Vet Bios 880.07. Repeatable to a maximum of 30 cr hrs. Cross-listed in Molecular and Cellular Biochemistry and Veterinary Biosciences.

**880.08 Yeast Molecular Biology G 1-3**

Repeatable to a maximum of 30 cr hrs.

**880.10 Human Genetics G 1-3**

Repeatable to a maximum of 30 cr hrs.

**880.11 Transgenic Models G 1-3**

Repeatable to a maximum of 30 cr hrs.

**999 Research in Genetics G 1-18**

Research for thesis and dissertation purposes only. Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable. This course is graded S/U.

**Molecular Virology, Immunology and Medical Genetics**

1093 Biomedical Research Tower, 460 W 12th Avenue, 292-5525  
www.medicine.osu.edu/mvimg

**600 Evolution of Emerging Viruses U G 2**

Biochemical, molecular, cellular, clinical, and epidemiological aspects of emerging viruses, with an emphasis on how each plays a role in virus evolution and emergence. Sp Qtr. 1 2-hr cl. Prereq: 2 yrs of course work in the biological sciences recommended. Not open to students with credit for Med Micr 600.

**610 Fundamental Concepts in Medical Microbiology G 2**

Basic concepts of bacteria, fungi, viruses, parasites, and unconventional agents, and includes an outside-class special topics assignment in medical microbiology. Su Qtr. Prereq: Biology 101 and Chem 101 or equivs. Not open to students with credit for a course in microbiology. Computer with Internet access helpful.

**625 Medical Microbiology P G 5**

Basic principles of Medical Microbiology with direct application to infections of man. Au Qtr. 40-hr lec. Not open to students with credit for Med Micr 625.

**626 Medical Microbiology P G 5**

A more extensive and intensive application of basic principles of medical microbiology to infectious diseases. Wi Qtr. 9-hr lec, 25-hr discussion. Prereq: 625 or Med Micr 625 or permission of instructor. Not open to students with credit for Med Micr 626.

## 292 Molecular Virology, Immunology and Medical Genetics

### 647 Eukaryotic Pathogens U G 3

Pathogenesis virulence factors, host-parasite interactions, ecology, epidemiology, immunity, laboratory diagnosis, and chemotherapy of eucaryotic pathogens.  
Au Qtr. 2 1.5-hr cl. Prereq: Micrbiol 520 or 524, or Biochem 511, or Mol Gen 500 or 501, or permission of instructor. Not open to students with credit for Micrbiol 647. Cross-listed in Microbiology.

### 693 Individual Studies G 1-5

Individual minor investigation in the field of virology, immunology, microbial pathogenesis or cancer genetics.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 694 Group Studies U G 1-5

Group Studies on special topics in virology, immunology, microbial pathogenesis or cancer genetics.

Su, Au, Wi, Sp Qtrs. Arr Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 701 Cellular and Molecular Immunology U G 5

Cellular and molecular mechanisms of immune response, cell recognition and communication, molecular biology of cell recognition structures, cytokines, and effector mechanisms.

Au Qtr. 5 cl. Prereq: Biochem 613, Mol Gen 501, or equiv. Not open to students with credit for Med Micr 701 or Microbiol 701. Cross-listed in Microbiology.

### 727 Epidemiologic Methods for Medical Genetics G 3

An introduction to the study of genetic influences in disease, with an emphasis on study design and statistical methods.

Sp Qtr. Prereq: Grad standing or permission of instructor.

### 734\* Cancer Genetics: High Throughput Technologies U P G 4

An introduction to the high throughput technologies and bioinformatics in Cancer Genetics.

Sp Qtr. 2 2-hr cl. Prereq: Biochem 511 or equiv. Not open to students with credit for Mol Gen 734. Offered every 2 years. Next offering Sp 2009. Required for all MVIIMG students in the Human and Cancer Genetics research track. Cross-listed in Molecular Genetics.

### 747\* Molecular Biology of Eucaryotic Microbial Pathogens G 3

Antigenic variation, composition of non-mammalian surfaces, responses to environmental signals, mechanisms leading to damage and survival within the host; emphasis on yeast and parasitic protozoa.

Sp Qtr. 2 1.5-hr cl. Prereq: Biochem 702. Not open to students with credit for Med Micr 747.

### 750\* Principles of Neuroimmunology U P G 3

Research and clinical applications of inflammatory processes within the central nervous system with special emphasis on neurodegenerative disorders, autoimmune disease and neurotrauma (e.g., spinal injury).

Sp Qtr. 2 1.5-hr cl. Prereq: 701 or Med Micr 701, Neuro Sc 725 or Neurosci 725 or NeuroGSP 725 or equiv, or permission of instructor. Not open to students with credit for NeuroGSP 750. Cross-listed in Neuroscience Graduate Studies Program.

### 754\* Fundamentals of Molecular Virology P G 5

Primary emphasis is on molecular biology of animal/human viruses. Covers the strategy of virus replication with special emphasis on the molecular biology of genomic replication and virus gene expression.

Sp Qtr. 3 1.5-hr cl. Prereq: Mol Gen 701, IBGP 701 and 702, Biochem 702 or equiv. Not open to students with credit for Med Micr 754 or Vet Bios 754. Cross-listed in Veterinary Biosciences.

### 757\* Diagnostic and Clinical Virology P G 5

Laboratory procedures used for the diagnosis of human viral infections.

Sp Qtr. 1 cl, 3 3-hr lab. Prereq: Enrollment in College of Medicine or written permission of instructor. Not open to students with credit for Med Micr 757.

### 793 Individual Studies in Molecular Virology, Immunology and Medical Genetics

Prereq: Enrollment in College of Medicine or permission of instructor. When registration is for 3 professional cr hrs, an additional 3 hr professional course must be taken.

#### 793.01 Student Seminar in Molecular Virology, Immunology, and Medical Genetics G 1

Student and post-doctoral presentations of research.

Au, Wi, Sp Qtrs. 1 hr./week, 1 cr./qt. Repeatable to a maximum of 15 cr hrs. Required in years 2-5 of graduate enrollment. This course is graded S/U.

#### 793.06 Problems in Molecular Virology, Immunology and Medical Genetics P G 3-15,18

Au, Wi, Sp Qtrs. Repeatable to a maximum of 24 cr hrs. 1, 2, 3, or 4 months; offered all months (prof cr). This course is graded S/U.

#### 793.07 Diagnostic and Clinical Microbiology P G 6-18

Su, Au, Wi, Sp Qtrs. Prereq: 626 or Med Micr 626 and permission of instructor. Repeatable to a maximum of 24 cr hrs. Experience in isolation and identification of micro-organisms from clinical specimens. 1, 2, 3, or 4 months (full time-prof cr). This course is graded S/U.

### 794 Group Studies G 1-18

One month, offered all months (prof cr.).

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable. When registration is for 3 professional cr hrs, an additional 3 cr hr professional course must be taken. This course is graded S/U.

### 801\*\* Selected Topics in Advanced Immunology G 3

Specific topics will vary from year to year in the general areas of neuroimmunology, molecular immunology, immune regulation, and cellular immunity.

Wi Qtr. 3 cl. Prereq: 701 or Med Micr 701 or equiv course in basic immunology or permission of instructor. Repeatable to a maximum of 9 cr hrs. Intended for advanced grad students, medical residents, and postdoctoral fellows.

### 804\*\* Instrumentation and Techniques in Molecular Virology, Immunology, and Cancer Genetics. G 5

Theory and application of techniques used to purify and characterize nucleic acids, lipids, and proteins; theory and operation of equipment and instruments used.

Wi Qtr. 2 2-hr cl, 12 lab hrs. Prereq: 625, 626 or Med Micr 625, 626; and MBiochem 611, 612, or equiv; and written permission of instructor. Not open to students with Med Micr 804.

### 814 Current Topics in Molecular Virology, Immunology and Medical Genetics

Discussion of current literature in various topics of molecular virology, immunology, and medical genetics.

Au, Wi, Sp Qtrs. 1 cl. May count toward MMI 814 requirement (3 credits). Meets once per week for student discussions of journal articles in a journal club format.

#### 814.01 Current Topics Molecular Virology G 1

Discussion of current literature in the field of molecular virology.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing in program or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

#### 814.02 Current Topics Immunology G 1

Discussion of current literature in the field of immunology.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing in program or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

#### 814.03 Current Topics Human Genetics G 1

Discussion of current literature in the field of human genetics.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing in program or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

#### 814.04 Current Topics in Microbial Pathogenesis G 1

Discussion of current literature in the field of microbial pathogenesis.

Sp Qtr. 1 cl. Prereq: Grad standing in program or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

#### 814.05 Current Topics in Integrative Immunobiology G 1

Discussion of current literature in the field of integrative immunobiology.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing in program or permission of instructor. Repeatable to a maximum of 10 cr hrs. 1 credit of this subdivision required for PhD or MS. Meets once per week for student presentations of case studies and presentations by instructor. This course is graded S/U.

### 827\* Biochemical Mechanisms of Carcinogenesis G 3

Defines the multi-stage model of cancer, signal transduction pathways used by tumor cells, genetics of cancer susceptibility and gene mutations in tumors.

Sp Qtr. 2 1.5-hr cl. Prereq: 1 yr of grad biochem or permission of instructor. Not open to students with credit for Med Micr 827 or Molbioch 827.

### 831 Eukaryotic Genome: Structure and Expression G 3

Current research on the structure and expression of genes in higher eukaryotes.

Wi Qtr. Prereq: Biochem 702 or equiv. Not open to students with credit for Biochem 781, or Biochem 831, Mol Gen 831 or MBiochem 831 or MolBioch 831. Cross-listed in Molecular and Cellular Biochemistry and Molecular Genetics.

### 833\* Current Immunological Techniques G 4

Current techniques in cellular and humoral immunology as applicable in research conducted by students.

Wi Qtr. 2 4-hr labs. Prereq: 701 or Med Micr 701 or equiv course in basic immunology. Not open to students with credit for Med Micr 833 or Micrbiol 833. Cross-listed in Microbiology. Next offering 2009.

### 841\* Viral Pathogenesis and Oncogenesis G 5

Cellular, immunological and molecular mechanisms involved with virus pathogenesis in animals/humans.

Au Qtr. 5 cl. Not open to students with credit for Med Micr 841 or Vet Bios 841 or Vet Path 841. Cross-listed in Veterinary Biosciences.

**847\* Cellular Mechanisms and Pathogenesis of Inflammation G 3**

Inflammatory processes in the human host due to interaction with viruses, bacteria, parasites, foreign antigens, or physical trauma and new immunological therapeutic strategies being developed.

Au Qtr. Prereq: 701 or Med Micr 701 or Micrbiol 701. Not open to students with credit for Med Micr 847.

**850 Advanced Seminar in Molecular Virology, Immunology and Medical Genetics G 1**

Advanced seminar topics related to molecular virology, immunology, pathogenesis or genetics.

Au, Wi, Sp Qtrs. 1 cl. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**874\* Advanced Topics in Molecular Biology of Eukaryotes G 3**

Graduate level course to highlight advanced topics in molecular biology of eukaryotes, particularly as it relates to cancer.

Sp Qtr. 1 2.5-hr cl. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**999 Research in Molecular Virology, Immunology and Medical Genetics G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in mvnig. Repeatable. This course is graded S/U.

**Molecular, Cellular, and Developmental Biology**

206 Rightmire Hall, 1060 Carmack Road, 292-2804

**693 Individual Studies G 2-15**

Individual research and problem solving in the field of molecular, cellular, and developmental biology.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 35 cr hrs. This course is graded S/U.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of program director. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**800 Seminar in Molecular, Cellular, and Developmental Biology G 1**

Seminars will be presented by faculty, graduate students, and outside speakers.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**890 Interdepartmental Seminar in Molecular, Cellular, and Developmental Biology G 2**

Students will present oral reports and lead discussion on research progress in specific areas of molecular, cellular, and developmental biology.

Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**999 Research in Molecular, Cellular, and Developmental Biology G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Music**

110 Weigel Hall, 1866 College Road, 292-6571

Preceding the class sessions of Music 221 and Music 201, placement tests will be given to determine the ability of students in these subjects. Contact the School of Music for details.

**101 Applied Music for Nonmajors Group Instruction I**

Au, Wi, Sp Qtrs. 2 cl. Open only to non-music majors. VPA Admis Cond courses.

**101.01^ Beginning Piano U 2**

Group instruction for students who have had no previous piano study.

**101.02 Voice U 2**

Repeatable to a maximum of 4 cr hrs.

**101.37^ Guitar U 2**

Introduction course in guitar for nonmusic major. Includes chording, strumming and melodic playing.

Su, Au, Wi, Sp Qtrs. 2 cl, 2 contact hrs. Repeatable to a maximum of 4 cr hrs. May be used towards the minor in music.

**101.41 Secondary Flute U 2**

Proper technique, standard repertoire, and play in flute ensemble.

Prereq: Intermediate level flute skills. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**102 Applied Music for Non-majors Group Instruction II**

Wi, Sp Qtrs. 2 cl. Open only to non-music majors. VPA Admis Cond courses.

**102.01 Piano U 2**

Prereq: 101.01. Repeatable to a maximum of 4 cr hrs.

**102.02\* Voice U 2**

Prereq: 101.02.

**110 Applied Music (Prospective Music Majors)**

An elementary applied music course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 201.

Au, Wi, Sp Qtrs. 1.5-hr cl, studio cl and recital attendance arr. Prereq: Audition and approval of the director of the School of Music. Does not count toward a music major.

**110.11 Piano U 2**

Repeatable to a maximum of 4 cr hrs.

**110.12 Jazz Piano U 2**

Repeatable to a maximum of 4 cr hrs.

**110.21 Voice U 2**

Repeatable to a maximum of 4 cr hrs.

**110.31 Violin U 2**

Repeatable to a maximum of 4 cr hrs.

**110.32 Viola U 2**

Repeatable to a maximum of 4 cr hrs.

**110.33 Cello U 2**

Repeatable to a maximum of 4 cr hrs.

**110.34 Double Bass U 2**

Repeatable to a maximum of 4 cr hrs.

**110.35 Guitar U 2**

Repeatable to a maximum of 4 cr hrs.

**110.36 Jazz Bass U 2**

Repeatable to a maximum of 4 cr hrs.

**110.41 Flute U 2**

Repeatable to a maximum of 4 cr hrs.

**110.42 Oboe U 2**

Repeatable to a maximum of 4 cr hrs.

**110.43 Clarinet U 2**

Repeatable to a maximum of 4 cr hrs.

**110.44 Bass Clarinet U 2**

Repeatable to a maximum of 4 cr hrs.

**110.45 Saxophone U 2**

Repeatable to a maximum of 4 cr hrs.

**110.46 Bassoon U 2**

Repeatable to a maximum of 4 cr hrs.

**110.47 Jazz Saxophone U 2**

Repeatable to a maximum of 4 cr hrs.

**110.51 Horn U 2**

Repeatable to a maximum of 4 cr hrs.

**110.52 Trumpet U 2**

Repeatable to a maximum of 4 cr hrs.

**110.53 Trombone U 2**

Repeatable to a maximum of 4 cr hrs.

**110.54 Euphonium U 2**

Repeatable to a maximum of 4 cr hrs.

**110.55 Tuba U 2**

Repeatable to a maximum of 4 cr hrs.

**110.56 Jazz Trumpet U 2**

Repeatable to a maximum of 4 cr hrs.

**110.57 Jazz Trombone U 2**

Repeatable to a maximum of 4 cr hrs.

**110.71 Percussion U 2**

Repeatable to a maximum of 4 cr hrs.

**110.72 Jazz percussion U 2**

Repeatable to a maximum of 4 cr hrs.

**110.91 Harp U 2**

Repeatable to a maximum of 4 cr hrs.

**121 Elementary Music Theory and Aural Training U 5**

An introduction to the fundamentals of music, music reading, and aural musicianship.

Au Qtr. 5 cl. Not open for credit to music majors. May not be substituted for 270. VPA Admis Cond course.

**200 Applied Music (Secondary)**

Fundamental applied music instruction in areas other than a student's major or principal area.

Au, Wi, Sp Qtrs. .5-hr lesson with 1-cr registration; 1-hr lesson with 2-cr registration. Prereq: Music major; open to other qualified students within the limits of instructional facilities by permission of the director of the School of Music.

**200.11 Piano U 1-2**

Prereq: 266.01. Repeatable to a maximum of 12 cr hrs.

**200.12 Jazz Piano U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.21 Voice U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.31 Violin U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.32 Viola U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.33 Cello U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.34 Double Bass U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.35 Guitar U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.36 Jazz Bass U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.37 Jazz Guitar U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.41 Flute U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.42 Oboe U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.43 Clarinet U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.44 Bass Clarinet U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.45 Saxophone U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.46 Bassoon U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.47 Jazz Saxophone U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.51 Horn U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.52 Trumpet U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.53 Trombone U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.54 Euphonium U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.55 Tuba U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.56 Jazz Trumpet U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.57 Jazz Trombone U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.71 Percussion U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.72 Jazz Percussion U 1-2**

Repeatable to a maximum of 12 cr hrs.

**200.91 Harp U 1-2**

Repeatable to a maximum of 12 cr hrs.

**201 Applied Music (Principal)**

Instruction in applied music to develop musicianship, performance, and a wide reading knowledge of music literature.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl and recital attendance arr. Prereq: Passing of School of Music entrance audition and test. Required of students in all music curricula, except BA, to a minimum of 6 qtr hrs. Open only to music majors. These courses are available for EM credit.

**201.11 Piano U 2**

Repeatable to a maximum of 8 cr hrs.

**201.12 Jazz Piano U 2**

Repeatable to a maximum of 8 cr hrs.

**201.21 Voice U 2**

Repeatable to a maximum of 8 cr hrs.

**201.31 Violin U 2**

Repeatable to a maximum of 8 cr hrs.

**201.32 Viola U 2**

Repeatable to a maximum of 8 cr hrs.

**201.33 Cello U 2**

Repeatable to a maximum of 8 cr hrs.

**201.34 Double Bass U 2**

Repeatable to a maximum of 8 cr hrs.

**201.36 Jazz Bass U 2**

Repeatable to a maximum of 8 cr hrs.

**201.37 Jazz Guitar U 2**

Repeatable to a maximum of 8 cr hrs.

**201.41 Flute U 2**

Repeatable to a maximum of 8 cr hrs.

**201.42 Oboe U 2**

Repeatable to a maximum of 8 cr hrs.

**201.43 Clarinet U 2**

Repeatable to a maximum of 8 cr hrs.

**201.44 Bass Clarinet U 2**

Repeatable to a maximum of 8 cr hrs.

**201.45 Saxophone U 2**

Repeatable to a maximum of 8 cr hrs.

**201.46 Bassoon U 2**

Repeatable to a maximum of 8 cr hrs.

**201.47 Jazz Saxophone U 2**

Repeatable to a maximum of 8 cr hrs.

**201.51 Horn U 2**

Repeatable to a maximum of 8 cr hrs.

**201.52 Trumpet U 2**

Repeatable to a maximum of 8 cr hrs.

**201.53 Trombone U 2**

Repeatable to a maximum of 8 cr hrs.

**201.54 Euphonium U 2**

Repeatable to a maximum of 8 cr hrs.

**201.55 Tuba U 2**

Repeatable to a maximum of 8 cr hrs.

**201.56 Jazz Trumpet U 2**

Repeatable to a maximum of 8 cr hrs.

**201.57 Jazz Trombone U 2**

Repeatable to a maximum of 8 cr hrs.

**201.71 Percussion U 2**

Repeatable to a maximum of 8 cr hrs.

**201.72 Jazz Percussion U 2**

Repeatable to a maximum of 8 cr hrs.

**201.91 Harp U 2**

Repeatable to a maximum of 8 cr hrs.

**203 University Choirs**

Au, Wi, Sp Qtrs.

**203.01 Chorale U 1**

A selected group of mixed voices which performs an extensive repertoire in concerts both on and off campus.

4 or more hrs rehearsal each wk. Prereq: Admission by audition and permission of instructor. Repeatable to a maximum of 18 cr hrs. VPA Admis Cond course.

**203.02 Symphonic Choir U 1**

Symphonic Choir is a concert organization singing a variety of literature.

4 or more hrs rehearsal each wk. Prereq: Admission by audition only. Repeatable to a maximum of 18 cr hrs. VPA Admis Cond course.

**203.03 University Chorus U 1**

Oratorio and large choral works are studied and performed.

3 or more hrs rehearsal each wk. Prereq: Admission by audition only. Repeatable to a maximum of 18 cr hrs. VPA Admis Cond course.

**203.04 Men's Glee Club U 1**

Study and performance of choral literature for men's voices.

3 or more hrs rehearsal each wk. Prereq: Admission by audition and permission of director. Repeatable to a maximum of 18 cr hrs. Membership in this concert group is open to all men students in the University by audition only.

**203.05 Women's Glee Club U 1**

Study and performance of choral literature for women's voices.

3 or more hrs rehearsal each wk. Prereq: Admission by audition and permission of director. Repeatable to a maximum of 18 cr hrs. Membership in this concert group is open to all women students in the University by audition. VPA Admis Cond course.

**204 University Bands**

Au, Wi, Sp Qtrs. VPA Admis Cond courses.

**204.02 University Wind Symphony U 1**

Preparation and performance of traditional and contemporary literature for symphonic band.

Open to all students by audition and permission of conductor. Repeatable to a maximum of 18 cr hrs.

**204.03 University Symphonic Band U 1**

Preparation and performance of traditional and contemporary literature for symphonic band.

Repeatable to a maximum of 18 cr hrs. Open to all students by audition and permission of conductor.

**204.04 University Band U 1**

Offers the nonmusic major an opportunity to enjoy creating music with limited performance demands.

Repeatable to a maximum of 18 cr hrs. Open to all students with prior high school instrumental experience; no formal audition required. Instruments available if needed.

**204.05 University Repertory Band U 1-3**

Designed as an educational band literature laboratory, sight-reading and discussing approximately 24 band works each quarter.

Wi, Sp Qtrs. Repeatable to a maximum of 18 cr hrs.

**204.06 Collegiate Winds U 1**

Preparation and performance of traditional, contemporary, and educational literature for concert band. Open by audition.

2 1.5-hr cl. Repeatable to a maximum of 18 cr hrs.

**205 Athletic Bands**

**205.01 University Marching Band U 2**

The University Marching Band is a selected group of brass and percussion players which performs at football games and rallies during Autumn Quarter.

Au Qtr. 6 or more hrs rehearsal each wk. Prereq: Admission by audition and permission of director. Repeatable to a maximum of 10 cr hrs. No audit. VPA Admis Cond course.

**205.02 Athletic Band U 2**

Athletic band provides spirited music for various sporting events (men's and women's basketball, spring football game), as well as several concerts.

Au, Wi, Sp Qtrs. Open to all students with prior high school instrumental experience, no formal audition required. Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 105. Some instruments may be available if needed. VPA Admis Cond course.

**206 Jazz Ensembles**

VPA Admis Cond courses.

**206.01 University U 1**

A selected group devoted to playing, arranging, and rehearsing with emphasis on contemporary jazz literature.

Au, Wi, Sp Qtrs. 4 or more hrs rehearsal each wk. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**206.02 Laboratory U 1**

A selected group devoted to the study and performance of music in various styles of jazz.

Au, Wi, Sp Qtrs. 3 or more hrs rehearsal each wk. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**206.03 Workshop U 1**

A selected group devoted to the study and performance of music in various jazz, jazz rock, blues, and pop styles.

Wi, Sp Qtrs. 3 or more hrs rehearsal each wk. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

**207 Percussion Ensembles**

Au, Wi, Sp Qtrs.

**207.01 University Percussion Ensemble U 1**

A laboratory and performance musical ensemble whose literature consists of original and transcribed works for percussion instruments alone or with percussion as a dominant feature.

2 or more hrs rehearsal each wk. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 195. VPA Admis Cond course.

**207.02 Steel Pan Ensemble U 1**

A laboratory and performance experience on authentic steel pans, concentrating on traditional musics of Trinidad, as well as contemporary arrangement.

Au, Wi, Sp Qtrs. 2 1.5-hr rehearsals. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 192.

**208 Small Ensembles**

Au, Wi, Sp Qtrs. 2 or more hrs rehearsal each wk. Prereq: Admission by audition and permission of instructor. VPA Admis Cond courses.

**208.01 Piano U 1**

Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.01.

**208.02 Voice U 1**

Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.02.

**208.03 Strings U 1**

Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.03.

**208.04 Woodwinds U 1**

Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.04.

**208.05 Brass U 1**

Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.05.

**208.07 Percussion U 1**

Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.07.

**208.15<sup>A</sup> Early Music Ensemble U 1**

Au, Wi Qtrs. Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.15.

**208.20 African Performing Ensemble U 1**

Au, Wi Qtrs. 1 2-hr cl. Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.20, and AfAm&ASt 199.20 and 208.20. Cross-listed in African-American and African Studies.

**208.21 Slavic Performing Ensemble U 1**

Wi, Sp Qtrs. Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.21.

**208.40 Jazz Combos U 1**

Small groups devoted to the study and performance of music in the various jazz combo styles.

3 or more hrs rehearsal each wk. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 196.04.

**208.99 Miscellaneous U 1**

Repeatable to a maximum of 18 cr hrs. including cr hrs earned in 199.10.

**209 Jazz Improvisation I U 3**

Fundamentals of jazz improvisation; seventh chord structures major, minor, pentatonic and blues scales; jazz patterns and phrasing; analysis and improvisation of blues and II-V progressions.

Wi Qtr. 3 cl. Prereq: 221. This course is available for EM credit.

**210 Jazz Improvisation II U 3**

Improvisation techniques utilizing blues and pentatonic scales, elaboration of seventh chord structures; analysis of transcribed solos; improvisation of vertical, horizontal, and combination tunes; exploration of Bebop and post-bop literature.

Sp Qtr. 3 cl. Prereq: 209. This course is available for EM credit.

**211 Jazz Improvisation III U 3**

Continuation of 210; technique development utilizing fourth patterns; concepts in modal and linear improvisations; increasing emphasis on post-bop literature; extensive practice in playing changes of bebop tunes.

Au Qtr. 3 cl. Prereq: 210.

**212 Introduction to Phonetic Alphabet U 2**

Introduction to the International Phonetic Alphabet and its application to singing in foreign languages.

Wi Qtr. 3 cl. Prereq: Minimum of 2 cr hrs of applied study in voice or written permission of instructor.

**215 University Orchestra**

Au, Wi, Sp Qtrs.

**215.01 University Symphony Orchestra U 1**

The University Orchestra is an 85-piece orchestra of full instrumentation devoted to the preparation of standard and modern literature; the group gives at least three concerts each year.

6 or more hrs rehearsal each wk. Prereq: Admission by audition and permission of director. Repeatable to a maximum of 18 cr hrs. Membership is open to all University students by audition. VPA Admis Cond course.

**215.02 First Year Orchestra U 1**

Rehearsal and performance experience for nonmusic majors who played an orchestral instrument in high school.

1 2-hr cl. Not open to music majors. Repeatable to a maximum of 3 cr hrs. Credit may count towards minor in music program.

**220 Introduction to Music Technology U 3**

Introduction to the use of technology in the practice and study of music.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Passing placement tests.

**221 Music Theory I U 3**

Elements of music and musical notation; analytical concepts and terminology; fundamentals of counterpoint and melody; extensive practice through written drill and creative projects.

Au, Wi Qtrs. 3 cl. Prereq: Passing of placement tests. This course is available for EM credit.

**222 Music Theory II U 3**

Principles of diatonic harmony, nonchordal melodic elements, and homophonic phrase structures; extensive practice in part-writing, analysis, and creative application.

Wi, Sp Qtrs. 3 cl. Prereq: 221. This course is available for EM credit.

**223 Music Theory III U 3**

Continuation of 222, including diatonic modulation and secondary dominant functions (emphasis on creative projects).

Su, Sp Qtrs. 3 cl. Prereq: 222. This course is available for EM credit.

**225 Aural Training I U 2**

Training in aural musicianship and music reading; practical application through solfege, dictation, and keyboard drill.

Wi, Sp Qtrs. 2 cl. Prereq: 224. This course is available for EM credit.

**226 Aural Training II U 2**

A continuation of 225, with attention to harmonic, contrapuntal, and rhythmic problems.

Su, Sp Qtrs. 2 cl. Prereq: 225. This course is available for EM credit.

**231 Jazz Theory U 2**

The forms and compositional techniques of jazz, including chord progression formulas, chord alteration, lead-sheet paraphrasing, countermelody and bass-line construction, and creative application.

Au Qtr. 2 cl. Prereq: 222 and 225.

**232\* Jazz Keyboard Harmony U 2**

Designed to provide students with piano skills that directly relate to other jazz areas such as composition, arranging, and improvisation.

Wi Qtr. 3 cl. Prereq: 231 and 261.01.

**240 Listening to Music Literature U 1**

Basic instruction in listening to and recognizing the elements and procedures that underlie musical style; aural analysis of masterworks from the 18th-20th centuries.

Sp Qtr. 3 cl, 1 1-hr lab. Open only to music majors. This course is graded S/U.

**241 Music History I U 3**

The development of European art music from the earliest times through the 16th century.

Au Qtr. 3 cl, 1 1-hr lab. Prereq: 240.

**242 Music History II U 3**

The development of European and American art music in the 17th and 18th centuries.

Wi Qtr. 3 cl, 1 1-hr lab. Prereq: 241.

**243 Music History III U 3**

The development of European and American art music in the 19th and 20th centuries.

Sp Qtr. 3 cl, 1 1-hr lab. Prereq: 242.

**244 Survey of African and African-Derived Music in the Western World U 3**

An introduction to traditional African music and its role in the history and development of Afro-American music with its concomitant sociopolitical milieu.

Su, Wi Qtrs. 3 cl. Not open to students with credit for AfAm&ASt244. Cross-listed in African-American and African Studies. VPA Admis Cond course.

**250 Music Cultures of the World U 5**

A survey of musical cultures outside the Western European tradition of the fine arts.

Su, Au, Wi, Sp Qtrs. 5 cl. Not open to students with credit for 140. GEC arts and hums VPA and global focus course. VPA Admis Cond course.

**251 The World of Classical Music U 5**

An introduction to the world of classical music and to its genres, composers, styles, societies and historical periods.

Su, Au, Wi, Sp Qtrs. 5 cl. H251 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open for credit to music majors. Not open to students with credit for 141. H251: Sp Qtr (offered on the regional campuses only). A musical background is not required. E251 may be offered for honors embedded experience. GEC arts and hums VPA and western (non-US) course. VPA Admis Cond course.

**252 History of Rock and Roll U 5**

The history and culture of rock and roll.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl., 1 1-hr lab. Not open to students with credit for 142. GEC arts and hums VPA course.

**253 Introduction to Jazz U 5**

A study of the characteristics, styles, and structure of jazz; jazz performers.

Sp Qtr. 5 cl. Not open for credit to music majors. Not open to students with credit for 150. GEC arts and hums vpa course. VPA Admis Cond course.

**261 Applied Music Methods and Materials I**

These courses are available for EM credit.

**261.01 Piano U 1**

Au Qtr. 2 cl. Prereq: Music major and prereq or concur: 221. Not open to keyboard majors.

**261.02\* Voice U 1-2**

Sp Qtr. 4 cl. Not open to voice majors.

**261.03 Strings U 1-2**

Au Qtr. 4 cl.

**261.05 Brass U 1-2**

Au Qtr. 4 cl. Not open to brass majors.

**261.07 Percussion U 1-2**

Wi, Sp Qtrs. 4 cl.

**261.11 Basic Conducting Laboratory U 2**

Basic conducting skill development emphasizing pulse, rhythm and physical coordination.

Au, Wi Qtrs. 4 cl. Prereq: 223.

**261.35 Guitar U 2**

Wi Qtr. 3 cl. Prereq: 269. Open only to mus edu majors. Not open to music majors with guitar specializations.

**261.41 Flute U 1**

Au, Wi Qtrs. 4 cl. 5-wk course. Limited to dept majors.

**261.42 Oboe U 1**

Au, Wi, Sp Qtrs. 4 cl. 5-wk course. Prereq: 261.41 or 261.43. Limited to dept majors.

**261.43 Clarinet U 1**

Au, Wi Qtrs. 4 cl. 5-wk course. Limited to dept majors.

**261.45 Saxophone U 1**

Au, Wi Qtrs. 4 cl. 5-wk course. Limited to dept majors.

**261.46 Bassoon U 1**

Au, Wi, Sp Qtrs. 4 cl. 5-wk course. Prereq: 261.41 or 261.43. Limited to dept majors.

**261.99 Wind, Strings, and Percussion U 2**

Functional knowledge of wind, strings, and percussion instruments.

Sp Qtr. 4 cl. Prereq: 170 Limited to dept majors; not open to instrumental majors.

**262 Applied Music Methods and Materials II**

These courses are available for EM credit.

**262.01 Piano U 1**

Wi Qtr. 2 cl. Prereq: Music major and 261.01. Not open to keyboard majors.

**262.02\* Voice U 2**

Au Qtr. 4 cl. Prereq: 261.02 Not open to voice majors.

**262.03 Strings U 2**

Wi Qtr. 4 cl. Prereq: 261.03.

**262.04 Woodwinds U 2**

Pedagogical and performance techniques for flute, clarinet, and saxophone.

Wi, Sp Qtrs. 4 cl. Prereq: Music major.

**262.05 Brass U 2**

Wi, Sp Qtrs. 4 cl. Prereq: 261.05.

**262.11 Conducting (Instrumental) U 2**

Conducting instruction applied to band, orchestra and ensemble literature and performance.

Wi, Sp Qtrs. 4 cl. Prereq: 261.11.

**262.12 Conducting (Choral) U 2**

Conducting instruction applied to choral literature and performance problems.

Wi Qtr. 4 cl. Prereq: 261.11.

**263 Applied Music Methods and Materials III**

Prereq: 262 or equiv. These courses are available for EM credit.

**263.01 Piano U 1**

Sp Qtr. 2 cl. Prereq: Music major and 262.01 or equiv.

**263.02 Voice U 2**

Wi Qtr. 4 cl.

**264 Applied Music Methods and Materials IV**

Prereq: 263 or equiv. These courses are available for EM credit.

**264.01 Piano U 1**

Au Qtr. 2 cl. Prereq: 263.01 or equiv and passage of Level Change Proficiency by a score of 70 or better.

**264.02 Voice U 2**

Sp Qtr. 4 cl.

**265 Applied Music Methods and Materials V****265.01 Piano U 1**

Functional keyboard skills for the music major, including sight-reading, harmonization, open score reading, accompanying and improvisation.

Wi Qtr. 2 cl. Prereq: Music major and 264.01 or equiv.

**266 Applied Music Methods and Materials VI****266.01 Piano U 1**

Functional keyboard skills for the music major, including sight-reading, harmonization, open score reading, accompanying and improvisation.

Sp Qtr. 2 cl. Prereq: Music major and 265.01 or equiv. Repeatable to a maximum of 2 cr hrs.

**267\*\* String Pedagogy for the Applied Studio U 2**

The organization, development, and pedagogy for the applied string instrument studio.

Au Qtr. 1 2-hr cl, 5-hr lab. Prereq: 201 or permission of instructor.

**268 Instrument Repair U 1**

Development of practical skills in identifying and correcting minor repair problems on band and orchestral instruments and their accessories.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 262.04, 262.05, and permission of instructor. Repeatable to a maximum of 2 cr hrs.

**269 Orientation to Music Education U 1**

Overview of career options in music education; includes clinical/field observation in a variety of settings.

Sp Qtr. 1 cl, 1 2-hr lab. Prereq: Enrollment in School of Music. Not open to students with credit for 170.

**270 Basic Experiences in Music U 4**

Basic and extended experiences in elements of music through singing, listening to music, playing instruments, and reading and creating music.

Au, Wi, Sp Qtrs. 5 cl. Prereq: Soph standing. This course is available for EM credit.

**288 Bebop to Doowop to Hiphop: The Rhythm and Blues Tradition U 5**

Examines the aesthetic and historical evolution of Rhythm and Blues: Black music tradition including Bebop, Rock and Roll and Hiphop redefining American popular culture post WWII.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for AfAm&ASt 288. Cross-listed in African-American and African Studies. GEC arts and hums VPA and social diversity course.

**293 Individual Studies**

**293.01 Composition U 1-3**

Au, Wi, Sp Qtrs. Prereq: Permission of coordinator. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Supervised group studies of special problems.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

**297 Music Education Laboratory Ensemble U 1**

Laboratory ensembles which provide performance experience on secondary instruments.

Sp Qtr. 2 or more hrs rehearsal each wk. Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. including cr hrs earned in 197. VPA Admis Cond course.

**310 Introduction to Operatic Stage Techniques U 2**

An introductory course to stage movement techniques, character analysis, role preparation, as applied to the operatic stage.

Au Qtr. 3 cl. Prereq: 401.21 or 402.21 or permission of instructor.

**311 Opera Scenes U 2**

A performance ensemble class devoted to the rehearsing and performing of opera scenes; basic rehearsal and performing techniques for operatic literature.

Wi Qtr. 3 1.5-hr cl. Prereq: 310 or permission of instructor. Open only to music majors by audition. Repeatable to a maximum of 8 cr hrs.

**312 Opera Performance U 2**

Instruction and experience in preparation for opera performance, including study of operatic literature and coaching of operatic roles.

Au, Wi, Sp Qtrs. 12 lab hrs. Prereq: 310 or permission of instructor. Admittance by audition only. Repeatable to a maximum of 10 cr hrs.

**341^ American Popular Music U 5**

Historical survey of American popular music, with emphasis on the 20th century.

Sp Qtr. 4 cl hr. Prereq: English 110 or 110.01 or 110.02 or 110.03 or equiv. Not open to students with credit for 252. E341 may be available for honors embedded experience at the regional campuses. GEC arts and hums VPA course.

**342\*\* Introduction to Opera U 5**

An introduction to the dramatic and musical conventions of opera.

Wi Qtr. 4 cl, 1 3-hr lab hr. Prereq: English 110 or 111 or equiv. GEC arts and hums VPA course.

**345 Topics in Music**

Topic varies; study of selected topics in music.

Arr.

**345.01 Music History U 3-5**

Topic varies; study of selected topics in the history of Western music.

H345.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 345.01: 141 or 251. Prereq for H345.01: 250 or 251 suggested. Repeatable to a maximum of 15 cr hrs.

Not offered at the Columbus Campus. GEC arts and hums VPA course.

**347\* Great Composers of 18th Century Europe U 3**

The styles and genres of five eminent composers of the 18th century: Bach, Handel, Mozart, Haydn, and Beethoven.

Wi Qtr. 3 cl. Prereq: English 110 or 111 or equiv. GEC arts and hums VPA course.

**348 Music on the Move in a Globalized World U 5**

Survey of globalization's effects on musical cultures around the world; explores both the role of diasporic migration and the use of recording and broadcasting technology.

Au Qtr. 2 2-hr cl. Prereq: English 110 or 110.01 or 110.02 or 110.03. GEC arts and hums vpa and international issues (non-western or global) course.

**349\*\* 20th-Century Music U 3**

The main trends in Western art music from Debussy to the avant garde.

Sp Qtr. 3 cl. Prereq: English 110 or 111 or equiv. GEC arts and hums VPA course.

**351 The World of Music U 3**

Introduction to music in non-Western cultures and societies and to the concepts, vocabulary, and methodology for dealing with this music.

Au Qtr. 3 cl, 1 1-hr lab. Prereq: Soph standing or higher. Not open to students with credit for 250. Open only to music majors.

**352\*\* Selected World Musics, Group I U 3**

An introduction to music in various Native American, African, and Eastern European cultures.

Wi Qtr. 3 cl. Prereq: 250 or 351. Not open to students with credit for 251.

**353\* Selected World Musics, Group II U 3**

An introduction to music in various South Indian, Indonesian, and Latin American cultures.

Wi Qtr. 3 cl. Prereq: 250 or 351. Not open to students with credit for 252.

**370 Music for Elementary Teachers U 3**

Music literature and teaching aids for children, including singing, rhythmic, creative, and listening experiences, and their presentation.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 270 and professional standing.

**372 Music for Teachers of Young Children U 3**

Instructional materials, methods, and musical skills needed for guiding young children's music and movement learning experiences applied to preschools and kindergarten.

Au Qtr. 2 1.5-hr cl. Not open to music majors. Designed for prospective teachers of young children and personnel of preschools and kindergartens.

**373 Music for Special Education Teachers U 3**

Music literature and teaching strategies for exceptional children, including singing, rhythmic, creative, and listening experiences.

Wi, Sp Qtrs. 5 cl. Prereq: Jr or sr standing in Edu-PAES.

**401 Applied Music (Principal)**

Applied music instruction required in the BME curriculum to develop musicianship, performance, and a wide reading knowledge of music literature.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl and recital attendance arr. Prereq: 201 and permission of applied area faculty. Open to other qualified students within the limits of instructional facilities by permission of the director of the School of Music.

**401.11 Piano U 2**

Repeatable to a maximum of 8 cr hrs.

**401.12 Jazz Piano U 2**

Repeatable to a maximum of 8 cr hrs.

**401.21 Voice U 2**

Repeatable to a maximum of 8 cr hrs.

**401.31 Violin U 2**

Repeatable to a maximum of 8 cr hrs.

**401.32 Viola U 2**

Repeatable to a maximum of 8 cr hrs.

**401.33 Cello U 2**

Repeatable to a maximum of 8 cr hrs.

**401.34 Double Bass U 2**

Repeatable to a maximum of 8 cr hrs.

**401.36 Jazz Bass U 2**

Repeatable to a maximum of 8 cr hrs.

**401.37 Jazz Guitar U 2**

Repeatable to a maximum of 8 cr hrs.

**401.41 Flute U 2**

Repeatable to a maximum of 8 cr hrs.

**401.42 Oboe U 2**

Repeatable to a maximum of 8 cr hrs.

**401.43 Clarinet U 2**

Repeatable to a maximum of 8 cr hrs.

**401.44 Bass Clarinet U 2**

Repeatable to a maximum of 8 cr hrs.

**401.45 Saxophone U 2**

Repeatable to a maximum of 8 cr hrs.

**401.46 Bassoon U 2**

Repeatable to a maximum of 8 cr hrs.

**401.47 Jazz Saxophone U 2**

Repeatable to a maximum of 8 cr hrs.

**401.51 Horn U 2**

Repeatable to a maximum of 8 cr hrs.

**401.52 Trumpet U 2**

Repeatable to a maximum of 8 cr hrs.

**401.53 Trombone U 2**

Repeatable to a maximum of 8 cr hrs.

**401.54 Euphonium U 2**

Repeatable to a maximum of 8 cr hrs.

**401.55 Tuba U 2**

Repeatable to a maximum of 8 cr hrs.

**401.56 Jazz Trumpet U 2**

Repeatable to a maximum of 8 cr hrs.

**401.57 Jazz Trombone U 2**

Repeatable to a maximum of 8 cr hrs.

**401.71 Percussion U 2**

Repeatable to a maximum of 8 cr hrs.

**401.72 Jazz Percussion U 2**

Repeatable to a maximum of 8 cr hrs.

**401.91 Harp U 2**

Repeatable to a maximum of 8 cr hrs.

**402 Applied Music (Major)**

Instruction required in BM curriculum in performance to develop professional qualities of musicianship, technique, and knowledge of music literature.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl and recital attendance arr. Prereq: 201 and written permission of applied area faculty.

**402.11 Piano U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.21 Voice U 3**

Repeatable to a maximum of 16 cr hrs.

**402.31 Violin U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.32 Viola U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.33 Cello U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.34 Double Bass U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.41 Flute U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.42 Oboe U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.43 Clarinet U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.44 Bass Clarinet U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.45 Saxophone U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.46 Bassoon U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.51 Horn U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.52 Trumpet U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.53 Trombone U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.54 Euphonium U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.55 Tuba U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.71 Percussion U 2,4**

Repeatable to a maximum of 16 cr hrs.

**402.91 Harp U 2,4**

Repeatable to a maximum of 16 cr hrs.

**412 Italian Diction for Singers U 2**

Advanced study of phonetics and sound production as applied to singing in

Italian.

Sp Qtr. 3 cl. Prereq: 212.

**413 German Diction for Singers U 2**

Advanced study of phonetics and sound production as applied to singing in German.

Au Qtr. 3 cl. Prereq: 212.

**414 French Diction for Singers U 2**

Advanced study of phonetics and sound production as applied to singing in French.

Wi Qtr. 3 cl. Prereq: 212.

**421 Music Theory IV U 3**

Principles of 18th- and 19th-century chromatic harmony and modulation; extensive practice in part-writing, analysis, and creative application.

Au Qtr. 3 cl. Prereq: 223.

**422 Music Theory V U 3**

Introduction to the study of the structural principles and forms of homophonic music. Extensive practice through written drill, analysis and creative projects.

Wi Qtr. 3 cl. Prereq: 421.

**423 Music Theory VI U 3**

Compositional techniques in 20th-century music; extensive practice through written drill, analysis, and creative projects.

Sp Qtr. 3 cl. Prereq: 422.

**424 Aural Training III U 2**

Intensive training in aural musicianship and music reading; practical application through solfege, dictation, and keyboard drill.

Au Qtr. 2 cl. Prereq: 226.

**425 Aural Training IV U 2**

A continuation of 424 at a more advanced level.

Wi Qtr. 2 cl. Prereq: 424.

**426 Aural Training V U 2**

A continuation of 425; aural training at an advanced level.

Sp Qtr. 2 cl. Prereq: 425.

**427\*\* Keyboard Harmony I U 2**

Systematic review and utilization of basic harmonic materials at the keyboard.

Au Qtr. 2 cl. Prereq: 201.01 (6 cr hrs), 261.01, 262.01, and 263.01 (6 cr hrs).

**428\*\* Keyboard Harmony II U 2**

Introduction to score reading at the keyboard.

Wi Qtr. 2 cl. Prereq: 427.

**429\*\* Keyboard Harmony III U 2**

Continued practical experience in score reading at the keyboard.

Sp Qtr. 2 cl. Prereq: 428.

**433 Scoring for Jazz Ensembles****433.02\* Small Jazz Ensembles U 3**

Scoring projects for jazz combos of various sizes and instrumentation.

Wi Qtr. 3 cl. Prereq: 223 and 231.

**433.03\*\* Large Jazz Ensembles U 3**

Scoring projects for the stage band, with concentration on voicing, ranges, doublings, balance, and notational procedures.

Wi Qtr. 3 cl. Prereq: 433.02. Not open to students with credit for 433.01.

**446\* Survey of Jazz Styles U 3**

Stylistic variants of jazz involving technical and structural aspects so that the student may recognize, play, and score them authentically.

Sp Qtr. 3 cl. Prereq: Permission of instructor.

**470 Introduction to Music Education U 4**

Professional orientation for prospective school music teachers; study of musical development, human relations, discipline, evaluation, philosophy of teaching, and the music curriculum; comprehensive field experience.

Au, Wi Qtrs. 2 cl, 2 2-hr labs. Prereq: Soph standing in music ed and Psych 100.

**489 Internship in Music U 1-5**

A cooperative education or internship assignment conducted under the supervision of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.



**500 Review of Music Topics**

Review of selected music topics; intended for beginning graduate students in music.

Su, Wi, Sp Qtrs. 3 cl. Prereq: Grad standing in music.

**500.01 Review of Music Analysis Techniques G 3**

Review of notation symbology, nomenclature, part-writing practices, and analytic techniques related to Western music composed from the mid-18th through the mid-20th centuries.

Su, Sp Qtrs. Not open to students with credit for 620. Repeatable to a maximum of 9 cr hrs.

**500.02 Review of Music History G 3**

Review of Western music history from ancient Greek times to the present; study of genres, composers, and elements of musical styles.

Su, Wi Qtrs. Repeatable to a maximum of 9 cr hrs.

**501 Applied Music (Principal)**

Applied music instruction required in the BME curriculum to develop musicianship, performance, and a wide reading knowledge of music literature.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl arr. Prereq: 401 and permission of applied area faculty. Open to other qualified students within the limits of instructional facilities by permission of the director of School of Music.

**501.11 Piano U 2**

Repeatable to a maximum of 8 cr hrs.

**501.12 Jazz Piano U 2**

Repeatable to a maximum of 8 cr hrs.

**501.21 Voice U 2**

Repeatable to a maximum of 8 cr hrs.

**501.31 Violin U 2**

Repeatable to a maximum of 8 cr hrs.

**501.32 Viola U 2**

Repeatable to a maximum of 8 cr hrs.

**501.33 Cello U 2**

Repeatable to a maximum of 8 cr hrs.

**501.34 Double Bass U 2**

Repeatable to a maximum of 8 cr hrs.

**501.35 Guitar U 2**

Repeatable to a maximum of 8 cr hrs.

**501.36 Jazz Bass U 2**

Repeatable to a maximum of 8 cr hrs.

**501.37 Jazz Guitar U 2**

Repeatable to a maximum of 8 cr hrs.

**501.41 Flute U 2**

Repeatable to a maximum of 8 cr hrs.

**501.42 Oboe U 2**

Repeatable to a maximum of 8 cr hrs.

**501.43 Clarinet U 2**

Repeatable to a maximum of 8 cr hrs.

**501.44 Bass Clarinet U 2**

Repeatable to a maximum of 8 cr hrs.

**501.45 Saxophone U 2**

Repeatable to a maximum of 8 cr hrs.

**501.46 Bassoon U 2**

Repeatable to a maximum of 8 cr hrs.

**501.47 Jazz Saxophone U 2**

Repeatable to a maximum of 8 cr hrs.

**501.51 Horn U 2**

Repeatable to a maximum of 8 cr hrs.

**501.52 Trumpet U 2**

Repeatable to a maximum of 8 cr hrs.

**501.53 Trombone U 2**

Repeatable to a maximum of 8 cr hrs.

**501.54 Euphonium U 2**

Repeatable to a maximum of 8 cr hrs.

**501.55 Tuba U 2**

Repeatable to a maximum of 8 cr hrs.

**501.56 Jazz Trumpet U 2**

Repeatable to a maximum of 8 cr hrs.

**501.57 Jazz Trombone U 2**

Repeatable to a maximum of 8 cr hrs.

**501.71 Percussion U 2**

Repeatable to a maximum of 8 cr hrs.

**501.72 Jazz Percussion U 2**

Repeatable to a maximum of 8 cr hrs.

**501.91 Harp U 2**

Repeatable to a maximum of 8 cr hrs.

**502 Applied Music (Major)**

Instruction required in BM curricula in performance to develop professional

qualities of musicianship, technique, and knowledge of music literature; half recital required in junior year.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl and recital attendance arr. Prereq: 402 and written permission of applied area faculty.

**502.11 Piano U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.12 Jazz Piano U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.21 Voice U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.31 Violin U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.32 Viola U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.33 Cello U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.34 Double Bass U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.36 Jazz Bass U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.37 Jazz Guitar U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.41 Flute U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.42 Oboe U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.43 Clarinet U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.44 Bass Clarinet U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.45 Saxophone U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.46 Bassoon U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.47 Jazz Saxophone U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.51 Horn U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.52 Trumpet U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.53 Trombone U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.54 Euphonium U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.55 Tuba U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.56 Jazz Trumpet U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.57 Jazz Trombone U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.71 Percussion U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.72 Jazz Percussion U 3,4**

Repeatable to a maximum of 16 cr hrs.

**502.91 Harp U 3,4**

Repeatable to a maximum of 16 cr hrs.

**510\* Advanced Jazz Improvisation U 3**

Advanced techniques of improvisation; the use of modal devices, complex meters, and innovative forms; concern for speed, endurance, energy levels, and problems of unaccompanied performance.

Sp Qtr. 3 cl. Prereq: 211 or permission of instructor.

**521 Form and Analysis U 3**

Detailed study of the structural principles and forms of homophonic music.

Wi Qtr. 3 cl. Prereq: 423.

**524 Orchestration I U 3**

A fundamental course in scoring for the instruments of the orchestra and band in transcriptions and arrangements.

Au, Wi Qtrs. 2 1.5-hr cl. Prereq: 423.

**531 Elementary Studies in Counterpoint U 3**

A fundamental course in counterpoint including study of the basic principles of 16th-century polyphony.

Au Qtr. 3 cl. Prereq: 423.

**533\* Jazz Composition U 3**

Designed to develop the skills necessary for composing/arranging for small, mixed, and large jazz ensembles.

Sp Qtr. 3 cl. Prereq: 433.03.

**535 Composition I U 3**

A fundamental course in composition, with emphasis on creative writing in the small forms.

Au Qtr. 3 cl. Prereq: 423.

**546\*\* Modern and Contemporary Jazz Styles U 3**

Modern and contemporary jazz styles from the Be-bop School of the 1940's to the present day.

Sp Qtr. 3 cl. Prereq: 446.

**555 Studies in Musicology**

Introduction to specialized topics and issues in historical musicology and ethnomusicology.

2 1.5-hr cl. Prereq: Admission to BM in music history or permission of instructor.

**555.01\* Medieval Music U 4**

Au Qtr.

**555.02\* Renaissance Music U 4**

Wi Qtr.

**555.03\* Baroque Music U 4**

Sp Qtr.

**555.04\*\* Classic Music U 4**

Au Qtr.

**555.05\*\* Romantic Music U 4**

Wi Qtr.

**555.06\*\* 20th-Century Music U 4**

Sp Qtr.

**555.07 19th-Century Russian Music U 5**

Wi Qtr.

**555.08^ 20th-Century Russian Music U 5**

Au Qtr.

**555.09^ Contemporary Art Music of Africa and the Diaspora U 5****566\*\* Jazz Ensemble Techniques U 3**

The organization and operation of the public school jazz ensemble.

Wi Qtr. 3-hr cl. Prereq: Permission of instructor.

**572 Teaching General Music in Secondary Schools U 3**

The role of music in adolescents' general education and the development of competencies essential to teaching.

Au, Wi Qtrs. 3 cl. Prereq: Professional standing in music education.

**574 Teaching Choral Music I U 3**

Comprehensive choral music education, rehearsal techniques, and concert preparation; quarter culminates in choral recital.

Au Qtr. 3 cl. Prereq: 262.12 and 264.02, and professional standing in music education.

**575 Teaching Choral Music II U 3**

Curriculum planning for elementary through high school choirs, ethical and social issues, and survey of OMEA and world choral music repertoire.

Wi Qtr. 3 cl. Prereq: 574 and professional standing in music education.

**576 Teaching Instrumental Music in Elementary and Middle Schools U 3**

The role of instrumental music instruction in education, techniques of teaching instrumental music, study of music appropriate to musical organizations in elementary and middle schools.

Au Qtr. 3 cl. Prereq: 261.07, 261.41, 261.42, 261.43, 261.45, 261.46, 262.03, 262.05, 262.11, and professional standing in music education.

**577 Teaching Instrumental Music in Secondary Schools U 3**

The role of instrumental music instruction in public education, techniques of teaching instrumental music, study of music appropriate to musical organizations in secondary schools.

Wi Qtr. 3 cl, 1 1-hr lab. Prereq: 576 and professional standing in music education.

**578 Teaching General Music in Elementary Schools I: Introduction and Repertoire U 3**

Introduction to Dalcroze and Orff methodologies; study and analysis of music repertoire suitable for children in elementary schools.

Au Qtr. 2 1.5-hr cl, 1 lab hr. Prereq: Professional standing in music education. Not open to students with credit for 571.

**579 Teaching General Music in Elementary Schools II: Planning and Practicum U 3**

A study of Kodaly and intermediate Orff methodologies; the planning and implementation of musical experiences for children in elementary schools.

Wi Qtr. 2 1.5-hr cl, 1 lab hr. Prereq: 578 and professional standing in music education. Not open to students with credit for 570.

**586 Student Teaching in Music in Elementary Schools U 3-8**

Assignment to area elementary schools for observation and teaching experiences with groups of students and cooperating teachers; students attend weekly seminars with University supervisors.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 8 cr hrs.

**587 Student Teaching in Music in Secondary Schools U 3-8**

Assignment to area secondary schools for observation and teaching experiences with groups of students and cooperating teachers; students attend weekly seminars with University supervisors.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 8 cr hrs.

**591\* Survey of the Music Industry U 3**

Economic aspects of music in America with reference to recordings, films, TV, radio, music theatre, booking, management, publishing, and manufacturing.

Sp Qtr. 3 cl. Prereq: Sr standing or permission of instructor.

**601 Applied Music (Principal)**

Elective applied music instruction at the senior level for students in the BME curriculum; continuation of study of literature, technique, and musicianship.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl arr. Prereq: 501 and permission of applied area faculty. Open to other qualified students within the limits of instructional facilities by permission of director of School of Music.

**601.11 Piano U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.21 Voice U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.31 Violin U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.32 Viola U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.33 Cello U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.34 Double Bass U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.35 Guitar U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.41 Flute U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.42 Oboe U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.43 Clarinet U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.44 Bass Clarinet U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.45 Saxophone U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.46 Bassoon U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.51 Horn U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.52 Trumpet U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.53 Trombone U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.55 Tuba U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.71 Percussion U 1,2**

Repeatable to a maximum of 8 cr hrs.

**601.91 Harp U 1,2**

Repeatable to a maximum of 8 cr hrs.

**602 Applied Music (Major)**

Applied music instruction required in BM curricula in performance to develop professional qualities of musicianship; full recital required in senior year.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl arr. Prereq: 502 and written permission of applied area faculty.

**602.11 Piano U 4**

Repeatable to a maximum of 24 cr hrs.

**602.21 Voice U 4**

Repeatable to a maximum of 24 cr hrs.

**602.31 Violin U 4**

Repeatable to a maximum of 24 cr hrs.

**602.32 Viola U 4**

Repeatable to a maximum of 24 cr hrs.

**602.33 Cello U 4**

Repeatable to a maximum of 24 cr hrs.

**602.34 Double Bass U 4**

Repeatable to a maximum of 24 cr hrs.

**602.41 Flute U 4**

Repeatable to a maximum of 24 cr hrs.

**602.42 Oboe U 4**

Repeatable to a maximum of 24 cr hrs.

**602.43 Clarinet U 4**

Repeatable to a maximum of 24 cr hrs.

**602.44 Bass Clarinet U 4**

Repeatable to a maximum of 24 cr hrs.

**602.45 Saxophone U 4**

Repeatable to a maximum of 24 cr hrs.

**602.46 Bassoon U 4**

Repeatable to a maximum of 24 cr hrs.

**602.51 Horn U 4**

Repeatable to a maximum of 24 cr hrs.

**602.52 Trumpet U 4**

Repeatable to a maximum of 24 cr hrs.

**602.53 Trombone U 4**

Repeatable to a maximum of 24 cr hrs.

**602.54 Euphonium U 4**

Repeatable to a maximum of 24 cr hrs.

**602.55 Tuba U 4**

Repeatable to a maximum of 24 cr hrs.

**602.71 Percussion U 4**

Repeatable to a maximum of 24 cr hrs.

**602.91 Harp U 4**

Repeatable to a maximum of 24 cr hrs.

**607 Performance Enhancement I U G 1**

Skills and techniques designed to enhance the quality of public performances.

Au, Wi, Sp Qtrs. 1 cl. Not limited to music majors. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**608 Performance Enhancement II U G 1**

Advanced skills and techniques designed to enhance the quality of public performances.

Au, Wi, Sp Qtrs. 1 cl. Prereq: 607 or permission of instructor. Not limited to music majors. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**610 Alexander Technique U G 1**

The relationship of kinesthetic perception and the postural reflexes to physical coordination in performance.

Au, Wi, Sp Qtrs. 2 cl. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**611 Piano Pedagogy I U G 2**

An analysis of teaching techniques and materials for individual and group instruction in piano with an emphasis on the elementary and intermediate levels.

Au Qtr. 2 cl. Prereq: 6 cr hrs in 501.01 or 501.11 or permission of instructor.

**612 Piano Pedagogy II U G 2**

An analysis of repertoire for piano study at the intermediate and early advanced levels.

Wi Qtr. 2 cl. Prereq: 611 or permission of instructor.

**613 Piano Pedagogy III U G 2**

An analysis of the development of piano technique through readings in pedagogical treatises and applications in standard piano repertoire from various style periods.

Sp Qtr. 2 cl. Prereq: 612 or permission of instructor.

**620 Extended Tonality from Wagner to Hindemith: Theory and Analysis U G 3**

Systematic analytic observation of tonal art music from the last decades of the nineteenth century to World War II.

Au Qtr. 3 1-hr cl. Prereq: 423.

**621 Theory and Analysis: 17th-18th Centuries U G 3**

Analysis of representative works from the 17th-18th century, introducing relevant theoretical concepts.

Wi Qtr. 3 cl. Prereq: 423 or a score in the upper third on the grad placement exam.

**622 Theory and Analysis: 19th Century U G 3**

Analysis of representative works from the 19th century, introducing relevant theoretical concepts.

Sp Qtr. 3 cl. Prereq: 423 or a score in the upper third on the grad placement exam.

**623 Theory and Analysis: 20th Century U G 3**

Analysis of representative works from the 20th century, introducing relevant theoretical concepts.

Au Qtr. 3 cl. Prereq: 423 or a score in the upper third on the grad placement exam.

**625\* Orchestration II U G 3**

Study of 20th-century orchestration techniques, including readings in recent literature on timbre and timbre perception; scoring of transcriptions and students' compositions for various ensembles.

Sp Qtr. 2 1.5-hr cl. Prereq: 524.

**630 Composers Seminar U G 1**

Contemporary topics in composition and theory; presentation, performance, and criticism of student compositions and papers.

Au, Wi, Sp Qtrs. 1 1.5-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**631 Intermediate Studies in Counterpoint U G 3**

Counterpoint based on the polyphonic style of the 18th century; analysis of representative works and practice in writing two- and three-part inventions.

Wi Qtr. 3 cl. Prereq: 531 or permission of instructor.

**635 Composition II U G 3-5**

Practice in creative writing; analysis, and evaluation; employment of contemporary methods of composition.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 535 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**636 Introduction to Electronic Music Synthesis U G 3**

Techniques of composition with electronic media; history, literature, and criticism; score preparation; principles of audio engineering; relationships to other communications media.

Au Qtr. 3 cl. Prereq: 423 and permission of instructor.

**637 Composition with Electronic Media I U G 3-5**

Individual composition projects; further study of sound synthesis techniques, including modification of natural sounds.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 535, real time electro acoustical modification or equiv and 636. Repeatable to a maximum of 15 cr hrs.

**638\*\* Audio Recording U G 3**

Audio recording; microphones and microphone placement; multiple-track recording; mixing; equalization and special effects.

Wi Qtr. 3 cl. Prereq: Elec Eng 205 or equiv with written permission of instructor.

**639\*\* Audio Recording Laboratory U G 2**

Creating an audio recording; familiarity with the recording studio and console, use and placement of microphones; multiple-track recording equalization and special effects; mixing.

Sp Qtr. 1cl, 1 3-hr lab. Prereq: 638. Repeatable to a maximum of 6 cr hrs.

**645 Music's Meanings U G 3,5**

An exploration of approaches to ways that music conveys meaning; taught online.

Sp Qtr. Arr. Prereq: Grad standing in music or permission of instructor. Distance Learning course.

**646\*\* History of Music in the United States U G 3**

A survey of music in the United States from colonial times until the present.

Wi Qtr. 3-hr cl. Prereq: Jr or sr standing.

**647 Individual Composers: Their Lives and Works U G 3**

A comprehensive study of the works of an individual composer; topic varies from year to year.

3 cl. Prereq: 521 or 531, and 243.

**648\*\* History and Literature of Chamber Music U G 3**

A survey of the history and stylistic development of chamber music.

Au Qtr. 2 1.5-hr cl. Prereq: 243 and 521 or 531.

**649\* History and Literature of Symphonic Music U G 3**

A survey of the history and stylistic development of symphonic music.

Au Qtr. 2 1.5-hr cl. Prereq: 243 and 521 or 531.

**650\* History and Literature of Choral Music U G 3**

A survey of the history and stylistic development of choral music.

Wi Qtr. 2 1.5-hr cl. Prereq: 243 and 521 or 531.

**651\*\* History and Literature of Opera U G 3**

A survey of the history and stylistic development of opera.

Sp Qtr. 2 1.5-hr cl. Prereq: 243 and 521 or 531.

**652\* 18th and 19th Century Song Literature U G 3**

The study of selected 18th and 19th century song literature.

Au Qtr. 3 cl. Prereq: 243 and 423 or grad standing in music.

**653 Piano Literature U G 3**

A study of the piano sonata and other characteristic forms from the pre-piano period to the present time.

Sp Qtr. 3 cl. Prereq: 243 and 521 or 531.

**655\* 20th Century Song Literature U G 3**

The study of selected 20th century song literature.

Wi Qtr. 2 1.5-hr cl. Prereq: 652 or grad standing.

**660 Advanced Conducting (Instrumental) U G 3**

An attempt to develop the power to interpret the larger forms of instrumental literature and to read from full score.

Wi Qtr. 3 cl. Prereq: 262.11 and 521.

**661 Advanced Conducting (Choral) U G 3**

Development of power to interpret the larger forms of choral literature and to read from full score.

Sp Qtr. 3 cl. Prereq: 262.12 and 521.

**662 Choral Repertoire U G 2**

Reading and study of sacred and secular choral literature.

Su, Wi Qtrs. 1 cl, 1 2-hr lab. Repeatable to a maximum of 6 cr hrs.

**665 Content and Structure in Arts Education U G 3**

Students from art, dance, music, and theatre education engage in dialogue, research, and peer teaching focused upon the educational content and structure of each discipline.

Sp Qtr. 1 2.5-hr cl. Open only to majors in art, dance, music, and theatre education and to grad students seeking certification. Not open to students with credit for Art Educ 665.

**666 Marching Band Techniques U G 3**

A study of the marching band including laboratory work in marching techniques, computerized charting, and show design.

Sp Qtr. 1 3-hr cl. Not open to freshmen. Open to non-music majors with written permission of instructor.

**668 Instrument Repair G 3**

Development of practical skills in identifying and correcting minor repair problems on band and orchestral instruments and their accessories.

Su Qtr. 5 days; 4 hrs/day. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. Some musical knowledge an asset.

**669 Music Methods for Elementary Classroom Teachers G 3**

Analysis and appraisal of the music program in elementary schools; relationship of music to total school program; some emphasis on integrating the arts in education.

Su, Su Term 1 Qtr. 3 2-hr cl. Prereq: 270 or permission of instructor.

**672 Introduction to Ethnomusicology U G 3**

General concepts of ethnomusicology applied to the study of different ways in which music has been used outside the Western European tradition of the fine arts.

Wi Qtr. 2 1.5-hr cl. Prereq: Jr or sr or grad standing.

**675\*\* Music of the Russian Folk Tradition U G 3**

An interdisciplinary study of traditional music of Russian peasants.

Wi Qtr. 2 1.5-hr cl. Prereq: Jr or sr or grad standing.

**676 Music Technology G 2**

A graduate-level overview of music technology as used in research, education, performance and composition.

Su, Wi Qtrs. 2 1-hr cl. Prereq: Permission of instructor. Not open to students with credit for 220.

**677 Multimedia for Musicians U G 3**

Designed to provide musicians with the tools to create multimedia works for use in music education, research, or as a creative medium.

Sp Qtr. 3 1-hr cl. Prereq: 220 or 676 or permission of instructor.

**679 Music Theory and Composition Senior Project U 2**

Composition students: preparation of senior composition and half recital of student's compositions; theory students: preparation of senior paper and presentation of paper.

Au, Wi, Sp Qtrs. Prereq: Admission into music theory and composition major and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**692 Workshop in Music U G 1-15**

Concentrated study in an area of music; content of workshop depends on selected emphasis.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 15 cr hrs.

**693 Individual Studies U G 1-5**

Individual studies in specified problems in the field of music.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum

of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Supervised group studies of special problems in the field of music.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Scholarship: Research and Creative Activity in Music U 1-15**

Undergraduate research or creative activities in varying topics.

Su, Au, Wi, Sp Qtrs. Arr. H699 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. H699 is letter graded. This course is graded S/U.

**701 Applied Music (Non-Major)**

Applied music study with special emphasis on literature and performance practices.

Au, Wi, Sp Qtrs. .5-hr lesson with 1-cr registration; 1-hr lesson with 2-cr registration. Prereq: Placement exam or permission of applied area faculty.

**701.11 Piano U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.21 Voice U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.31 Violin U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.32 Viola U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.33 Cello U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.34 Double Bass U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.41 Flute U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.42 Oboe U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.43 Clarinet U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.44 Bass Clarinet U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.45 Saxophone U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.46 Bassoon U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.51 Horn U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.52 Trumpet U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.53 Trombone U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.54 Euphonium U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.55 Tuba U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.71 Percussion U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**701.91 Harp U G 1,2**

Repeatable to a maximum of 12 cr hrs.

**710 Introduction to Operatic Stage Techniques G 2**

An introduction to stage movement techniques, character analysis, role preparation, and aria interpretation as applied to the operatic stage.

Au Qtr. 3 cl. Prereq: Grad standing in voice or permission of instructor.

**715 Structure and Function of the Singing Mechanism G 3**

Anatomy and acoustics of the voice as they relate to developmental vocal pedagogy.

Au Qtr. 3 cl. Prereq: Permission of instructor. Not open to students with credit for 615.

**727 Keyboard Harmony for Graduate Students G 3**

Application of keyboard musicianship, including sight reading, harmonization of melodies, improvisation, transposition, realization of figured bass and modulation.

Au Qtr. 3 cl. Prereq: 264.01, 423, or equiv with written permission of instructor.

**730 Introduction to Musicology**

Introduction to the materials, issues and methodologes of musicology.

2 2-hr cl

**730.01 The Musical Object: Toward Musical Sound G 5**

An introduction to musicology focused on sounding music.

**730.02 The Musical Subject: Toward Musical Context G 5**

An introduction to musicology focused on music contexts.

**740\* Studies in Medieval Music G 4**

An introduction to scholarly issues in the music of the Middle Ages.

Au Qtr. 2 1.5-hr cl. Prereq: 241 or equiv; 521 or 531 or equiv; grad standing. Not open to students with credit for 640.

**741\* Studies in Renaissance Music G 4**

An introduction to scholarly issues in the music of the Renaissance.

Wi Qtr. 2 1.5-hr cl Prereq: 241 or equiv; 521 or 531 or equiv; grad standing. Not open to students with credit for 641.

**742\* Studies in Baroque Music G 4**

An introduction to scholarly issues in the music of the Baroque era.

Sp Qtr. 2 1.5-hr cl. Prereq: 242 or equiv; 521 or 531 or equiv; grad standing. Not open to students with credit for 642.

**743\*\* Studies in Classic Music G 4**

An introduction to scholarly issues in the music of the classic era.

Au Qtr. 2 1.5-hr cl. Prereq: 242 or equiv; 521 or equiv; grad standing. Not open to students with credit for 643.

**744\*\* Studies in Romantic Music G 4**

An introduction to scholarly issues in the music of the romantic era.

Wi Qtr. 2 1.5-hr cl. Prereq: 243 or equiv; 521 or equiv; grad standing. Not open to students with credit for 644.

**745\*\* Studies in 20th-Century Music G 4**

An introduction to scholarly issues in the music of the twentieth century.

Sp Qtr. 2 1.5-hr cl. Prereq: 243 or equiv; 521 or 531 or equiv; grad standing. Not open to students with credit for 645.

**746 Studies in 19th-Century Russian Music G 5**

An introduction to scholarly issues in 19th-century Russian music.

Wi Qtr. 2 1.5-hr cl. Prereq: Grad standing in music or Slavic. Not open to students with credit for 673.

**747^ Studies in 20th-Century Russian Music G 5**

An introduction to scholarly issues in 20th-century Russian music.

Au Qtr. 2 1.5-hr cl. Prereq: Grad standing in music or Slavic. Not open to students with credit for 674.

**748\* Contemporary Art Music Traditions of Africa and the Diaspora U G 5**

An examination of selected published and unpublished musical works by contemporary composers of sub-Saharan Africa and of African descent.

Sp Qtr. 2 1.5-hr cl. Prereq: Jr or sr or grad standing. Not open to students with credit for AfAm&ASt 748. Cross-listed in African-American and African Studies.

**752 Performance Literature**

Intensive study of representative literature for the instrument from each style period.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Admission to MM curriculum or permission of instructor.

**752.01 Piano G 3**

Au, Wi Qtrs. Repeatable to a maximum of 6 cr hrs.

**752.02 Voice G 3**

Repeatable to a maximum of 9 cr hrs.

**752.03 Strings G 3**

Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**752.04 Woodwinds G 3**

Au, Wi Qtrs. Repeatable to a maximum of 6 cr hrs.

**752.05 Brass G 3**

Wi Qtr. Repeatable to a maximum of 6 cr hrs.

**752.07\* Percussion G 3**

Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs.

**753\* Teaching the Technology-Centered Music Curriculum G 3**

The application of current technology to teaching music concept development in elementary and middle grade schools.

Su Qtr. Arr. Prereq: Baccalaureate degree in music or music education.

**754 Midwest Summer String Teachers Seminar G 3**

Annual seminar on current materials, music, assessment procedures, and strategies for teaching string/orchestra in the schools.

Su Qtr. Prereq: Grad standing. Open to only those with undergrad degrees in music. Repeatable to a maximum of 30 cr hrs.

**756 Improvisation with Orff Instruments U G 3,5**

A study of the development of children's musical concepts through improvisation experiences and the use of Orff instruments.

Su Term 2, Sp Qtr. 1 cl, 2 1.5-hr labs. Prereq: 570 or equiv with written permission of instructor.

**757 Dalcroze Eurhythmics U G 3**

A training in musical rhythm through body experience; eurhythmics is the process of educating the body to internalize rhythmic structures in music and dance.

Wi Qtr. 2 1.3-hr cl. Open to music, dance, and theatre majors. Repeatable to a maximum of 6 cr hrs.

**758\* Multicultural Principles and Music Education G 3**

An introduction to current practices in multicultural education with application to music teaching and learning.

Wi Qtr. 1 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**759\*\* Teaching Music to Culturally Diverse Learners G 3**

Examination of the importance of music as a cultural indicator in learners' responses to and participation in music.

Wi Qtr. 1 2.5-hr cl. Prereq: Grad standing or permission of instructor.

**760 Basic Concepts in Music Education G 3**

The principles of music education and of the educational and cultural objectives derived from related disciplines which give direction and purpose to the music education program.

Au Qtr. 3 cl. Prereq: 586 or 587 or equiv.

**761 Principles of Music Learning G 3**

Analysis of the learning process in music as related to problems of music instruction to the public school.

Sp Qtr. 3 cl. Prereq: 586 or 587 or equiv.

**762\*\* Principles and Practices in Elementary School Music G 3**

Analysis and appraisal of the music program in elementary schools including the relationship of music to the total school program.

Sp Qtr. 3 cl. Prereq: 578 or equiv.

**763\* Literature of Elementary School Music G 3**

A critical study of folk and art music of various cultures and historic periods for the general vocal and listening activities of the integrated curriculum.

Sp Qtr. 3 cl. Prereq: 571 or 578 or equiv.

**764\* Principles and Practices in Vocal Music Education G 3**

Analysis and appraisal of the organization, purpose, and development of the vocal music program in secondary schools.

Sp Qtr. 3 cl. Prereq: 575 or equiv.

**765\*\* Literature for Vocal Music Education G 3**

A study of vocal literature of various cultures and historic periods for use with choral groups in the secondary music program.

Sp Qtr. Prereq: 575 or equiv.

**766\*\* Teaching Practices in General Music U G 3**

Study of current concepts in organizing and teaching general music in the secondary school.

Wi Qtr. 3 cl. Prereq: 572 or equiv.

**768\* Principles and Practices in Instrumental Music Education G 3**

Role of instrumental music in the public schools; relationship to society and the total music program, historical development, evaluation, and future trends.

Sp Qtr. 3 cl. Prereq: 577 or equiv.

**769\* Literature for Instrumental Music Education G 3**

Relationship of teaching materials and performance repertory to education objectives: selection of literature, interpretation, rehearsal procedures, conducting problems, attainment of musical understanding through literature.

Su, Su Term 1 Qtr. 3 cl. Prereq: 577 or equiv.

**770 Introduction to Research in Music Education G 3**

A study of methods of research as applied to problems in school music.

Wi Qtr. 3 cl. Prereq: 586 or 587 or equiv.

**772\* Music in Early Childhood U G 3-5**

Analysis of research, principles, and practices in early childhood music and application to programs of learning for young children.

Sp Qtr. 2 1.5-hr cl, arr. Prereq: Advanced undergrad standing or above and permission of instructor. For students interested in teaching or research in early childhood music and for experienced personnel in teaching young children.

**773^\* Introduction to Music for Exceptional Learners G 3**

Overview of issues, principles, practices, and research related to the music education of exceptional persons.

Au Qtr. 1 2.5-hr cl. Prereq: Advanced undergrad standing and permission of instructor.

**774^\* Directive Teaching in Music G 3**

Principles and practices of music classroom management; directive teaching emphasizing clarity of objectives, assessment, and systematic instructional procedures for skill and concept teaching.

Su, Su Term 1 Qtr. 1 2.5-hr cl. Prereq: Advanced undergrad standing and permission of instructor.

**775\* Teaching Music for Exceptional Learners G 3**

An analysis and concentrated study of materials and practices appropriate to teaching music for exceptional learners.

Sp Qtr. Prereq: Advanced undergrad standing and permission of instructor.

**777 Practicum in Teaching Music for Handicapped Learners U G 4-10**

Assignment to area schools and institutions for observation and music teaching experiences with groups of handicapped learners and cooperating teachers.

Su, Au, Wi, Sp Qtrs. 5-15 hrs per wk in schools or institutions. Prereq: Advanced undergrad standing and permission of instructor. Repeatable to a maximum of 10 cr hrs.

**780 Ensembles**

Study and performance of repertoire determined by student's specific ensemble.

Au, Wi, Sp Qtrs. 2 or more hrs rehearsal each wk. Prereq: Admission by audition and permission of instructor.

**780.01 Choral G 1,2**

Repeatable to a maximum of 24 cr hrs.

**780.02 Orchestral G 1,2**

Repeatable to a maximum of 24 cr hrs.

**780.03 Band G 1,2**

Repeatable to a maximum of 24 cr hrs.

**780.04 Chamber and Small Ensembles G 1,2**

Repeatable to a maximum of 24 cr hrs.

**780.05 Piano Accompanying Practicum G 1,2**

Repeatable to a maximum of 24 cr hrs.

**780.11 Opera Scenes G 1,2**

A performance ensemble class devoted to the rehearsing and performing of opera scenes; basic rehearsal and performing techniques for operatic literature.

3 1.5-hr cl Prereq: 710 or permission of instructor, and admission by audition. Repeatable to a maximum of 24 cr hrs.

**780.12 Opera Performance G 2**

A performance ensemble class devoted to the rehearsing and performance of full-length operas/advanced rehearsal and performance techniques for operatic literature.

5 2.5-hr cl, arr. Prereq: 710 and permission of instructor, and admission by audition.

Repeatable to a maximum of 24 cr hrs.

**780.15^ Early Music Ensemble G 1,2**

Repeatable to a maximum of 24 cr hrs.

**780.20 African Performing Ensemble G 1**

Au Qtr. 1 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. including cr hrs earned in AfAm&ASt 780.20. Cross-listed in African-American and African Studies.

**780.21 Slavic Performing Ensemble G 1,2**

Wi, Sp Qtrs. Repeatable to a maximum of 24 cr hrs.

**H783 Honors Research U 3-5**

A program of research for each student which includes individual conferences and which culminates in an honors thesis or oral defense.

Su, Au, Wi, Sp Qtrs. Arr. H783 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC or College of the Arts or College of Education Honors Committee approval of project, a minimum 3.50 pt-hr ratio in the field of distinction, sr standing, and CPHR commensurate with honors program membership. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**786 Music Research Methods and Bibliography G 3**

Survey of the methods and materials for conducting research projects in today's interdisciplinary computerized environment.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Grad standing in music.

**787 Music Cultures in Asia and the Middle East**

An introduction to the history, theory and practice of select music cultures of the world, with special reference to the socio-cultural conditions of their development.

2 1.5-hr cl. Prereq: Grad standing.

**787.01 Chinese Music G 5**

An introduction to the history, theory and practice of Chinese music.

Au Qtr. Not open to students with credit for 787.

**787.02^ Indian Music G 5**

An introduction to the history, theory and practice of Indian music.

**787.03^ Arabic Music G 5**

An introduction to the history, theory and practice of Arabic music.

**789^ Performance Practices in Sub-Saharan African Music G 5**

An examination of compositional choices and performance conventions in selected musical traditions from sub-Saharan Africa.

Wi Qtr. 3 cl. Prereq: Grad standing in music and one of the following courses or equiv: AfAm&ASt 101, or Music 251 or 672; or permission of instructor. Not open to students with credit for AfAm&ASt 789. Cross-listed in African-American and African Studies.

**790 Problems in Vocal Music Education U G 1-5**

Study of problems encountered in the teaching and supervising of vocal music.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**791 Problems in Instrumental Music Education U G 1-5**

Study of problems encountered in teaching, supervising, and organization of the instrumental music program.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**792 Choral Problems U G 1-5**

Study of the problems encountered in developing choruses and church choirs.

Su Term 1, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**801 Applied Music (Principal)**

Advanced applied music study with emphasis on musicianship, pedagogical techniques, and literature.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl arr. Prereq: Placement exam or permission of applied area faculty. Open to other qualified students within the limits of instructional facilities by permission of director of School of Music.

**801.11 Piano G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.21 Voice G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.31 Violin G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.32 Viola G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.33 Cello G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.34 Double Bass G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.41 Flute G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.42 Oboe G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.43 Clarinet G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.44 Bass Clarinet G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.45 Saxophone G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.46 Bassoon G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.51 Horn G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.52 Trumpet G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.53 Trombone G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.54 Euphonium G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.55 Tuba G 2,4**

Repeatable to a maximum of 24 cr hrs.

**801.71 Percussion G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802 Applied Music (Major)**

A specialized and intense study of literature and techniques of performance.

Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl arr. Prereq: Placement exam.

**802.11 Piano G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.21 Voice G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.31 Violin G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.32 Viola G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.33 Cello G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.34 Double Bass G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.41 Flute G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.42 Oboe G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.43 Clarinet G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.44 Bass Clarinet G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.45 Saxophone G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.46 Bassoon G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.51 Horn G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.52 Trumpet G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.53 Trombone G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.54 Euphonium G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.55 Tuba G 2,4**

Repeatable to a maximum of 24 cr hrs.

**802.71 Percussion G 2,4**

Repeatable to a maximum of 24 cr hrs.

**803 Conducting**

A specialized and intense study of conducting techniques.

Au, Wi, Sp Qtrs. 3 cl, 1 1-hr lab. Prereq: Placement exam. Open only to conducting majors in the MM curriculum.

**803.01 Choral G 4**

Repeatable to a maximum of 12 cr hrs.

**803.02 Orchestral G 4**

Repeatable to a maximum of 12 cr hrs.

**803.03 Band G 4**

Repeatable to a maximum of 12 cr hrs.

**805 Masters Degree Recital G 2**

Intended for the graduate student who is preparing the master recital as a requirement for the Master of Music degree, and the Master of Arts in Music Pedagogy degree.

Au, Wi, Sp Qtrs. Arr. Prereq: Grad music major. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**810 Music Pedagogy**

A critical analysis of various methods, principles, practices, and materials current in teaching applied music.

**810.11A\* Practicum in Teaching Applied Piano G 1-3**

Application of theoretical knowledge in piano pedagogy; supervised teaching assignments.

Au, Wi, Sp Qtrs. 3-9 hrs per week of laboratory teaching. Prereq: 613 and Music grad standing. Repeatable to a maximum of 6 cr hrs.

**810.21\* Vocal G 3**

An analysis of the principles and practices current in the teaching of voice.

Wi Qtr. 3 cl. Prereq: Music grad standing and minimum of 6 cr hrs of applied study in voice.

**810.22\* Vocal Practicum G 3**

Observation of applied voice instruction, participation in and discussion of voice teaching, development of teaching skills and fluency of communications.

Sp Qtr. 3 cl. Prereq: 615.

**810.30\* String Instrument G 3**

An analysis of the principles and practices current in the teaching of strings.

Gillespie.

Sp Qtr. 5 cl. Prereq: Music grad standing and minimum of 6 cr hrs of applied study in string instruments.

**810.40\* Woodwind Instrument G 3**

An analysis of the principles and practices current in the teaching of woodwinds.

Sp Qtr. 5 cl. Prereq: Music grad standing and minimum of 6 cr hrs of applied study in woodwind instruments.

**810.50\* Brass Instrument G 3**

An analysis of the principles and practices current in the teaching of brass instruments.

Sp Qtr. 5 cl. Prereq: Music grad standing and minimum of 6 cr hrs of applied study in brass instruments.

**810.70\* Percussion Instruments G 3**

An analysis of principles and practices in the teaching of percussion instruments.

Au Qtr. 3 cl. Prereq: Music grad standing and a minimum of 6 cr hrs of applied study in percussion instruments, or permission of instructor.

**812 Graduate Voice Diction and Repertoire Coaching G 3**

Coaching the singer in the authentic sound and production of the Italian, French and German languages.

Sp Qtr. 3 cl. Prereq: Grad voice major. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**815A\* Clinical Assessment and Training Methods for the Singing Voice G 3**

An interdisciplinary course in vocal pedagogy and speech-language pathology which explores methods within each discipline for assessing and training the singing voice.

Sp Qtr. 2 cl, 2 lab hrs. Prereq: Grad standing in music or sph/hrng (with credit for 741); or permission of instructor. Not open to students with credit for Sph/Hrng 815. Cross-listed in Speech and Hearing Science.

**818 Theories of Heinrich Schenker**

**818.01\* Foundations G 3**

Musical structural analysis of Schenker as expressed in his own writings; emphasis on his theories rather than on graphing techniques.

Au Qtr. 3 cl. Prereq: 621 or 622 or 623. Not open to students with credit for 818.

**818.02\* Analysis Practicum G 5**

Analysis of tonal music strictly following the theories and graphic notational conventions of Heinrich Schenker.

Wi Qtr. 2 1.5-hr cl. Prereq: 818.01 and grad standing in music.

**819\* Levels Theory after Schenker G 3**

Concentration on specific concepts of commentators and successors as distinct from Schenker's.

Sp Qtr. 3 cl. Prereq: 818. Not open to students with credit for 729.

**820 Music Theory**

**820.01A\* Pedagogy G 3**

The teaching of music theory in colleges and secondary schools.

Au Qtr. 3 cl. Prereq: Music grad standing.

**820.02A\* Teaching Practicum G 3**

Evaluation and application of the most effective teaching methods and principles in teaching music theory.

Sp Qtr. 2 1.5-hr cl. Prereq: 820.01.

**823\* Seminar: Atonal Theory G 5**

A study of atonal set theory and serial theory as developed by Babbitt, Forte, Lewin, Rahn, and others.

Sp Qtr. 2 1.5-hr cl. Prereq: 623 or permission of instructor.

**824 Computer Applications in Music Research and Instruction**

2 1.5-hr cl.

**824.01\* Computer Applications in Music Research and Instruction I G 5**

The use of computers in music research and instruction; music data structures and programming routines for music research and instruction.

Au Qtr. Prereq: 621, 622, or 623, or equiv or permission of instructor. Not open to students with credit for 824.

**824.02A\* Computer Applications in Music Research and Instruction II G 5**

Complex music data structures and programming routines for music research and instruction.

Wi Qtr. Prereq: 824, 824.01, or equiv. Not open to students with credit for 825.

**826A\* Development of Music Theory I G 5**

A study of the principal treatises on music theory before 1400.

Au Qtr. 3 cl.

**827\*\* Development of Music Theory II G 5**

A study of the principal treatises on music theory from 1400 to 1700.  
Wi Qtr. 3 cl.

**828\*\* Development of Music Theory III G 5**

Critical study of music and theory texts from 1700 to 1900.  
Sp Qtr. 3 cl.

**829 Seminar: Contemporary Theories of Music G 3-5**

Critical examination of major contemporary theoretical viewpoints; concepts of theory construction; topics will vary each quarter offered.

Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: Music grad standing. Repeatable to a maximum of 20 cr hrs.

**831\* Advanced Studies in Counterpoint G 3**

Advanced counterpoint based on the polyphonic style of the 18th century; analysis and stylistic writing, including study of fugues, canons, and invertible counterpoint.

Sp Qtr. 3 cl. Prereq: 631.

**835 Composition III G 3-5**

Creative writing at an advanced level.

Au, Wi, Sp Qtrs. Prereq: 2 qtrs of 635 or equiv. Repeatable to a maximum of 20 cr hrs.

**837 Composition with Electronic Media II G 3-5**

Advanced composition using electronically generated sound material.

Au, Wi, Sp Qtrs. 15 cl. Prereq: 637. Repeatable to a maximum of 15 cr hrs.

**838 Seminar in Music Perception G 5**

Investigation and application of experimental techniques for measuring music perception and musical behavior, including a critical survey of recent experimental literature.

Sp Qtr. 3 1-hr cl. Prereq: Permission of instructor.

**839 Research Practicum in Music Perception G 3**

Supervised research in music perception with review of relevant theoretical and methodological literature.

Au, Wi, Sp Qtrs. Prereq: 838. Repeatable to a maximum of 6 cr hrs.

**847\* Development of Notation: 900-1600 G 5**

A survey of notational principles from Gregorian neumes through the mensural system of the Renaissance, with exercises in transcription.

Sp Qtr. 3 cl. Prereq. or concur: 640.

**850\* History of Performance Practices G 5**

A study of primary sources pertaining to contemporary attitudes and practices in the performance of music from the Middle Ages to the present.

Sp Qtr. 3 cl.

**852 Performance Literature**

Concentrated study of representative literature from each style period.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 752 and admission to DMA program.

**852.01 Piano G 3**

Repeatable to a maximum of 9 cr hrs.

**852.02 Voice G 3**

Prereq: Admission to DMA program. Repeatable to a maximum of 9 cr hrs.

**852.03 Strings G 3**

Repeatable to a maximum of 9 cr hrs.

**852.04\* Woodwinds G 3**

Repeatable to a maximum of 9 cr hrs.

**852.05\* Brass G 3**

Repeatable to a maximum of 9 cr hrs.

**852.07 Percussion G 3**

Repeatable to a maximum of 9 cr hrs.

**860 Conducting Repertoire**

Au, Wi, Sp Qtrs. 2 2-hr cl. Open only to DMA conducting majors or PhD students or by permission of instructor.

**860.01 Band G 3**

Concentrated study of instrumentation and repertoire of bands in Western music from the standpoint of the conductor.

**860.02 Choral G 3**

Concentrated study of choral literature from the Renaissance to the present.

**860.03 Orchestral G 3**

Concentrated study of orchestral repertoire from Monteverdi through the present from the standpoint of the conductor.

**874\* Seminar: The Development of Music Education G 3,5**

The development of music education from the early Greek society to the present day tracing major trends and the influence of certain persons.

Sp Qtr. 3 or 5 cl. Prereq: Written permission of instructor.

**875\* Seminar: Psychological Factors in Music Education G 3,5**

A study of the psychological factors, theory, and research in the musical development of children and adolescents with implications for school music education programs.

Au Qtr. 3 or 5 cl. Prereq: 761.

**876\*\* Seminar: Evaluation and Measurement in Music Education G 3,5**

A study of the theory, principles, and techniques of evaluation and measurement in music education.

Sp Qtr. 3 or 5 cl. Prereq: 761 and Psych 510.

**877\* Seminar: Social Factors in Music Education G 3,5**

A study of the social influences on music education and their relationship to school music programs and practices.

Wi Qtr. 3 or 5 cl. Prereq: 760.

**879\*\* Seminar: Music in Higher Education G 3,5**

The role of music in higher education historically and in contemporary times, including its philosophical bases, degree programs, and organizations.

Wi Qtr. 3 or 5 cl.

**885\* Fieldwork in Ethnomusicology G 5**

A study of the theory and practice of ethnomusicological fieldwork.

Wi Qtr. 2 1.5-hr cl.

**886\*\* Theories and Methods of Ethnomusicology G 5**

A study of scholarly approaches and research methods in ethnomusicology.

Wi Qtr. 2 1.5-hr cl.

**887\*\* Representations and Analyses of Musical Sound G 5**

An exploration of the relationship between musical sound and its non-acoustico-temporal representations.

Sp Qtr. 2 1.5-hr cl.

**893 Individual Studies G 1-5**

Individual research projects not connected with the dissertation.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**894 Group Studies**

Su, Au, Wi, Sp Qtrs.

**894.01 Seminar in Music Theory G 3-5**

Repeatable to a maximum of 15 cr hrs.

**894.02 Seminar in Music Education G 3-5**

Repeatable to a maximum of 15 cr hrs.

**902 Applied Music (Major)**

Advanced study of music literature in performance including concert recital presentation.

Su, Au, Wi, Sp Qtrs. 1 1-hr lesson, studio cl arr. Prereq: Placement exam. Open only to students admitted to DMA program.

**902.11 Piano G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.21 Voice G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.31 Violin G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.32 Viola G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.33 Cello G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.34 Double Bass G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.41 Flute G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.42 Oboe G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.43 Clarinet G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.44 Bass Clarinet G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.45 Saxophone G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.46 Bassoon G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.51 Horn G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.52 Trumpet G 2,4**

Repeatable to a maximum of 32 cr hrs.



**902.53 Trombone G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.55 Tuba G 2,4**

Repeatable to a maximum of 32 cr hrs.

**902.71 Percussion G 2,4**

Repeatable to a maximum of 32 cr hrs.

**903 Advanced Conducting**

Study of advanced conducting technique and application to appropriate repertoire.

Au, Wi, Sp Qtrs. Prereq: Acceptance into the DMA conducting program.

**903.01 Band/Winds G 4**

Repeatable to a maximum of 8 cr hrs.

**903.02 Choral G 4**

Repeatable to a maximum of 8 cr hrs.

**903.03 Orchestral G 4**

Repeatable to a maximum of 8 cr hrs.

**905 Doctoral Degree Recital G 2**

Intended for the graduate student who is preparing the doctoral recital as a requirement for the Doctor of Music degree.

Au, Wi, Sp Qtrs. Arr. Prereq: Grad music major. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**950 Topical Research Seminar**

Research topic to be announced.

Au, Wi, Sp Qtrs.

**950.01 Seminar in Musicology G 5**

2 1.5-hr cl. Repeatable to a maximum of 45 cr hrs.

**950.02 Seminar in Music Theory G 5**

2 1.5-hr cl. Repeatable to a maximum of 45 cr hrs.

**970 Masters Project - Plan B G 2-6**

Research and practical investigations of selected topics for purposes of the Plan B Masters Project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing in music. Repeatable to a maximum of 6 cr hrs. Required of students enrolled in Master of Arts - Plan B program.

**995 Advanced Research Practicum G 1-5**

Utilization of research processes and creative techniques appropriate to the field of inquiry-analysis, survey, experimentation, historiography, philosophy.

Su, Au, Wi, Sp Qtrs. Prereq: 45 grad cr hrs and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**998 Research in Music: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Music: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Naval Science

110 Converse Hall, 2121 Tuttle Park Place, 292-6015

The sequence of naval science courses is the same for all officer candidate students for the first academic year. Officer candidate students accepted into the Marine Corps Option will have curriculum variations commencing with their second year. Additionally, some candidates may be required to complete courses in American military affairs, national security policy studies, mathematics, and/or the physical sciences. Descriptions of the course requirements for each candidate classification (scholarship/college program) may be obtained from the Department of Naval Science. Naval Science courses are open to all students in good standing.

Initial enrollment in the NROTC Program may be completed by scheduling Naval Science 111 during Autumn Quarter registration. Completion of naval science and degree requirements may lead to a commission in the U.S. Navy or the U.S. Marine Corps.

Normal sequence of Naval Science courses is as follows:

First Year:

All candidates--111, 121, 131

Second Year:

Navy candidates--211, 221, 231

Marine candidates--351, 352

Third Year:

Navy candidates--311, 321, 331

Marine candidates--451, 452, 353

Fourth Year:

All candidates--411, 421, 431

**111 Survey of Naval Science U 3**

An introduction to and survey of disciplines peculiar to naval science including a discussion of naval tasks and missions, regulations, customs, traditions, and organizational relationships.

Au Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: Enrollment in NROTC Unit or permission of instructor. Students enrolling in this course are to contact the Naval Science Department (292-6015) to receive information about an orientation program.

**121 Naval History U 3**

An analysis of maritime affairs as related to the United States naval forces, from pre-Revolutionary War through World War II.

Wi Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 111 or permission of instructor.

**131 Sea Power and Maritime Affairs U 3**

A continuing analysis of sea power and maritime affairs as related to the naval forces of the United States from WW II to present day.

Sp Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 121 or permission of instructor.

**211 Navigation I U 4**

A study of navigation and piloting vessels at sea, including the determination of position by dead reckoning, visual bearings, and electronic methods.

Au Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 131 or Math 148 or permission of instructor.

**221 Navigation II U 4**

A study of fleet operations including the study of relative motion of ships at sea, maneuvering board, tactics and naval communications.

Wi Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 211 or permission of instructor.

**231 Naval Leadership and Management U 2**

A seminar study of naval leadership.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: 221 or permission of instructor.

**311 Naval Engineering U 4**

Study of fundamental thermodynamics, conventional and nuclear ship propulsion systems.

Au Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: Permission of instructor.

**321 Naval Engineering and Weapons U 3**

This course completes naval engineering principles, transitions to applications of naval weapons systems as they relate to the ships of today's Navy.

Wi Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 311 or permission of instructor.

**331 Naval Weapons U 3**

A continuation of 321, theoretical presentation of fundamental weapons concepts including electromagnetic principles, feedback controls, and basic ballistics.

Sp Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 321 or permission of instructor.

**351\* Evolution of the Art of War, Part I U 3**

A study of the evolution of weapons and tactics, illustrating the principles and variables of war used in certain battles from Alexander through the Prussian war.

Au Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 131 or permission of instructor.

**352\* Evolution of the Art of War, Part II U 3**

A continuation of the study of evolution of the art of war from the age of Mahan through the present day.

Wi Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 351 or permission of instructor.

**353 Modern Basic Military Strategy and Tactics U 1**

A survey of modern strategic and tactical principles, and current military developments.

Sp Qtr. 1 2-hr sem. Prereq: Permission of instructor.

**411 Naval Leadership and Ethics U 2**

A study of issues related to naval law and the UCMJ.

Au Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: Permission of instructor.

**421 Naval Officer Senior Seminar**

**U 2**

A seminar study for preparing future Naval officers for commissioning.

Wi Qtr. 2 cl, 1 2-hr lab.

**431 Naval Operations and Seamanship U 3**

A study of fleet operations and tactics focusing on case studies of successful operations and mishaps, also covering Coast Guard Rules of the Road.

Sp Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: 421 or permission of instructor.

**451\*\* Amphibious Warfare, Part I U 3**

The history of amphibious warfare and its development from the battle of Marathon through the Marshalls Campaign.

Au Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 131 o permission of instructor.

**452\*\* Amphibious Warfare, Part II U 3**

A study of the doctrinal techniques and present concepts of amphibious warfare from the Marianas Campaign through present day.

Wi Qtr. 2 1.5-hr cl, 1 2-hr lab. Prereq: 451 o permission of instructor.

## Near Eastern Languages and Cultures

300 Hagerty Hall, 1775 College Rd, 292-9255

**241 The Culture and Cultures of the Middle East U 5**

Introduction to the culture of the Middle East as lived in its villages, towns, and cities.

Not open to students with credit for Anthrop 241. Cross-listed in Anthropology. GEC arts and hums cultures and ideas course.

**244 Films of the Middle East U 5**

Overview of contemporary films from different Middle Eastern countries; how filmmakers of the region view, present, and construct their countries using particular modes of representation.

Prereq: English 110. GEC arts and hums, cultures and ideas course.

**271 Sacred Texts of the Near East U 5**

An introductory survey of the sacred texts of the Near East: Egyptian and Mesopotamian, the Bible, the Avesta, Hellenistic Gnostic literature, and the Qur'an.

GEC arts and hums lit course.

**272 Masterpieces of Near Eastern Literatures in Translation U 5**

An introduction to major works of the Arabic, Persian, and Turkish literary tradition from the sixth century to the present.

Taught in English.

**294 Group Studies U 1-5**

Special topics to be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**311 Language Evolution and Language Change U 5**

A study of how and why languages change and evolve over time, taking into account the linguistic, historical, ideological and cultural factors involved.

2 2 hr-cl. Not open to students with credit for Linguist 301, 311 or 385. Cross-listed in Linguistics. GEC arts and hums cultures and ideas course.

**314 The Road to the Alphabet: The Middle Eastern Origins of Western Writing U 5**

A broad overview of the alphabet and the writing systems that constituted its cultural surroundings and shaped its origins.

Prereq: English 110. GEC arts and hums cultures and ideas course.

**341 Islam in the United States U 5**

An examination of the main elements of Islamic belief as well as particular characteristics of each major Islamic group in the United States.

GEC arts and hums cultures and ideas course.

**344 The Middle East in the Media U 5**

Examination of contemporary Middle Eastern cultures through critical evaluation of the media which inform our understanding of international politics.

Prereq: English 110 or 111. GEC arts and hums cultures and ideas course.

**345 Women in the Muslim Middle East U 5**

Examination of position of women in the contemporary Middle East; impact of regional environment on gender identity; gender bias studies in various Middle Eastern countries.

2 2-hr cl. Prereq: English 110. GEC arts and hums cultures and ideas course.

**351 Introduction to Islam U 5**

Examination of Islam as a world religion, enabling an understanding of its major tenets and beliefs as they are envisioned by insiders and outsiders.

Prereq: English 110 or 111. GEC arts and hums cultures and ideas course.

**360 Sheherazade and Company: Sex, Gender and Power in Middle Eastern Storytelling U 5**

Oral storytelling by adults in recent practice; its depiction in Middle Eastern literature from medieval to modern; how storytellers, male and female, treat gender relations.

Prereq: English 110. GEC arts and hums cultures and ideas course.

**370 Mythology of Ancient Egypt and Mesopotamia U 5**

An introductory comparative survey of the mythology of ancient Egypt and Mesopotamia.

Prereq: English 110 or 111 or equiv. GEC arts and hums cultures and ideas course.

**371 Songs of Kings and Lovers: Literature of the Ancient Near East U 5**

Examination of ancient Near Eastern literature and tools for appreciating it; focus on non-mythical Mesopotamian and Egyptian genres such as love poetry and wisdom literature.

Prereq: English 110 or 111. GEC arts and hums lit course.

**372 Literatures and Cultures of the Islamic World U 5**

A survey of the Islamic world by way of literature and culture.

Prereq: English 110 or 111 or equiv. GEC arts and hum lit course.

**374 The Novel in the Middle East U 5**

The emergence of the novel in the Middle East and development of its major themes and forms.

2 2-hr cl. Prereq: English 110. GEC arts and hums lit course.

**603 Grammar of Selected Ancient Near Eastern Languages U G 5**

Fundamentals of grammar and reading in ancient Near Eastern languages (language of study to be announced, e.g., Egyptian, Coptic, Sumerian, Babylonian, Northwest Semitic dialects, Syriac).

Prereq: Knowledge of a Semitic language or permission of instructor. Repeatable to a maximum of 20 cr hrs. Taught in English.

**611 Comparative Semitic Linguistics U G 5**

An introduction to the study of comparative Semitic linguistics.

Prereq: Permission of instructor.

**612 Languages and Cultures of the Middle East U G 5**

Wide overview of languages spoken in the ancient, medieval, and modern Middle East: their linguistic affiliation; main periods of their history; their different writing systems.

Prereq: Permission of instructor.

**620 Biblical Aramaic U G 5**

Introduction to the language of the Aramaic sections of the books of Daniel and Ezra in the Old Testament.

Prereq: Hebrew 104 or permission of instructor.

**630 Ugaritic U G 5**

Introduction to the language and literature of Ugaritic; readings in the Ugaritic mythological literature.

Prereq: Permission of instructor.

**634 Sumerian**

Examination of the basics of Sumerian grammar; introduction to a variety of literary and non-literary texts and genres.

**634.01 Sumerian I U G 5**

Explanation and discussion of grammatical or literary topics followed by the study of elementary Sumerian texts to develop practical reading skills.

Wi Qtr. 2 2-hr cl. Prereq: Permission of instructor.

**634.02 Sumerian II U G 5**

Reading texts in the original cuneiform script and understanding them within their historical and generic contexts.

Sp Qtr. 2 2-hr cl. Prereq: 634.01 or permission of instructor.

**635 Akkadian**

Examination of the basics of Akkadian grammar; introduction to a variety of literary and non-literary texts and genres.

**635.01 Akkadian I U G 5**

Explanation and discussion of grammatical or literary topics followed by the study of elementary Akkadian texts to develop practical reading skills.

Wi Qtr. 2 2-hr cl. Prereq: Permission of instructor.

**635.02 Akkadian II U G 5**

Reading texts in their original cuneiform script and understanding them within their historical and generic contexts.

Sp Qtr. 2 2-hr cl. Prereq: 635.01 or permission of instructor.

**642 Representing the Middle East in Film U G 5**

Examination of the discourses of orientalism using film as the primary medium of expression and discussion.

Prereq: Permission of instructor.

**644 Culture and Politics in Central Asia U G 5**

Comparative study of cultural legacy and change, including religious and secular life and civil society development, in relation to political trends in Central Asia.

Prereq: Rank 3 minimum or grad standing, or permission of instructor.

**645 Contemporary Issues in the Middle East U G 5**

Intensive examination of contemporary issues in the Middle East by applying an interdisciplinary approach.

Prereq: Int Stds 245 or jr standing. Not open to students with credit for Int Stds 645. Cross-listed in International Studies.

**646 Colonial Cities in Postcolonial Memory: The Politics of Urban Development in the Near East U G 5**

Introduction to colonial and postcolonial studies through a comparative examination of various cities that developed in the Near East during the late nineteenth century.

Prereq: Permission of instructor.

**648 Studies in Orality and Literacy U G 5**

Examination of major theories of writing and of oral composition and transmission, in juxtaposition to case material deriving from a variety of Middle Eastern cultures.

Prereq: Permission of instructor. Not open to students with credit for Comp Std 648. Cross-listed in Comparative Studies.

**671 Canon and Communities in the Near East U G 5**

Investigation of the process by which Near Eastern sacred texts (Bible, Qur'an, and others) become sacred and the interaction between texts and communities holding them sacred.

**672 Poetry and Politics in the 20th-Century Mediterranean U G 5**

Exploration of several poets and poetic traditions around the Mediterranean in relation to modern political struggles: resistance to fascism; dilemmas of imperialism and underdevelopment.

Wi Qtr. Prereq: English 110 or 111, or grad standing. Not open to students with credit for Comp Std 672. Cross-listed in Comparative Studies.

**675 Intellectuals in the Middle East U G 5**

Concerns and conditions of intellectuals in the modern Middle East.

2 2-hr cl. Prereq: Permission of instructor.

**680 Basic Bibliographic and Reference Tools in Near Eastern Languages and Cultures U G 5**

Prereq: 10 cr hrs in Middle Eastern history or literature or equiv. Not open to students with credit for Arabic 680.

**692 Workshop U G 6**

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.

Su Qtr. Arr. Prereq: Teaching experience and written permission of workshop director. Repeatable to a maximum of 18 cr hrs.

**694 Group Studies U G 1-5**

Special topics to be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs.

**998 Research in Near Eastern Languages and Cultures G 1-10**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**Neurological Surgery**

N-1021 Doan Hall, 410 West 10th Avenue, 292-3533

**693 Independent Studies in Neurological Surgery P G 1-12**

Independent research in neurological surgery.

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**999 Research in Neurological Surgery G 1-18**

Research for Thesis only.

Repeatable. This course is graded S/U.

**Neuroscience Department**

4198 Graves Hall, 333 West 10th Avenue, 688-8237

**300 Introduction to Neuroscience U 4**

Introductory course covering organization and function of the nervous system at a level understandable to science and non science majors.

Sp Qtr. 3 1-hr cl. Prereq: Biology 114, or Biology H116 or equiv, or permission of instructor.

**693 Individual Studies in Neuroscience U P G 2-6,12,18**

Designed to enable the student to pursue a minor investigation in the field of neuroscience department.

Su, Au, Wi, Sp Qtrs. 1 month, offered all months. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. Repeatable 24 hrs for professional credit. This course is graded S/U.

**705 Neurobiology of Disease G 3**

Neurobiology of Disease will explore the basis of major diseases affecting the nervous system.

Sp Qtr. 3 1-hr cl. Prereq: Permission of instructor. Not open to students with credit for Pharmacol 705. Cross-listed in Pharmacology.

**716 Human Neurobiology G 7**

Designed to acquaint a graduate student with a basic knowledge of human neuroanatomy.

Sp Qtr. Arr. Prereq: Permission of instructor. Not open to students with credit in CBN&Anat 716 or Anat&ME 716. Cross-listed in Division of Anatomy.

**723 Cellular and Molecular Neurobiology G 5**

Introduction to cellular components of nervous system, cell and molecular biology of nervous tissue, membrane properties and function in neural cells, brief overview of nervous system development.

Au Qtr. 2 2-hr lectures. Prereq: Permission of instructor. Not open to students with credit for Neurosci 723. Cross-listed in Neuroscience Graduate Studies Program.

**724 Neurophysiology G 3**

Interdisciplinary approach to the physiology and neurobiology of the nervous system.

Au Qtr. 2-4 cl. Prereq: Permission of instructor. Not open to students with credit for Neurosci 724 or Dent 724. Cross-listed in Neuroscience Graduate Studies Program and Dentistry.

**725 Structure and Function of the Nervous System G 8**

Interdisciplinary approach to the anatomy, neurobiology, physiology, and biochemistry of the nervous system.

Wi Qtr. 2-4 cl. Prereq: Permission of instructor. Not open to students with credit for Neurosci 725 or Dent 725. Cross-listed in Neuroscience Graduate Studies Program and Dentistry.

**726 Behavioral Neuroscience G 5**

Concepts in behavioral neuroscience (motivation, cognition, development, aging, sensory systems, and homeostasis).

Su Qtr. 2 2-hr cl. Prereq: 725 or permission of instructor. Not open to students with credit for Neurosci 726.

**790\* Developmental Neurobiology G 3**

Interdisciplinary approach to the development of neural cells and the formation and maturation of vertebrate and invertebrate nervous systems.

Sp Qtr. 2 1.5-hr cl. Prereq: Neurosci 723, 724 and 725, or permission of instructor. Cross-listed in Neuroscience Graduate Studies Program.

**797 Seminar Topics in Neuroscience G 1**

Selected topics in current neuroscience department research.

Su, Au, Wi, Sp Qtrs. 1 hr cl. Prereq: Grad standing and permission of instructor. Not open to students with credit for Neurosci 797. Repeatable to a maximum of 24 cr hrs. Cross-listed in Neuroscience. This course is graded S/U.

**800\* Molecular Neurobiology G 3**

Survey of recent advances in the understanding of the structure and function of molecules known to be of key importance in the nervous system.

Sp Qtr. 3 1-hr cl. Prereq: Permission of instructor. Not open to students with credit for Neurosci 800. Cross-listed in Neuroscience Graduate Studies Program.

**999 Research in Neuroscience Department G 1-15**

Research in neuroscience department.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in neuro sc and permission of instructor. Repeatable to a maximum of 180 cr hrs. Repeatable. This course is graded S/U.

**Neuroscience Graduate Studies Program**

4058 Graves Hall, 333 West 10th Avenue, 292-2379, NGSP@osu.edu

Sensory Psychobiology  
See Psychology 626.Neurobiology  
See Evolution, Ecology and Organismal Biology 632.Psychopharmacology  
See Pharmacology 824.Neurochemistry  
See Molecular and Cellular Biochemistry 825.**693 Individual Studies in Neuroscience U G 2-11**

Designed to enable the student to pursue a minor investigation in the neuroscience field or laboratory of choice.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 35 cr hrs. This course is graded S/U.

**723 Cellular and Molecular Neurobiology G 5**

Introduction to cellular components of nervous system, cell and molecular biology of nervous tissue, membrane properties and function in neural cells, brief overview of nervous system development.

Au Qtr. 3 2-hr lectures. Prereq: Permission of instructor. Not open to students with credit for Neuro Sc 723. Cross listed in Neuroscience Department.

**724 Neurophysiology G 3**

Interdisciplinary approach to the physiology and neurobiology of the nervous system.

Au Qtr. 2-4 cl. Prereq: Permission of instructor. Not open to students with credit for Neuro Sc 724 or Dent 724. Cross-listed in Neuroscience Department and Dentistry.

**725 Structure and Function of the Nervous System G 6**

Interdisciplinary approach to the anatomy, neurobiology, physiology, and biochemistry of the nervous system.

Wi Qtr. 4 1-hr lec, 2 2-hr lab. Prereq: Permission of instructor. Not open to students with credit for Neuro Sc 725 or Dent 725. Cross-listed in Neuroscience Department and Dentistry.

**726 Behavioral Neuroscience G 5**

Concepts in behavioral neuroscience (motivation, cognition, development, aging, sensory systems, and homeostasis).

Sp Qtr. 2 1.5-hr cl. Prereq: 725 or permission of instructor. Not open to students with credit for Psych 726. Cross-listed in Psychology.

**750\* Principles of Neuroimmunology G 3**

Research and clinical applications of inflammatory processes within the central nervous system with special emphasis on neurodegenerative disorders, autoimmune disease, and neurotrauma (e.g., spinal injury).

Sp Qtr. 2 1.5-hr cl. Prereq: MVIMG 701, NeuroGSP 725 or equiv, or permission of instructor. Not open to students with credit for MVIMG 750. Cross-listed in Molecular Virology, Immunology and Medical Genetics.

**790\* Developmental Neurobiology G 3**

Interdisciplinary approach to the development of neural cells and the formation and maturation of vertebrate and invertebrate nervous systems.

Wi Qtr. 2 1.5-hr cl. Prereq: Neurosci 723, 724 and 725, or permission of instructor. Not open to students with credit for Anat&amp; Me 790, Neuro Sc 790 or Cbn&amp;Anat 790. Cross-listed in Anatomy and Medical Education and Neuroscience Department.

**797 Seminar Topics in Neuroscience G 1**

Selected topics in current neuroscience research.

Au, Wi, Sp Qtrs. 1-2 hr cl. Prereq: Grad standing and permission of instructor. Not open to students with credit for Neuro Sc 797. Repeatable to a maximum of 24 cr hrs. Cross-listed in Neuroscience Department. This course is graded S/U.

**824 Neuropharmacology G 3**

A study of the central nervous system including neurochemistry, neurotransmission, receptors, signal transduction, CNS disorders, treatments and the pharmacology of drugs that act on the CNS.

Sp Qtr. 2 cl arr. Prereq: Pharmacol 600 and IBGP 702.02 or permission of instructor/course director. Not open to students with credit for Pharmacol 824. Cross-listed in Pharmacology.

**911 Advanced Studies in Neuroscience**

Prereq: Physiol 602 or 608 or Phys&amp;Cb 602 or 608, or equiv with written permission of instructor.

**911.26 Advanced Topics in Integrative Neurophysiology G 3**

In-depth presentation of the theory and concepts of neural networks and microcircuits.

2 1.5-hr cl. Not open to students with credit for Phys&amp;Cb 911.26 or Physiol 911.26. Cross-listed in Physiology and Cell Biology.

**999 Research in Neuroscience G 1-15**

Research leading to the PhD degree in neuroscience.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in Neuro GSP and permission of instructor. Repeatable. Maximum of 180 cr hrs. This course is graded S/U.

**Nuclear Engineering**

N350 Scott Laboratory, 201 West 19th Avenue, 292-8519

**294 Group Studies in Nuclear Engineering U 1-5**

Special group studies of a selected area of nuclear engineering not provided in other courses.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**505 Introduction to Nuclear Science and Engineering U G 3**

Discussion of nuclear energy and nuclear radiation; sources, methods of utilization, and projections for future engineering uses.

Au, Sp Qtrs. 2 1.5-hr cl. Prereq: Math 255 or 415 and Physics 133, or permission of instructor. Not open to students with credit for Mech Eng 505. Cross-listed in Mechanical Engineering.

**605 Reactor Theory I U G 3**

Introduction to the concepts of neutron flux, neutron current, fission chain reactions, diffusion theory, criticality of nuclear assemblies and time dependent behavior.

Au Qtr. 2 1.5-hr cl. Prereq: 505 or equiv, Math 255 and 415 or equiv with permission of instructor.

**606 Radiological Safety U G 3**

General principles of radiation, radioactivity, and protection methodology with emphasis on approved operating, handling, and waste disposal procedures, and regulations and biological interactions.

Au Qtr. 2 2-hr cl.

**694 Group Studies in Nuclear Engineering U G 1-5**

Special group studies of a selected area of nuclear engineering not provided in other courses.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**705 Reactor Theory II G 3**

An analytical and mathematical treatment of multi-energy, multi-dimension neutron diffusion theory including reactivity, criticality and rigorous deviation of power reactor kinetics.

Wi Qtr. 2 1.5-hr cl. Prereq: 605 or equiv with permission of instructor.

**707 Numerical Methods in Particle Diffusion, Heat Transfer, and Radiation Transport U G 3**

Computer solutions of neutron diffusion, heat conduction, and radiation transport equations based on finite difference methods using marching, iterative, and direct solution schemes.

Wi Qtr. 2 1.5-hr cl. Prereq: 605 or 708, or Math 512 or Mech Eng 510 and Cptr/Inf 541. Not open to students with credit for Mech Eng 707. Cross-listed in Mechanical Engineering.

**708 Reactor Theory U G 4**

Methods for the design and analysis of nuclear reactor cores. Covers both time-dependent and steady state analysis.

Wi Qtr. 2 2-hr cl. Prereq: 505 or equiv. Required course.

**716 Probabilistic Reliability and Safety Analysis U G 3**

Modeling techniques for probabilistic reliability and safety analysis of large process systems such as found in nuclear, chemical and mechanical systems.

Sp Qtr. 2 1.5-hr cl. Prereq: Grad standing in nuclr or mech eng or permission of instructor. Not open to students with credit for Mech Eng 716.

**720 Reactor Dynamics and Control U G 3**

Nuclear reactor and nuclear reactor system operation; control system performance requirements and control mechanisms; automatic control systems and their performance with transient and with steady state operation.

Au Qtr. 3 1.5-hr cl. Prereq: 605 or 708.

**735 Power Plant Operations I U G 3**

Introduction to power plant systems, regulatory requirements, and integrated plant operations.

Wi Qtr. 2 1.5-hr cl. Prereq: 505 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**736 Nuclear Power Plants U G 3**

A study of thermal and mechanical design aspects and economics of nuclear power plants and processes. The thermodynamics of operating nuclear power plants (BWR and PWR) are emphasized.

Wi Qtr. 2 1.5-hr cl. Prereq: 505 and Mech Eng 501 or 500 with permission of instructor. Not open to students with credit for 636 or Mech Eng 636 or 736. Cross-listed in Mechanical Engineering.

**737 Heat Transfer Applications in Nuclear Reactor Systems U G 3**

The heat transfer applications in nuclear reactor systems include but are not limited to: heat transfer in PWR and BWR fuel rods, coolant, and reactor internals.

Sp Qtr. 2 1.5-hr cl. Prereq: 736, or Mech Eng 736, and Mech Eng 510 or 500 with permission of instructor. Not open to students with credit for Mech Eng 637 or 737. Cross listed in Mechanical Engineering.

**738 Introduction to Two-phase Flow and Heat Transfer U G 3**

Introduction to two-phase flow and heat transfer in mechanical and nuclear engineering applications. Students learn analytical tools for system design and performance evaluation.

Au Qtr. 2 1.5-hr cl. Prereq: Mech Eng 510 or ChBE 521 or equiv or permission of instructor. Not open to students with credit for Mech Eng 738. Cross-listed in Mechanical Engineering. Introduction to gas-liquid two-phase flow phenomena.

**742 Nuclear Radiations and Their Measurement U G 3**

A theoretical and experimental study of nuclear radiation sources, interactions with matter, and detection.

Wi Qtr. 2 1.5-hr cl, 1 3-hr lab. Prereq: 605 or 708, 606, or permission of instructor.

**743 Nuclear Radiations and Their Shielding U G 3**

A theoretical and experimental study of nuclear radiation, interactions with matter, and shielding.

Sp Qtr. 2 1.5-hr cl, 1 3-hr lab. Prereq: 742.

**744 Nuclear Reactor Laboratory U G 3**

An experimental study of nuclear reactor operating characteristics and fundamental concepts of reactor design.

Sp Qtr. 1 cl, 1 4-hr lab. Prereq: 605 or 708, 720, and 742.

**745 Power Plant Operations II U G 3**

Provides experience with integrated plant operations at a nuclear power plant simulator.

Sp Qtr. Arr. Prereq: 735 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**766 Nuclear Engineering Design U G 3**

Practice in the analysis and design of nuclear systems and the use of nuclear engineering principles.

Au Qtr. 1 cl, 2 2-hr lab. Prereq: 605 or 708, and 743.

**771 Radioactive Waste Management U G 3**

Overview of radioactive waste management. Covers waste categories, sources, treatment and disposal methods, minimization, transportation and current research topics.

Au Qtr. Prereq: 505 or 606 or permission of instructor. Not open to students with credit for Env Eng 771 or Civil En 771. Cross-listed in Environmental Engineering.

**776 Nuclear Fuel Cycles U G 3**

A study of the production, utilization, waste disposal, safeguards, and economic aspects of nuclear fuel cycles of importance in nuclear power technology.

Au Qtr. 2 1.5-hr cl. Prereq: 505 and 636 or 736.

**793 Individual Studies in Nuclear Engineering U G 1-10**

Affords the qualified student the opportunity for independent reading, study, or laboratory work in a specialized field of interest.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**794 Group Studies in Nuclear Engineering U G 1-5**

Special group studies of a selected area of Nuclear Engineering not provided in other courses.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs. May be taught in distance learning format. This course is graded S/U.

**845 Advanced Laboratory Studies G 1-6**

Experimental treatment of advanced nuclear engineering concepts.

Su, Au, Wi, Sp Qtrs. Prereq: 743 or 744, and permission of instructor.

**865 Neutron Slowing Down and Thermalization G 3**

Neutron slowing down in infinite and finite media, thermal spectrum calculations, and cell calculations in heterogeneous core lattices.

Sp Qtr. 3 1-hr cl. Prereq: 605 or 708, and Math 512 or equiv with permission of instructor.

**880 Advanced Topics**

An advanced course of study for special topics in nuclear engineering; topics will be announced each quarter.

Arr. Prereq: Permission of instructor. Offered as demand warrants.

**880.02 Reactor Kinetics, Dynamics and Controls G 1-3**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**880.03 Reactor Design G 1-3**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**880.04 Fuel Management G 1-3**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**880.05 Radiation Effects G 1-3**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**880.08 Nuclear Instrumentation G 1-3**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**880.09 Special Studies in Radioactive Waste Management G 1-3**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**881 Nuclear Engineering Seminar G 1**

Current topics in nuclear engineering.

Au, Sp Qtrs. 1 cl. Prereq: Grad standing in nucl en. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies in Nuclear Engineering G 1-5**

Special group studies of a selected area of nuclear engineering not provided in other courses.

Su, Au, Wi, Sp Qtrs. 1 cl. Prereq: Written permission of instructor. Repeatable to a maximum of 20 cr hrs.

**999 Research in Nuclear Engineering G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Nursing

240 Newton Hall, 1585 Neil Avenue, 292-4041

**100 Nursing Survey U 1**

Introduction to the University Community, the College of Nursing and the profession of nursing. Emphasis on strategies for success, resources and procedures.

Au, Wi Qtrs. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Enrollment in the College of Nursing as a pre-nursing student. Not open to students with credit in other freshman survey courses. Designed for students admitted as freshman or lower division transfer students.

**101 Introduction to the Profession of Nursing U 2**

An introduction to the profession of nursing; exposure to personal and professional boundaries; analysis of trends in nursing and health care.

Sp Qtr. 2 cl.

**250 Introduction to Therapeutic Communication for Health Professionals U 2**

An introduction to the process of therapeutic communication in health care settings.

Sp Qtr. 2 cl.

**293 Individual Studies in Nursing U 1-8**

Individual investigation of selected areas in introductory nursing studies.

Su, Au, Wi, Sp Qtrs. Prereq: 1st or 2nd year standing in nursing and written permission of instructor. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**294 Group Studies in Nursing U 2-6**

Selected topics in Nursing.

Su, Au, Wi, Sp Qtrs. Prereq: 1st or 2nd yr standing in nursing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**301 Foundational Nursing Concepts for Health Promotion and Restoration across Lifespan Cultures and Settings**

Introduction to the foundations of nursing and the skills required in the provision of nursing care.

**301.01 Foundational Nursing Concepts for Health Promotion and Restoration across Lifespan Cultures and Settings I U 6**

Introduction to the profession, nursing process, and natural history model for disease as a framework for disease prevention, health promotion and restoration across the life span.

Au Qtr. 4 cl, 4 lab, 4 clinical and 2 sem. Prereq: Soph standing in nursing major; concur 385.01.

**301.02 Foundational Nursing Concepts for Health Promotion and Restoration across Lifespan Cultures and Settings II U 6**

Assessment of health and nursing interventions to maintain or restore health or prevent disease using the natural history model. Additional focus on the health care delivery system.

Wi Qtr. 4 cl, 4 lab, 4 clinical and 2 sem. Prereq: 301.01; concur 385.02.

**301.03 Foundational Nursing Concepts for Health Promotion and Restoration across Lifespan Cultures and Settings III U 6**

Assessment of health and nursing interventions to maintain or restore health or prevent disease using the natural history model. Additional focus on political processes that affect health care delivery.

Sp Qtr. 4 cl, 4 lab, 4 clinical and 2 sem. Prereq: 301.02; concur 385.03.

**302 Transition into Baccalaureate Nursing U 4**

Provides the framework for transition for registered nurses pursuing a baccalaureate degree in nursing.

Su Term 1 Prereq: Admission to nursing major, Registered Nurse status. Required in the Bachelor of Science in Nursing degree program for Registered Nurse students. Distance learning course (web taught).

**H320 Honors Seminar**

Discussion of topics relevant to academic, professional, and personal development in nursing.

5 2-hr seminars/qtr. Prereq: Soph standing in nursing major, enrolled in Honors Program.

**H320.01 Honors Seminar I U 1**

First in a series of three sophomore Honors Seminars.

Au Qtr.

**H320.02 Honors Seminar II U 1**

Second in a series of three sophomore honors seminars.

Wi Qtr. Prereq: H320.01.

**H320.03 Honors Seminar III U 1**

Third in a series of three sophomore honors seminars.

Sp Qtr. Prereq: H320.02.

**337 A Nursing Perspective: Life Span Development of Individuals within a Family Context U 3**

Growth and development of individuals within the context of family from the beginning to death with an emphasis on assessment and interventions used by nurses.

Sp Qtr. 3 cl. Prereq: Soph standing in nursing major or permission of instructor.

**360 Introduction to Scientific Inquiry in Nursing Practice**

Introduction to the fundamentals of scientific inquiry in nursing including information literacy, research methods, and evidence-based practice necessary for evaluating evidence of nursing practice.

**360.01 Introduction to Scientific Inquiry in Nursing Practice through Information Literacy U 1**

Fundamentals of information literacy for nursing practice; intended to foster an appreciation and understanding of information searching and retrieval using a variety of modalities.

Au Qtr. 1 cl. Prereq: Soph standing in nursing major or permission of instructor.

**360.02 Introduction to Scientific Inquiry in Nursing Practice through Research Methods U 1**

Introduction to nursing research methods; intended to foster an appreciation and understanding of nursing research to enable students to evaluate evidence of nursing practice.

Wi Qtr. 1 cl. Prereq: 360.01.

**360.03 Introduction to Scientific Inquiry in Nursing Practice through Evidence-Based Practice U 1**

Introduction to the basics of evidence-based practice intended to foster an appreciation and an understanding for utilizing evidence-based findings in nursing practice.

Sp Qtr. Prereq: 360.02 or H541.

**367 Healthcare Issues in the United States U 5**

Designed to enhance students' critical and analytical reading and writing skills through a study of current health issues in the United States.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: English 110 or 110.01 or 110.02 or 110.03. GEC second writing course.

**385 Integrated Sciences for Nursing Practice**

A study of normal human pathophysiological processes of disease, and related pharmacological principles as a scientific foundation of nursing practice.

5 cl.

**385.01 Integrated Sciences for Nursing Practice I U 5**

Normal cellular and systemic homeostatic function and local and systemic responses to cellular structure and function.

Au Qtr. Prereq: Soph standing in nursing major or permission of instructor.

**385.02 Integrated Sciences for Nursing Practice II U 5**

Normal and abnormal renal, musculoskeletal, cardiac and respiratory physiology and principles related to pharmacological management of major diseases of each of these body systems.

Wi Qtr. Prereq: 385.01 or permission of instructor.

**385.03 Integrated Sciences for Nursing Practice III U 5**

Normal and abnormal neurological, endocrine, gastrointestinal, hepatic, and reproductive physiology and principles related to pharmacological management of major diseases of each of these body systems.

Sp Qtr. Prereq: 385.02 or permission of instructor.

**390 Introduction to Research for Evidence-Based Practice U 3**

An introduction to the research process and evidence-based practice.

Su Qtr. 3 cl. Prereq: Admission to nursing major, Registered Nurse status or permission of instructor. Required in the Bachelor of Science in Nursing degree program for Registered Nurse students. Distance learning course (web taught).

**402 Nursing Care of Adults U 8**

Nursing knowledge essential to caring for adults; emphasis on health promotion, risk assessment, disease prevention and management of common acute and chronic health problems.

Au, Wi, Sp Qtrs. 4 cl, 12 hrs clinical. Prereq: Jr standing in nursing, 301.03, 385.03, Humn Ntr 310, Micrbiol 509, and Nursing 337 or permission of instructor. Cannot be taken with Nursing 403, 404 or 405

**403 Nursing Care of Older Adults U 8**

Nursing knowledge essential to caring for older adults; emphasis on health promotion, risk assessment, disease prevention and common acute and chronic health problems.

Au, Wi, Sp Qtrs. 4 cl, 12 hrs clinical. Prereq: Jr standing in nursing, 301.03, 385.03, Humn Ntr 310, Micrbiol 509, and Nursing 337 or permission of instructor. Cannot be taken with Nursing 402 or 404 or 405

**404 Nursing Care of Childbearing Families U 5**

Nursing knowledge essential to caring for childbearing families; emphasis on health promotion, risk assessment, disease prevention and complications from pregnancy, acute and chronic health problems.

Au, Wi, Sp Qtrs. 3 cl, 6 hrs clinical. Prereq: Jr standing in Nursing, 301.03, 385.03, Humn Ntr 310, Micrbiol 509, and Nursing 337 or Psych 340 or HDFS 364 or permission of instructor. Can be taken with Nursing 405. Cannot be taken with Nursing 402 or 403.

**405 Nursing Care of Children and their Families U 5**

Nursing knowledge essential to caring for children and their families; emphasis on health promotion, risk assessment, disease prevention and common acute and chronic health problems.

Au, Wi, Sp Qtrs. 3 cl, 6 hrs clinical. Prereq: Jr standing in Nursing, 301.03, 385.03, Humn Ntr 310, Micrbiol 509, and Nursing 337 or Psych 340 or HDFS 364 or permission of instructor. Can be taken with Nursing 404. Cannot be taken with Nursing 402 or 403.

**H420 Honors Seminar**

Discussion of topics relevant to the senior thesis proposal.

**H420.01 Honors Seminar IV U 1**

Discussion of topics relevant to the senior thesis proposal. First in a series of three junior level honors seminars.

Au Qtr. 4 2.5-hr/cl/qtr. Prereq: Jr. standing in nursing, enrolled in Honors Program, H320.03

**H420.02 Honors Seminar V U 1**

Discussion of topics relevant to the senior thesis proposal development. Second in a series of three junior level honors seminars.

Wi Qtr. 4 2.5-hr cl/qtr. Prereq: H420.01.

**H420.03 Honors Seminar VI U 1**

Discussion of topics relevant to the senior thesis proposal development. Third in a series of three junior level honors seminars.

Sp Qtr. 4 2.5-hr cl/qtr. Prereq: H420.02.

**440 Cultural Competence in Health Care U 3**

Development of health care concepts and techniques used by nurses and other health care professionals in providing culturally competent care of individuals, families and communities.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 301.01 and 385.01 or permission of instructor.

**450 Interpersonal Relationships: Personal and Professional Boundaries U 1-2**

In-depth study of interpersonal relationship boundary issues, including the interrelationship of personal relationship issues and professional relationship issues.

Wi Qtr. 2 cl. This course is graded S/U.

**493 Individual Clinical Studies in Nursing U 0-5**

Clinical skills development for individuals which takes place in the College of Nursing's Teaching Learning Center.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in the College of Nursing; permission of instructor. Repeatable to a maximum of 5 cr hrs. Credit does not count toward BSN degree. This course is graded S/U.

**501 High Acuity Nursing U 8**

Nursing knowledge essential to management of high acuity patients and their families in a variety of health care settings.

Au, Wi Qtrs. 4 cl, 16 hrs clinical. Prereq: Sr standing in nursing major, 390, 402, 403, 404, 405 and 440 or permission of instructor. Cannot be taken with Nursing 503, 511 or 512.

**503 Leadership in Clinical Nursing Practice U 8**

Study of leadership principles and refinement of clinical expertise in a focused area of nursing practice.

Wi, Sp Qtrs. 2 cl and additional 14 hrs clinical for 8 week offering. H503 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 503: 501. Prereq for H503: 501 and H541. H503: Open only to students enrolled in the Honors program in Nursing. Cannot be taken with 501, 511 or 512. H503 is an offering required for students in the College of Nursing major honors program.

**508 Concepts in High Acuity Nursing U 8**

Study of nursing knowledge for Registered Nurse students essential to management of high acuity patients and their families in a variety of health care settings.

Au Qtr. 4 hr cl, 4 hrs clinical. Prereq: 302, 390, and 440 or permission of instructor. Open only to students in the RN to BSN program. Distance Learning course (Web taught).

**509 Concepts in Community Care of Vulnerable Populations U 6**

Application of public health and community health theory and principles to the nursing care of vulnerable populations.

Wi Qtr. 4 hrs cl, 2 hrs clinical. Prereq: 508 and student in RN to BSN program in Nursing or permission of instructor. Open only to students in the RN to BSN program. Distance learning course (Web taught).

**510 Concepts in Leadership and Management U 8**

The study of leadership and management principles as they apply to nursing practice and the health care environment.

Sp Qtr. 4 hrs cl, 4 hrs clinical. Prereq: 509 and student in RN to BSN program in Nursing or permission of instructor. Distance Learning course (Web taught).

**511 Community Care of Vulnerable Populations U 6**

Application of public health and community health theory and principles to the nursing care of vulnerable populations.

Au, Wi, Sp Qtrs. 4 cl, 1 8-hr clinical. Prereq: Sr standing in nursing major, 390 or H541, 401, 402, 403 and 440 or permission of instructor. Cannot be taken with Nursing 501 or 503. Concurrent enrollment in 512 possible

**512 Psychiatric Mental-Health Nursing U 6**

Nursing knowledge applied to the promotion of mental health and to the recovery of individuals with psychiatric diagnoses.

Au, Wi, Sp Qtrs. 4 cl, 1 8-hr clinical. Prereq: Sr standing in nursing major, 401, 402, 403 and 440 or permission of instructor. Cannot be taken with Nursing 501 or 503. Concurrent enrollment in 511 possible.

**H520 Honors Seminar**

Discussion of topics relevant to the senior thesis process.

**H520.01 Honors Seminar VII U 1**

Discussion of topics relevant to the senior thesis process. First in a series of three senior level honors seminars.

Au Qtr. 3 3.5-hr cl. Prereq: H420.03.

**H520.02 Honors Seminar VIII U 1**

Discussion of topics relevant to the senior thesis process. Second in a series of three senior level honors seminars.

Wi Qtr. 3 3.5-hr cl. Prereq: H520.01.

**H520.03 Honors Seminar IX U 1**

Discussion of topics relevant to the senior thesis process. Third in a series of three senior level honors seminars.

Sp Qtr. 3 3.5-hr cl. Prereq: H520.02.

**525 Introduction to ECG Monitoring U G 2**

Designed to introduce nursing students to basic ECG interpretation. Primary focus is electrical and mechanical conduction correlated to common causes and nursing interventions.

Au, Wi, Sp Qtrs. 2 hr cl. Prereq: Jr or sr standing in nursing, professional nurse, or permission of instructor.

**H541 Introduction to Nursing Research U 3,5**

Introduction to nursing research methods intended to foster an understanding of and appreciation for nursing research by direct involvement in the research process.

Wi Qtr. 2 cl. Prereq: 360.02 and H320.02 prereq or concur and Honors standing in the College of Nursing or permission of instructor. Not open to students with credit for 390.

**H580 Ethical Conflicts in Health Care Research, Policy, and Practice U 5**

An interdisciplinary approach to an analysis of central moral dilemmas in health care research, policy, and practice.

2 2-hr cl. Prereq: Jr or sr in college of nursing or permission of instructor. Not

open to students with credit for Philos H580. Cross-listed in Philosophy.

**593 Individual Studies U 1-8**

Study of selected problems in nursing.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 16 or hrs. This course is graded S/U.

**601 Scientific Thought in Nursing U G 3**

Study of the nature of scientific thought, critical thinking and moral reasoning in the discipline of nursing.

Au, Sp Qtrs. 3 cl. Prereq: Admission to master's program in nursing or permission of instructor.

**602 Theoretical Foundations for Advanced Practice Roles in Nursing U G 3**

The study of theoretical foundations for advanced nursing practice.

Su, Wi Qtrs. 3 cl. Prereq: Admission to master's program in nursing or permission of instructor.

**603 Nursing within the American Health Care System U G 3**

Analysis of American health care delivery system and policy making process with an emphasis on social, political, and economic factors affecting delivery of nursing services.

Su, Au Qtrs. 3 cl. Prereq: Admission to master's program in nursing or permission of instructor.

**604 Introductory Pharmacology for Healthcare Professionals U G 3**

An overview of pharmacokinetics principles, drug mechanism of action, survey of medications used, and review of nursing implications for common classes of medication.

Su Qtr. 3 cl. Prereq: Jr or sr rank, or CED or Grad college, or permission of instructor. Not open to College of Nursing students, students with credit for 706 or to current RNs. Course meets the pharmacology prerequisite for Graduate Entry applicants and is not for prescriptive privileges.

**605 Human Health Assessment U 3**

Development of basic human health assessment skills with emphasis on health history taking, physical examination techniques, and recording concise summaries.

2 cl, 3 lab. Prereq: Upper division health professions student, graduate health professional student or permission of instructor.

**606 Pharmacology for Clinical Nurse Leaders G 3**

Pharmacology related to acutely ill, hospitalized clients. Emphasis on pharmacotherapeutics for CNL practice in a microsystem (client group within a clinical unit).

Su Qtr. 3 cl. Prereq: Undergraduate pharmacology course or equiv and 703.

**607 Palliative and End of Life Nursing Care U G 3**

Explores the needs of individuals and families at end of life. Provides foundation in palliative and hospice care for the generalist and advanced practice nurse.

Sp Qtr. 3 cl. Prereq: Sr standing in CON, grad student in Nursing, or related major by permission.

**611 Professional Nursing Practice G 9**

Introduction to professional nursing practice; emphasis on knowledge and skills required for disease prevention, health promotion and restoration across the life span.

Au Qtr. 5 cl, 14 hrs lab and clinical. Prereq: Admission to the Graduate Entry Program in Nursing.

**622 Nursing Care of Adults and Older Adults G 9**

Nursing knowledge essential to caring for adults and older adults; emphasis on health promotion, risk assessment, disease prevention and management of common acute and chronic health problems.

Wi Qtr. 5 cl and 16 hrs clinical. Prereq: Student in Nursing Graduate Entry Program. Nursing 611, 703, or permission of instructor.

**623 Nursing Care of the Childbearing Family G 5**

Nursing theory and clinical care of childbearing and childrearing families with emphasis on health promotion, risk assessment, disease prevention and common acute/chronic health problems.

Sp Qtr. 3 credits class, 2 credits clinical. Prereq: Student in Nursing Graduate Entry Program. Nursing 622, 704 or permission of instructor.

**625 Nursing Care of Children and their Families G 5**

Nursing theory and clinical care of children and their families with emphasis on health promotion, risk assessment, disease prevention and common acute/chronic health problems.

Sp Qtr. 3 credits lecture/class; 2 credits clinical. Prereq: Student in Nursing Graduate Entry Program. Nursing 622, 704 and 637 or permission of instructor.

**631 Nursing Care of High Acuity Patients G 8**

Nursing knowledge essential to management of high acuity patients and their families in a variety of health care settings.

Su Qtr. 4 cl, 16 hrs clinical. Prereq: Student in Nursing Graduate Entry Program. Nursing 623, 625 or permission of instructor.

**633 Transition into Advanced Practice Nursing****633.01 Transition into Advanced Practice Nursing G 3**

Analysis of complex issues in clinical decision-making, ethical dilemmas, and inter-professional dynamics as applied to contemporary health care and the transition into advanced practice nursing.

Wi Qtr. 3 cl. Prereq: 634 and 635 or permission of instructor. Required course in the graduate entry program in nursing.

**633.02 Practicum in Transitions into Advanced Practice Nursing G 3-6**

Practicum involving complex issues in clinical decision making, ethical dilemmas, and interprofessional dynamics applied to contemporary health care and the transition into advanced practice nursing.

Wi, Sp Qtrs. 12-24 hrs clinical. Prereq: 634, 635 and 633.01 (prereq or concur) or permission of instructor. Repeatable to a maximum of 9 cr hrs. Required course in the graduate entry program in the Master of Science program in the College of Nursing. This course is graded S/U.

**634 Community Care of Vulnerable Populations G 6**

Application of public health and community health theory and principles to the nursing care of vulnerable populations.

Au Qtr. 3 cl, 2 sem/lab, 8 clinical. Prereq: Student in Nursing Graduate Entry Program. Nursing 631 or permission of instructor.

**635 Psychiatric Mental Health Nursing G 6**

Nursing knowledge applied to the promotion of mental health and to the recovery of individuals with psychiatric diagnoses.

Au Qtr. 3 cl, 2 sem/lab, 8 clinical. Prereq: Student in Nursing Graduate Entry Program. Nursing 631 or permission of instructor.

**637 A Nursing Perspective: Life Span Development of Individuals within a Family Context G 3**

Individual growth and development within a family context from beginning to death, emphasis on nursing assessment and interventions with various theoretical perspectives integrated throughout course.

Wi Qtr. 3 cl. Prereq: Admission to the Graduate Entry Program in Nursing or permission of instructor.

**640 Issues of Culture and Diversity in Health Care G 3**

Concepts and techniques used by nurses in cultural assessment of individuals, families and communities.

Sp Qtr. 3 cl. Prereq: Admission to the Graduate Entry Program in Nursing or permission of instructor.

**652 Nursing Process in the Operating Room U 3**

Study of nursing process with clients in the pre-operative, intra-operative, and post-operative phase; emphasis on scrub nurse and circulating nurse roles.

Su, Au, Wi, Sp Qtrs. 1cl, 4-hrs clinical. Prereq: Sr standing in nursing major and permission of instructor. This course is graded S/U.

**653 Nursing Assessment of Early Parent-Child Interaction: Theory and Measurement U G 3**

Examination of theory and research relevant to nursing assessment of early parent-child interaction and its application to nursing interventions to improve child health outcomes.

Su Qtr. 2 cl, 2 hrs lab. Prereq: Sr or grad standing in nursing major or permission of instructor.

**654 Human Sexuality and Nursing Practice U G 3**

Use of nursing theory and nursing process to study sexual health and aberrations in sexual health across the life span.

3 cl. Prereq: Sr or grad student in nursing major, RN, or permission of instructor.

**656 Oncology Nursing U 2**

Basic and intermediate level information for nursing care of people with cancer including prevention, detection, and treatment in acute, ambulatory or home care settings.

Au, Wi, Sp Qtrs. 2 cl. Prereq: Sr undergrad student in nursing major or RN student or permission of instructor.

**657 Nursing Care of the High Risk Neonate U G 2**

Introduction to the role of the neonatal nurse in the provision of comprehensive nursing care of the high-risk neonate.

Au, Wi Qtrs. 2 cl. Prereq: 385.03 or 703 or permission of instructor.

**694 Group Studies in Nursing U G 1-6**

Group studies of special problems in nursing; topics vary for quarters.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr nursing major or nursing grad student. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**700 Interprofessional Education**

Focus on ethical issues, changing professional/consumer rights, and interprofessional cooperation.

3 cl. Limited to students in allied medical professions, education, law, nursing, medicine, social work, and theology (Columbus seminaries).

**700.01 Interprofessional Care U G 3**

Treatment of the whole person through the analysis of the interrelated problems of actual patients/clients.

Wi Qtr. Repeatable to a maximum of 9 cr hrs.

**700.02 Changing Societal Values U G 3**

Identification and clarification of value considerations as they relate to professional problems in dealing with consumers/clients/patients.

Repeatable to a maximum of 9 cr hrs.

**700.03 Ethical Issues U G 3**

Ethical issues of concern to the professions and arising out of the advanced technology: euthanasia, mind control, malpractice, and social responsibility of the profession.

Au Qtr. Repeatable to a maximum of 9 cr hrs.

**700.04 Interprofessional Practicum in Clinical Settings U G 3,5**

Interprofessional teamwork in clinical settings.

Arr. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**700.05 Interprofessional Seminar in Policy Analysis U G 3**

Explores interprofessionally the history, formation, and implementation of public policy issues of significance to seven helping professions.

3 cl. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**700.06 Care of Chemically Dependent Families U G 3**

Interprofessionally explores issues in the identification and treatment of chemical dependency within the family context.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**700.07 Interprofessional Approaches to Child Abuse and Neglect U G 3**

Interprofessionally explores issues in the identification, treatment, and prevention of child abuse and neglect.

1 2.5-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. Limited to 12 students each in allied medicine, education, law, medicine, nursing, psychology, social work, and theology through Columbus Cluster.

**702 Research for Evidence Based Clinical Practice G 4**

Prepares students to use extant research and existing data bases to provide quality care, initiate change, and plan and evaluate programs of care.

Wi, Sp Qtrs. 3 cl, 2 lab. Prereq: Undergrad research course and intermediate statistics course, or permission of instructor.

**703 Pathophysiology of Altered Health States I G 5**

Analysis of theories and research regarding alterations of health states across the life span, with an emphasis on pathophysiological processes.

Au Qtr. 5 cl. Prereq: Admission to master's program in nursing or permission of instructor.

**704 Pathophysiology of Altered Health States II G 5**

Analysis of theories and research regarding alterations of health states across the life span, with an emphasis on pathophysiological processes.

Wi Qtr. 5 cl. Prereq: 703 or permission of instructor.

**705 Advanced Health Assessment G 5,6**

Development of advanced health assessment skills. Emphasis on the acquisition of normal and abnormal assessment data relevant to clinical reasoning in advanced nursing practice.

Sp Qtr. 3 cl; 4 lab; 1 additional hour for FNP students in class. Prereq: Knowledge of basic physical assessment and 703 or permission of instructor. Family Nurse Practitioner students are required to take this course for 6 credits.

**706 Pharmacology in Advanced Nursing Practice G 5**

Covers pharmacokinetic principles of drugs. Use of drugs and therapeutic devices by advanced practice nurses in health and illness. Also, relevant laws regarding prescriptive authority.

Su, Wi Qtrs. 2 2-hr cl and 1 hr seminar. Prereq: Enrollment in nursing graduate program, Nursing 703 or permission of instructor. This course meets the Ohio Administrative Code requirements for prescriptive privileges.



**707 Reimbursement and Cost Methods for Advanced Practice Nurses G 3**

Examination of reimbursement methods for health care services and the concepts of cost analysis necessary for program development/monitoring and management of an independent nursing practice.

Au, Sp Qtrs. 3 cl. Prereq: Admission to the master's program in nursing or permission of the instructor; basic skill in spreadsheet development and editing.

**708 Advanced Newborn/Infant Pharmacology G 5**

Pharmacotherapeutics of high-risk neonates and infants with applications to newborn/infant physiology, and special considerations of drug therapy and advanced nursing management.

Sp Qtr. 5 cl. Prereq: 727 and 728. Distance learning course (Web taught).

**711 Theoretical Foundations of Clinical Decision-Making G 4**

Advanced assessment, using a systematic process of diagnostic thinking and clinical reasoning within a research utilization framework via symptom exemplars from nursing practice.

Sp Qtr. 4 cl. Prereq: 704; prereq or concur: 705.

**713 Health Promotion and Disease Prevention across the Life Span in the Acute Care Setting G 3**

Analyze strategies to encourage change in both individual's and population's health behaviors that influence risk reduction in acute care settings.

Sp Qtr. 3 cl. Prereq: 702 and 707.

**715 Advanced Pediatric Health Assessment G 5**

Development of advanced pediatric assessment skills; emphasis on acquisition of normal and abnormal assessment data relevant to clinical reasoning in advanced pediatric nursing practice.

Prereq: 703 and knowledge of basic physical assessment or permission of instructor. Fulfills the advanced physical assessment requirement for the Pediatric Nurse Practitioner (PNP) program.

**717 Nisonger Center Courses in Mental Retardation and Developmental Disabilities**

Focus on interdisciplinary topics in mental retardation and developmental disabilities.

Prereq: Permission of instructor. Cross-listed in Allied Medicine, Education: Physical Activity and Educational Services, Human Development and Family Science, Human Nutrition, Psychology, Social Work, and Speech and Hearing Science.

**717.01 Family Systems: An Interdisciplinary Approach to Families of Handicapped Children U G 3**

Qualitative and quantitative approaches for resource and problem identification with families of handicapped children, effective parenting skills, strategies to follow at-risk families, and family intervention models.

Wi Qtr. 3 cl. Not open to students with credit in 717.01 in any of the cross-listed areas. Limit of 20 students.

**717.02 Interdisciplinary Perspectives on Autism Spectrum Disorders U G 3**

Critical examination of the latest information on biomedical, psycho-social, educational, communication and language, family and sensory issues of autism spectrum disorders.

Sp Qtr. 3 cl. Not open to student with credit in 717.02 in any of the cross-listed areas. Limit of 20 students.

**717.03 Developmental Disabilities U G 3**

Focus on the most pertinent scientific and societal issues of developmental disabilities.

Au Qtr. 3 cl. Not open to students with credit for 717.03 in any of the cross-listed areas.

**718 Instructional Strategies in Clinical Teaching U G 3**

Preparation of health professionals to assume the role of clinical educator with focus on best pedagogical practices in the classroom. Clinical and virtual learning environments.

Su Term 1 Prereq: 302 or Grad standing or permission of instructor. Computer assisted course.

**719 Early Intervention Interdisciplinary Team Dynamics G 3**

Interdisciplinary team-taught course with a focus on early intervention/early childhood education services for children birth to three and their families.

Au Qtr. 2.5-hr cl. Prereq: Permission of instructor. Not open to students with credit for Allied Med 719, Edu PAES 719, HDFS 719, or Sph/Hmg 719. Cross-listed in Education: Physical Activity and Educational Services, Human Development and Family Science, and Speech and Hearing Science.

**721 Theories, Concepts and Issues in Advanced Family Nursing G 3**

Theories, concepts, and issues from nursing and related sciences relevant to the development and care of women, children and families in various states of health and illness.

Au, Wi Qtrs. 3 cl. Prereq: Grad standing.

**722 Advanced Reproductive Dynamics G 4**

Analysis and synthesis of principles of reproductive physiology, genetics and fetal

development, menarche, pregnancy, parturition, puerperium and menopause related to advanced nursing practice in women's health care.

Wi Qtr. 4 cl/seminar. Prereq: 703.

**723 Child and Adolescent Assessment for the School Nurse G 3**

Theory, knowledge and skills in health and physical assessment of children and adolescents for nursing practice in school settings.

Su Qtr. 2 cl, 3-hr lab. Prereq: Grad standing.

**724 Conceptual Framework for Nurse-Midwifery Practice G 3**

Introduction to program and theoretical foundations of nurse-midwifery: Health, wellness, health behavior, health promotion, communication. Perinatal epidemiology and nurse-midwifery management process are introduced.

Au Qtr. Seminar and independent learning. Prereq: Admission to the master's program in nursing and the nurse-midwifery area of study, or permission of instructor.

**727 Developmental Physiology, Pathophysiology and Pharmacology of High-Risk Neonate I G 6**

Biological basis of case management of the high-risk neonate incorporating analysis and synthesis of principles of embryology, developmental physiology, pathophysiology, and pharmacology.

Wi Qtr. 6 cl. Prereq: Grad standing in Nursing.

**728 Developmental Physiology, Pathophysiology and Pharmacology of High-Risk Neonate II G 6**

Biological basis of case management of the high-risk neonate incorporating analysis and synthesis of principles of embryology, developmental physiology, pathophysiology, and pharmacology. Continuation of 727.

Sp Qtr. 6 cl. Prereq: 727 or permission of instructor.

**729 Advanced Health Assessment of the Neonate G 4**

Development of advanced health assessment skills to comprehensively assess full-term and preterm neonatal clients.

Sp Qtr. 3 cl, 4 lab. Prereq: Knowledge of health assessment skills, 727 and concurrent enrollment in 728.

**733 Introduction to Clinical Nurse Leader Practice G 10**

This course is designed to introduce the graduate student to the role of the Clinical Nurse Leader through relevant classroom content and clinical experiences.

Sp Qtr. 4 cl, 6 clinical (24 hrs/per week). Prereq: RN license or 633.01 and 633.02.

**735 Comprehensive Health Assessment G 3**

Comprehensive health assessment of acutely and chronically ill clients across the life span; specific skills for practice in a microsystem (client group within a clinical unit).

Wi Qtr. 3 cl. Prereq: Grad nursing major and 703.

**740 Neuroscience Principles and Concepts Relevant to Psychiatric/Mental Health Nursing G 3**

Neurobiological bases of brain-mind-behavior relationships in mental health and illness, including chemical dependence. Emphasis on promotion, maintenance and restoration of central nervous system homeostasis.

Au Qtr. 3 hrs lecture/discussion. Prereq: Admission to master's program in nursing or permission of instructor.

**745 Advanced Psychiatric/Mental Health Nursing: Individuals and Families G 3**

Advanced clinical therapeutic nursing interventions with persons who have psychiatric diagnoses, and/or chemical dependence, and their families.

Wi Qtr. 4-hr seminar/discussion. Prereq: Grad standing in nursing or permission of instructor.

**752 Community Health Nursing: Society as Client G 3**

Overview of contemporary community health nursing theory, research, and practice skills necessary to provide nursing care to selected groups or aggregates within a community setting.

3 cl. Prereq: Admission to master's program in nursing or permission of instructor.

**760 Foundations for Making the Link between Practice, Theory and Research G 5**

Theory and practice with identifying clinical research questions, appraising evidence, applying theories to research, and translation of theory and research-based evidence to clinical practice.

5 cl. Prereq: Grad standing or permission of instructor.

**777 Group Process for the Health Professional G 3**

Theoretical approaches to group work in the health professions. Focus on group process, approaches to group therapy and approaches to groups in health care treatment.

Au Qtr. 3 cl. Prereq: Grad standing or permission of instructor.

**H783 Honors Research U 1-5**

A project or research study conducted by each honors student with the guidance of a faculty mentor. Student project or thesis presentations are included.

Au, Wi, Sp Qtrs. Arr. Prereq: H420.03. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**793 Individual Studies in Nursing U G 1-5**

Reading, conferences, and minor investigation by an individual student who wishes to study a particular nursing problem intensively.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**797 Interdepartmental Seminars U G 1-5**

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Repeatable. Permission of college secretary needed to repeat.

**807 Foundational Knowledge for Nursing and Health Systems Management G 4-7**

Study of the theoretical knowledge that provides the foundation for nursing leadership in program and health systems management across the continuum of care.

Au Qtr. 0-4 hrs cl, 9-12 hrs clinical. Prereq: Admission to NUR or permission of instructor.

**808 Skills for Nursing and Health Systems Management G 3-7**

Study of the skill sets necessary for program and health systems management across the continuum of care.

Wi Qtr. 0-3 hrs cl, 10-16 hrs clinical. Prereq: Completion of 807 or permission of instructor.

**809 Practicum for Nursing and Health Systems Management G 2-7**

An in-depth guided clinical experience for the application of theoretical and skill-based knowledge. Strategies and techniques for evaluation of outcomes are included.

Sp Qtr. 0-2 hrs cl, 16-20 hrs clinical. Prereq: Completion of 808 or permission of instructor.

**810 Clinical Practicum for Nursing and Health Systems Management G 1-10**

A guided clinical experience for the application of theoretical and skill-based knowledge in nursing and health systems management.

Su Qtr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**833 Transition to Clinical Nurse Leader Practice G 10**

This is the final course in the Clinical Nurse Leader program. Emphasis is on clinical experience and application of theoretical material learned throughout the program.

Su Qtr. 1 cr. hr. to 4 clinical hr/week. Prereq: RN licensure and 733.

**859 Advanced Practice Nursing G 2-12**

Application of theories, research findings, skills and interventions including pharmacological management for advanced practice nursing in primary, acute and chronic care.

Su, Au, Wi, Sp Qtrs. 4-hr seminar; clinical. Prereq: All specialty core courses or permission of instructor. Repeatable.

**862 Practicum in Nursing**

Supervised experiences which permit in-depth study of the roles and relationships in administration, practice, or teaching of nursing.

Prereq: Permission of instructor.

**862.05 Teaching in Nursing G 5**

The focus of this course is the application of best pedagogical practices in selected nursing education experiences. A supervised experiential teaching component is included.

1 hr sem; practicum 6 hrs. Prereq: 718 or permission of instructor. Clinical sites arranged with faculty.

**862.07 Administration and Case Management for Clinical Nurse Specialists G 3**

Seminar focusing on the understanding and analysis of current trends, challenges, practice and research related to case management and administration by clinical nurse specialists.

Sp Qtr. 3 cl. Prereq: Grad standing in nursing or permission of instructor.

**871 Primary Prevention and Health Issues Related to Chemical Use, Misuse and Dependency in Children and Adolescents G 3**

Biopsychosocial effects of alcohol and other drugs on the physical, intellectual and emotional lives of users and significant others. Primary prevention approaches for children and adolescents addressed.

3 cl. Prereq: Grad standing or permission of instructor. This course is graded S/U.

**872 Intervention Assistance Team: A Strategy for Working with At-Risk Youth in Schools G 3**

Responses to a wide range of student/family needs including: adequate services,

appropriate non-discriminatory placement, crisis resolution, effective discipline practices and safe and drug-free schools programs.

3 cl. Prereq: Grad standing or permission of instructor. This course is graded S/U.

**880 Seminar G 2-5**

Discussion of issues, trends, and problems in nursing; topics to be announced.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 30 cr hrs.

**893 Individual Studies G 1-5**

Advanced individual studies in selected areas not otherwise offered in nursing.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Enrollment in graduate program or permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**894 Group Studies in Nursing G 2-5**

Reading and group conferences for graduate students who desire to study a particular trend in nursing or nursing education.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 5 cr hrs.

**900 Pro Seminar in Nursing G 1**

Examination of current health care problems, national research priorities, issues within nursing science, career patterns of women and doctorally prepared nurses.

Au, Wi, Sp Qtrs. 2 cl. Prereq: PhD student in nursing, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**901 Theoretical Foundations of Nursing Science G 5**

Study of the major philosophies of nursing from a historical perspective and analysis of methods for theory development in nursing science.

Au Qtr. 5 cl. Prereq: PhD student in nursing, or permission of instructor; prereq or concur: 900.

**902 Quantitative and Qualitative Analysis in Nursing Science**

Study of quantitative and qualitative methodologies used in developing and conducting holistic health research at the individual, family, and community levels of analysis.

**902.01 Qualitative Methods in Nursing Science G 5**

Study of qualitative methods used in conducting nursing research; laboratory experience will include field work; data management and analysis.

3 cl, 4-hrs lab. Prereq: 901 or permission of instructor.

**903 Theory Synthesis I G 3**

In-depth analysis of health theories from nursing, biological, and behavioral sciences; emphasis on theories derived from a nursing perspective.

3 cl. Prereq: 901 or permission of instructor.

**904 Theory Synthesis II G 3**

In-depth synthesis of theories and models of relevance to a program of research in nursing.

Sp Qtr. 3 cl. Prereq: 917.01 or 917.02 or permission of instructor.

**912 Introduction to Methods of Nursing Science G 5**

Survey of research methods used to describe, explain, predict, and manipulate phenomena relevant to the discipline of nursing. Emphasis on systematic development of nursing knowledge.

Wi Qtr. 5 cl. Prereq: PhD student in nursing or permission of instructor.

**914 Principles of Measurement in Health Related Sciences G 5**

Study of measurement principles for concepts relevant to nursing science. Emphasis is on psychobiobehavioral measurement and measurement of variables for the study of health disciplines.

Sp Qtr. 4 cl, 4 hrs lab. Prereq: 912 or permission of instructor. Required in the PhD program in nursing.

**915 Psychobiobehavioral Phenomena Underlying Determinants of Health Status G 5**

Study of theoretical and analytical approaches used in psychobiobehavioral nursing research as a foundation for understanding phenomena underlying determinants of health status.

Wi Qtr. 5 cl. Prereq: 901. Required in the PhD program in nursing.

**916 Psychosocial Mechanisms Underlying Determinants of Health Disparities G 5**

Study of theoretical and analytical approaches used in psychosocial research as a foundation for understanding determinants of health disparities.

Sp Qtr. 5 cl. Prereq: 901, 915. Required in the PhD program in nursing.

**917 Seminars in Determinants of Health**

Integration of the theoretical and methodological approaches in the study of psychosocial and bio-behavioral phenomena underlying determinants of health.

Au Qtr. 3 cl; for 5 add 2 sem. Prereq: 916 or permission of instructor. Required in the Nursing PhD program.

**917.01 Seminars in Determinants of Health G 3,5**

Integration of the theoretical and methodological approaches in the study of psycho-bio-behavioral phenomena underlying determinants of health.

**917.02 Seminars in Determinants of Health G 3,5**

Integration of the theoretical and methodological approaches in the study of psychosocial phenomena underlying determinants of health.

**999 Research in Nursing G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Obstetrics and Gynecology

**H529 Biotechnology and Evolution U 5**

Evolutionary and genetic mechanisms leading to life history variation among vertebrates; promises and pitfalls of biotechnology; genetic mechanisms of diseases in higher vertebrates and humans.

Wi Qtr. 2 3-hr cl. Prereq: Jr standing and written permission of instructor. Cross-listed in Natural Resources. Prior courses recommended are EEOB 400 or H400, Mol Gen 500, Biochem 511, Chem 252, and Nat Res 628.

## Occupational Therapy

School of Allied Medical Professions

406 Atwell Hall, 453 West 10th, 292-5824

**694 Group Studies U G 1-5**

Supervised group studies of special topics pertinent to the practice of occupational therapy.

Su, Au, Wi, Sp Qtrs. Open only to students enrolled in Occupational Therapy Division. Repeatable to a maximum of 15 cr hrs.

**700 Introduction to Occupational Therapy G 2**

Introductory course covers professional standards of occupational therapy, scope of practice, models of practice, and history of the profession.

Su Qtr. 1 2-hr cl. Prereq: Admission to the Masters of Occupational Therapy program.

**701 Occupational Therapy in Early Intervention G 3**

Research/theoretical basis of occupational therapy in early intervention; principles and strategies for working with families; therapy approaches with young children; models of service delivery.

Au Qtr. 1 3-hr cl. Prereq: AMP grad standing Permission of the instructor.

**702 Theoretical Approaches in Occupational Therapy with Children G 3**

Neurophysiological and sensory integration approaches used in occupational therapy with young children in a variety of settings.

Wi Qtr. 1 3-hr cl. Prereq: AMP grad standing. Permission of instructor.

**703 Occupational Therapy in the Schools G 3**

An overview of occupational therapy best practice in the public schools. Students gain understanding of educational regulations, service delivery models, educational research and trends.

Au Qtr. 3 hrs lecture. Prereq: AMP grad standing or permission of instructor.

**711 Functional Group Dynamics in Occupational Therapy G 3**

Identification, examination, and analysis of factors involved in the development and functioning of task oriented groups in occupational therapy practice.

Au Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: Admission to MOT program

**712 Occupational Development Across the Life Span and Life Events G 4**

Explores the impact of illness, disease, and injury on participation in activities of daily life and engagement in human occupation across the life span.

Au Qtr. 2 2-hr cl. Prereq: Admission to the MOT program.

**713 Occupational Therapy and Task Analysis G 3**

Analysis of occupation and occupation tasks in self-care, work, and leisure.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: Admission to MOT program.

**714 Foundation of Occupational Therapy Practice G 4**

Development of professional skills through analysis of and participation in interaction in health care.

Au Qtr. 1 2-hr cl, 2 2-hr labs. Prereq: Admission to MOT program.

**715 Neuroscience: Fundamentals for Occupational Therapists G 4**

Fundamentals for neuroanatomy and neurophysiology for occupational therapy practice.

Au Qtr. 2 2-hr cl. Prereq: Admission to MOT program.

**716 Conditions in Occupational Therapy G 3**

Analysis of conditions seen in occupational therapy with emphasis on orthopedic conditions..

Sp Qtr. 2 1.5-hr cl.

**718 Directed Practicum: Experience of Disability G 3**

In-depth interactions with persons with disability to explore the experience of disability from the person's perspective. Introduction to disabilities studies and qualitative research methodology.

Wi Qtr. 2 hrs lec, 2 hrs practical. Prereq: Admission to Occupational Therapy program.

**720 Guided Practicum in Mental Health G 3**

Supervised clinical experience with people who have emotional/behavioral problems or mental disorders.

Wi Qtr. 1 cl, 2 2-hr clinics. Prereq: 712, 713.

**721 Guided Practicum: Physical Function in Occupational Therapy G 3**

Supervised clinical experience in settings with individuals who have problems of physical function.

Wi Qtr. 1 cl, 2 2.5-hr clinics. Prereq: 712, 713.

**724 Guided Practicum: Children and Public School G 3**

Supervised clinical experience with children with disabilities in schools.

Wi Qtr. 1 cl, 4 hr clinic. Prereq: Admission to MOT program; 745, 746.

**725 Service Learning in Occupational Therapy G 1**

Designed to provide students with service learning opportunities, to enhance their civic skills, and to facilitate an interdisciplinary approach to treatment.

Au, Wi, Sp Qtrs. 2-hr cl, 5 sessions. Prereq: Admission to Occupational Therapy program. Repeatable to a maximum of 3 cr hrs. Some travel to participant locations required within central Ohio area. This course is graded S/U.

**741 Occupational Therapy in Mental Health I G 5**

Description and explanation of competing theoretical propositions and techniques used by occupational therapy to bring about change for people with serious emotional/behavioral problems.

Wi Qtr. 2 2-hr cl, 1 2-hr lab.

**742 Occupational Therapy in Mental Health II G 5**

Systematic observation, assessment, and development of occupational therapy intervention plans for people with serious emotional/behavioral problems and mental disorders.

Sp Qtr. 1 4-hr cl, 1 2-hr lab. Prereq: 712.

**743 Occupational Therapy in Physical Function I G 5**

Evaluation, remediation principles, and disability prevention used in occupational therapy practice with a focus on musculoskeletal diagnoses.

Au Qtr. 4 cl, 1 2-hr lab. Prereq: 715.

**744 Occupational Therapy in Physical Function II G 5**

Application of assessment techniques and intervention strategies for clients with physical dysfunction.

Sp Qtr. 3 cl, 2 2-hr labs. Prereq: 715.

**745 Occupational Therapy for Children G 4**

Evidence based practice models and techniques to enhance children's occupations.

Wi Qtr. 2 2-hr cl. Prereq: Admission to MOT program.

**746 Occupational Therapy Assessment of Children G 4**

Describes assessment purposes and selective instruments for those purposes; problem based models, test validity, and reliability are emphasized.

Sp Qtr. 2 2-hr cl.

**747 Occupational Therapy for Neurological Conditions G 6**

Examines performance abilities in persons with central nervous dysfunction. Course also includes principles and strategies for evaluation and treatment.

Wi Qtr. 3 2-hr cl. Prereq: 712, 715.

**748 Occupational Therapy in Gerontology G 4**

Activity based intervention, rehabilitation, and environmental adaptations specific to frail and well aging adults will be examined. Social policies affecting the lives of older adults will be explored.

Sp Qtr. 2 2-hr cl. Prereq: 716, 741, 747, 743.

**750 Applied Technology in Occupational Therapy G 3**

Evaluation of client's assistive technology needs, recommendations for assistive technology and environmental modifications to maximize function.

Wi Qtr. 1 cl, 2 2-hr labs. Prereq: 713, 716.

**751 Research Methods Used in Occupational Therapy G 3**

Research methods and designs used in occupational therapy; analysis of occupational therapy research.

Au Qtr. 2 1.5-hr cl.

**752 Planning and Management of Occupational Therapy Services** G 3

Examination of the impact of health care delivery systems and public policy on planning and management of occupational therapy services.  
Au Qtr. 2 1.5-hr cl. Prereq: 714, 720, 721.

**753 Occupational Therapy Consultation and Supervision** G 3

Examines consultation theories, models, principles and strategies. Consultation models will be applied to occupational therapy services in medical, community, and educational systems.

Sp Qtr. 2 1.5-hr cl. Prereq: 714.

**755 Occupational Therapy Fieldwork Preparation and Early Professional Practice** G 1

Selected topics relating to preparation for Level II fieldwork and early professional practice.

Sp Qtr. 2-hr cl for 5 weeks. Prereq: Admission to the OT program. This course is graded S/U.

**785 Full Time Fieldwork in Occupational Therapy**

Full time fieldwork in selected occupational therapy service settings.

Su, Au, Wi, Sp Qtrs. Open only to students who complete occupational therapy academic courses at Ohio State University.

**785.01 Fieldwork II-A** G 6

40 clinic. Prereq: Completion of all required academic and level 1 fieldwork courses. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**785.02 Fieldwork II-B** G 6

40 clin. Prereq: Completion of all required academic and level 1 fieldwork courses. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**785.03 Advanced Placement** G 2-6

Elective full time fieldwork in specialty practice occupational therapy settings.

1, 2 or 3 months, arr with instructor. Prereq: Completion of all academic coursework in MOT program. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**786 Guided Research Projects****786.01 Guided Research Projects I** G 3

Submit an IRB protocol; collect quantitative or qualitative data specific to research plan developed in Occ Ther 751.

Wi Qtr. 1 cl, 2 2-hr labs. Prereq: 751 This course is graded S/U.

**786.02 Guided Research Projects II** G 3

Development of a research proposal or program plan; data collection and analysis, interpretation of results and completion of a written report.

Sp Qtr. 1 cl, 2 2-hr labs. Prereq: 751; 786.01 This course is graded S/U.

**789 Guided Research Practicum** G 3

Students learn evidence based practice by finding research reports to answer clinical questions, analyzing research reports, and synthesizing findings to make clinical recommendations.

Wi Qtr. 3 hrs cl. Prereq: Admission to MOT program.

**793 Individual Studies** G 1-5

Guided study with occupational therapy readings, research, and/or experiences selected by the individual and approved by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**795 Seminar** G 1-3

Analysis and group discussion of selected topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**889 Advanced Clinical Practicum in Occupational Therapy**

Advanced clinical experience in occupational therapy.

Su, Au, Wi, Sp Qtrs. Clinic hrs arr. Prereq: Permission of instructor and enrollment in AMP grad program.

**889.01 Pediatric Area of Specialization** G 2-4

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**Ohio State Biochemistry Program**

108 Aronoff Lab 318 W. 12th Avenue, 292-1463

**760 First-Year Student Orientation** G 1

Orientation for first-year students in the OSBP; lectures on topics important for successful graduate experience; training in presenting scientific papers.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in OSBP. Repeatable to a maximum of 4 cr hrs.

**790 Colloquium-Advanced Biochemistry Topics** G 1

Seminars presented by Ohio State faculty and by faculty and professionals from outside the University.

Au, Wi, Sp Qtrs. 1 cl. Open only to students in the Ohio State biochemistry program. Repeatable to a maximum of 21 cr hrs. This course is graded S/U.

**793 Individual Studies** G 1-5

A qualified graduate student may conduct a minor laboratory research investigation in biochemistry under the direction of program faculty members.

Su, Au, Wi, Sp Qtrs. 1-5 cl. Prereq: Admission to the OSBP. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**794 Group Studies** G 1-5

Designed for students to investigate advanced selected topics in biochemistry.

Su, Au, Wi, Sp Qtrs. 1-5 cl. Prereq: Admission to the OSBP. Repeatable to a maximum of 10 cr hrs.

**796 Interdisciplinary Seminar in Advanced Biochemistry** G 1

Au, Wi, Sp Qtrs. 1 cl. Repeatable to a maximum of 21 cr hrs.

796A-- This alphabetical subdivision is graded S/U.

**999 Research in Biochemistry**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. This course will not serve as a replacement for the 999 course offering within a faculty's academic department.

**999.01 Research in Biochemistry** G 1-18

Repeatable. This course is graded S/U.

**Ophthalmology**

5251 Henry G. Cramblett Hall, 456 West 10th Avenue, 293-8117

The faculty of the Department of Ophthalmology is responsible for the instruction in the pathophysiology of the eye and its adnexa as part of the Med II of the medical curriculum. This instruction is offered under the course designation Med Coll 663. The Department also offers clinical instruction in ophthalmology during Med III and Med IV of the Medical Program designated Med Coll 664. This instruction is offered as a clinical elective period of one month. Research electives are available at any time in the curriculum of medical education.

**999 Research in Ophthalmology** G 1-18

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Optometry**

A 400 Starling-Loving, 338 West 10th Avenue, 292-2647

**401 Survey of Optometry** P 1

Development of optometry and optometric education; scope of optometric services; sources of vision information; kinds of current vision research.

Au Qtr. 1 cl. Prereq: Optometry 1st yr standing.

**402 Rights and Responsibilities of Optometrists** P 2

Professional behaviors, ethics and communication skills necessary for patient care; patient rights; confidentiality and licensing requirements for health care professionals.

Sp Qtr. 2 cl. Prereq: Optometry 1st yr standing.

**420 Optometric Career Options and Financing** P 2

Goal setting, modes of optometric practice, and budgeting/debt management principles for achieving personal financial success while in school and after graduation.

Au Qtr. 2 cl. Prereq: Optometry 1st yr standing.

**422 Financial Issues in Optometric Health Care** P 1

Overview and history of managed care; Medicaid, Medicare, and other third-party payments plans; rules for documenting patient histories, examinations, and decision-making.

Sp Qtr. 1 cl. Prereq: Optometry 1st yr standing.

**423 Coding and Reimbursement** P 1

ICD-9 and CPT coding procedures for vision and management/evaluation services; reimbursement issues related to fee schedules, insurance audits, and third-party billing.

Sp Qtr. 1 cl. Prereq: Optometry 2nd yr standing.

**424 Third-Party Payment Plans** P 1

Issues related to joining a third-party payment plan; integrating managed care into the optometric office; evaluation of managed care contracts.

Au Qtr. 1 cl. Prereq: Optometry 3rd yr standing.

**431 Ophthalmic Optics I P 4**

Ophthalmic optics of single-vision and multifocal spectacle lenses; measurement and inspection of spectacle lenses; manufacturing processes.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: Optometry 2nd yr standing.

**432 Ophthalmic Optics II P 4**

Ophthalmic lens design; minimizing lens aberrations; theory and practice in fitting and adjusting spectacles.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: 431.

**433 Introduction to Contact Lenses P 4**

The optics of corneal and scleral contact lenses; laboratory exercises in inspecting, measuring, edging, surfacing, and modifying contact lenses.

Su, Au Qtrs. 3 cl, 1 2-hr lab. Prereq: 432.

**441 Practical Optometry I P 4**

Theory and techniques of case history, keratometry, retinoscopy, objective and subjective tests of refraction.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: Optometry 2nd yr standing.

**442 Practical Optometry II P 4**

Correlation and analysis of vision examination data; accommodation and extra-ocular muscles; systematic determination of the etiology of vision anomalies and sources of visual discomfort and inefficiency.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 441.

**443 Practical Optometry III P 2**

Techniques of investigating special types of vision anomalies; diagnosing and prescribing for vision anomalies; coding and billing. Emphasis on case analysis.

Sp Qtr. 2 cl. Prereq: 442 and 711.

**445 Introductory General Clinical Practice**

Clinical experience in generalized phases of optometric practice.

Prereq: Optometry 2nd yr standing. Minimum of 3 clinical hrs.

**445.01 Introduction to General Practice P 2**

Introduction to clinical practice in examining the visual system and carrying out corrective procedures.

Sp Qtr. Prereq: 442 and 711. Repeatable to a maximum of 4 cr hrs.

**632 Vision of Children P 5**

Vision screening; the prevalence of visual anomalies and eye diseases in children; basic visual skills required in school and methods for their improvement.

Au Qtr. 3 cl, 1 4-hr lab. Prereq: Optometry 3rd yr standing.

**640 Clinical Practice in Optometry I P 1**

Consideration of selected problems and conditions encountered in the delivery of patient care.

Su Qtr. 1 cl. Prereq: 443.

**641 Clinical Practice in Optometry II P 2**

Glaucoma diagnosis and management including epidemiology, pathophysiology, risk assessment, differential diagnosis, and surgical management and coding.

Au Qtr. 2 cl. Prereq: Optometry 3rd yr standing.

**642 Clinical Practice in Optometry III P 1**

Continuation of 641.

Wi Qtr. 1 cl. Prereq: 641.

**643 Clinical Practice in Optometry IV P 1**

Continuation of 642.

Sp Qtr. 1 cl. Prereq: 642.

**645 Intermediate Special Clinical Practice**

Clinical experience in specialized phases of optometric practice.

Su, Au, Wi, Sp Qtrs. 3-18 clinic hrs.

**645.01 Intermediate General Practice P 1-6**

Clinical practice in examining the visual system and carrying out corrective procedures.

Prereq: 443, 712 and 681. Repeatable to a maximum of 30 cr hrs.

**645.02 Intermediate Ophthalmic Dispensing P 1-6**

Clinical education and practice in ophthalmic design and dispensing; education and experience in dispensary management.

Prereq: 432 and 443 or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**645.04 Ocular Disease Practice P 2**

Clinical experience in specialized phases of optometric diagnosis and treatment.

Prereq: Optometry 3rd yr standing. Repeatable to a maximum of 8 cr hrs.

**653 Contact Lenses I P 4**

The uses of contact lenses; theory and methods of prescribing and fitting; specification and verification; post-fitting care; contact lens solutions.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: Optometry 3rd yr standing and 443.

**654 Contact Lenses II P 4**

Theory and clinical methods involving meridional and bifocal contact lenses; fitting: astigmatic corneas and aphakic eyes, haptic and keratoconic lenses, cosmetic shells and prosthetic eyes.

Wi, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq: 653.

**656 Low Vision Rehabilitation P 4**

Epidemiology, clinical measurement, and classification of visual impairment; design of optical and optoelectronic aids; clinical rehabilitation strategies.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: Optometry 3rd yr standing.

**660 Advanced Diagnosis and Management of Ocular Disease P 3**

Advanced management, pre and post-operative management, and surgical procedures will be covered.

3 cl. Prereq: Optometry 712 and Optometry 682.

**671 Clinical Binocular Vision I P 5**

Classification, epidemiology, phenomenology, diagnosis, and management of nonstrabismic and strabismic binocular vision disorders, accommodative anomalies, amblyopia, oculomotor deficiencies, and visual perceptual lags.

Wi Qtr. 4 cl, 1 2-hr lab. Prereq: Optometry 3rd yr standing and 443.

**672 Clinical Binocular Vision II P 2**

Continuation of 671.

Sp Qtr. 1 cl, 1 2-hr lab. Prereq: 671.

**681 Ocular Pharmacology for Optometrists P 3**

Pharmacological agents used in clinical optometric care.

Sp Qtr. 3 cl. Prereq: Vis Sci 680 and Optometry 2nd yr standing.

**682 Clinical Ocular Pharmacology P 4**

Case-based learning of ocular pharmacology with an emphasis on systemic disease will be presented.

Su Qtr. 4 cl. Prereq: 681 and Optometry 3rd yr standing. Open only to students registered in the College of Optometry.

**710 Clinical Techniques in Optometric Practices**

Preclinical experience in testing and treatment procedures to manage health and disease in optometric practice.

Su, Au, Wi, Sp Qtrs.

**710.01 Diagnostic Techniques Lab I P 2**

Testing and treatment procedures to manage health and disease.

Au Qtr. 1 cl, 1 2-hr lab. Prereq: Optometry 2nd yr standing. Repeatable to a maximum of 4 cr hrs.

**710.02 Diagnostic Techniques Lab II P 2**

Testing and treatment procedures to manage health and disease. Continuation of 710.01.

Wi Qtr. 1 cl, 1 2-hr lab. Prereq: 710.01 and Optometry 2nd yr standing. Repeatable to a maximum of 4 cr hrs.

**711 Introduction to Ocular Disease I P 4**

Introduction to abnormalities and diseases of anterior and posterior segments of the eye with an emphasis on identification, diagnosis, and general management.

Wi Qtr. 4 cl. Prereq: Vis Sci 608 and Optometry 2nd yr standing or permission of instructor.

**712 Introduction to Ocular Disease II P 5**

Continuation of 711 with an emphasis on disorders of the posterior segment.

Sp Qtr. 4 cl, 1 2-hr lab. Prereq: Optometry 2nd yr standing and 711 or permission of instructor.

**713 Introduction to Ocular Disease III P 4**

Continuation of 712, with emphasis on neurological diseases of the eye and visual system, and on assessment of the visual field.

Su Qtr. 4 cl. Prereq: 712.

**714 Systemic Disease for Optometry P 4**

The biological basis for understanding disease processes, the clinical characteristics of diseases, and approaches to diagnosis and treatment of diseases.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: Optometry 3rd yr standing or permission of instructor.

**721 Optometric Economics and Jurisprudence; Practice Analysis and Practice Systems P 3**

Benchmarks, statistical and financial data analysis systems to determine practice viability; the administrative and logistical systems used in an optometric practice; jurisprudence and malpractice.

Sp Qtr. 3 cl. Prereq: Optometry 3rd yr standing.

**722 Public Health and Community Optometry P 3**

Public health/community aspects of providing vision care; epidemiology; health care policy; ethical and cultural issues in eye care; role of the optometrist as a community health care leader.

Au Qtr. 3 cl. Prereq: Optometry 3rd yr standing.

**741 Clinical and Business Aspects of Practice P 1-6**

Contemporary topics in clinical and business aspects of optometry including new diagnostic and treatment methodologies and the preparation of business plans.

Su, Au, Wi, Sp Qtrs. Prereq: Optometry 4th yr standing. Repeatable to a maximum of 6 cr hrs.

**745 Special Clinical Practice**

Clinical experience in specialized phases of optometric practice.

Su, Au, Wi, Sp Qtrs. Minimum 144 clinical hrs. Prereq: Optometry 4th yr standing. Each subdivision repeatable to a maximum of 45 hrs.

**745.01 General Practice P 1-15**

Prereq: 645.01 and 654. Repeatable to a maximum of 45 cr hrs.

**745.02 Contact Lenses and Primary Care Optometry P 1-15**

Repeatable to a maximum of 45 cr hrs.

**745.03 Strabismus and Orthoptics P 1-15**

Repeatable to a maximum of 45 cr hrs.

**745.04 Ocular Disease P 1-15**

Repeatable to a maximum of 45 cr hrs.

**745.05 Aniseikonia P 1-15**

Repeatable to a maximum of 45 cr hrs.

**745.06 Vision Rehabilitation Clinic P 1-15**

Repeatable to a maximum of 45 cr hrs.

**745.07 Perceptual-Motor Problems P 1-6**

Repeatable to a maximum of 45 cr hrs.

**745.08 Ophthalmic Dispensing P 1-15**

Advanced clinical education and practice in ophthalmic design and dispensing; specialized ophthalmic designs; education and experience in dispensary management.

Prereq: 643 and 645.02 or permission of instructor. Repeatable to a maximum of 45 cr hrs.

**745.09 Geriatric Optometry P 1-15**

Specialized techniques, evaluation methods, patient instructions, and lens design appropriate to the vision problems of the older patient.

Repeatable to a maximum of 45 cr hrs.

**745.10 Pediatric Optometry P 1-15**

Specialized testing techniques and methods of evaluation appropriate to infants and children (through age 12) as well as exceptional children of any age.

Repeatable to a maximum of 45 cr hrs.

**745.11 Ocular Disease Extern Experience P 1-15**

Repeatable to a maximum of 45 cr hrs.

**745.12 Primary Care Extern Experience P 1-15**

Repeatable to a maximum of 45 cr hrs.

**745.13 Advanced Clinical Practice P 1-15**

Emphasis on patients at high risk for ocular disease for advanced clinical optometric practice in pediatrics, vision therapy, contact lenses, low vision or other areas.

Prereq: Optometry 4th yr standing. Repeatable to a maximum of 45 cr hrs.

**780 Topics in Optometry**

Clinical and theoretical aspects of areas of current interest in optometry.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in College of Optometry and permission of dean. Each subdivision repeatable to a maximum of 10 cr hrs.

**780.01 General Optometry P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.02 Contact Lenses P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.03 Strabismus P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.04 Ocular Disease P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.05 Aniseikonia P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.06 Low Vision P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.07 Visual Development P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.08 Visual Perception P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.09 Visual Performance P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.10 Environmental Vision P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.11 Pediatric Optometry P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.12 Geriatric Optometry P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.13 Ophthalmic Optics P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.14 Special Optical Design P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.15 Optometric Instrumentation P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.16 Public Health Optometry P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.17 Ocular Pharmacology P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.18 Microbiology of the Eye P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.19 Binocular Vision P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.20 Visual Problems of Minorities P 1-5**

Repeatable to a maximum of 10 cr hrs.

**780.21 Special P 1-5**

Repeatable to a maximum of 10 cr hrs.

## Otolaryngology

Education Office: 4100 University Hospital Clinic, 456 West 10th Avenue, 293-8065

The faculty of the Department of Otolaryngology is responsible for instruction in the pathophysiology of disease of the ear, nose, and throat as part of MED II of the medical curriculum. This instruction is offered under the course designated Med Coll 663. The Department also offers clinical instruction in otolaryngology during MED III and MED IV of the medical program designated Med Coll 664. This instruction is offered as a clinical elective period of 1 month and as part of the otolaryngology elective.

**803 Observations in Clinical Voice Pathology G 3**

Provides students with an opportunity to observe the clinical management of voice disorders including the assessment, treatment and rehabilitation process.

Su, Au, Wi, Sp Qtrs. Must be admitted to the Interdisciplinary Singing Health Specialization Program. Repeatable to a maximum of 6 cr hrs. Credit counts toward Singing Health Specialization. This course is graded S/U.

**804 Observations in Surgical Laryngology G 3**

Provides students with an opportunity to observe the surgical management of voice disorders including those pertaining to singers.

Su, Au, Wi, Sp Qtrs. Must be admitted to the Interdisciplinary Singing Health Specialization Program. Repeatable to a maximum of 6 cr hrs. Credit counts toward Singing Health Specialization. This course is graded S/U.

**809 Issues in Laryngology for the Vocal Health Professional G 3**

Introduces students to the medical management of voice disorders including surgical techniques and associated instrumentation, advanced anatomy/physiology, and vocal pathologies.

Wi Qtr. 1 hr cl. Must be admitted to the Interdisciplinary Singing Health Specialization Program. Credit counts toward Singing Health Specialization. This course is graded S/U.

## Pathology

Education Office: N308 Doan Hall; 410 West 10th Avenue, 293-3055

**640 Fundamentals of Oncology P G 4**

Lecture/seminars covering aspects of oncology; chemical and biologic carcinogenesis, epidemiology, genetics, developmental biology, biochemistry, cell kinetics, clonality, metastases, hormonal and immunology factors, and therapy.

Wi Qtr. 4 cl. Prereq: Permission of instructor. Cross-listed in Vet Biosciences.

**655 General Pathology P 4**

General pathology, including the etiology of diseases, disturbances of nutrition, inflammation, regeneration, and organ pathology.

Au, Wi Qtrs. 4 cl. Prereq: Dent 2nd yr standing.

**670 Medical Cytogenetics G 3**

Overview of cytogenetics in medical diagnosis and evaluation, including laboratory techniques, nomenclature, structural and numerical chromosome abnormalities; prenatal, constitutional, and cancer cytogenetics; molecular cytogenetics and molecular diagnostics; and clinical correlations.

Sp Qtr. 3 cl. Prereq: Course work in general genetics and molecular or cell biology, and permission of instructor.

**733 Human Genetics G 3**

The principles of human genetics covering mapping of disease genes, defects causing human disease, the cloning of disease genes, gene therapy and transgenes.

Sp Qtr. 3 cl and cptr time arr. Prereq: Mol Gen 500 or 501 or 606 or equiv. Not open to students with credit for M Biochem 733 or Mol Gen 733. Cross-listed in M Biochem and Mol Gen.

**792 Special Lectures in Pathology**

Lectures in special fields of pathology; one decimal subdivision will be offered each quarter.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: Grad standing or enrollment in MD program or undergrad with permission of instructor.

**792.20 Essential Readings in Immunology G 2**

Review of classical papers in immunology.

Sp Qtr. Prereq: Microbiol 701. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**793 Individual Studies in Pathology**

1, 2, or 3 months; offered all months. (prof cr).

Prereq: Med III and IV standing, grad standing, or undergrad standing with permission of instructor. When registration is for 3 professional cr hrs, an additional 3 hr professional course must be taken.

**793.01 Pathologic Anatomy U P G 3-6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.05 Neuropathology U P G 3-6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.09 Surgical Pathology U P G 3-6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.11 Special Topics in Pathologic Anatomy U P G 3-6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.15 Problems in Pathology and Clinical Pathology U P G 3-6,12,18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**850 Seminar in Pathology and Clinical Pathology G 1**

Discussion of pertinent literature, presentation and discussion of research work, and demonstration of fresh specimens and slides.

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Grad standing in pathol. Repeatable. This course is graded S/U.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.

Cross-listed in Biomedical Engineering, Biomedical Informatics, Biophysics, Computer Science and Engineering, Electrical and Computer Engineering, Integrated Biomedical Science, Radiology, Statistics, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**999 Research in Pathology G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Pediatrics

Children's Hospital, 700 Children's Drive and N-118 Doan Hall, 410 West 10th Avenue, 722-4552

**793 Individual Studies in Pediatrics**

Su, Au, Wi, Sp Qtrs. 1, 2, 3, or 4 months (prof cr). Prereq: Permission of instructor.

**793.03 Infectious Diseases P G 1-5,6,12,18**

1, 2, 3, or 4 months; offered all months. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**793.06 Blood Diseases of Infants and Children P G 1-5,6**

1 month, offered all months except June. This course is graded S/U.

## Persian

300 Hagerty Hall, 1775 College Rd, 292-9255

**101 Elementary Persian I U 5**

Introduction to Persian; development of listening, reading, speaking, and writing skills.

Au Qtr. 5 cl. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**102 Elementary Persian II U 5**

Further development of listening, reading, speaking, and writing skills.

Wi Qtr. 5 cl. Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**103 Elementary Persian III U 5**

Development of listening, reading, speaking, and writing skills; reading of simplified literary texts about Persian culture.

Sp Qtr. 5 cl. Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**104 Intermediate Persian I U 5**

Reading of Persian short stories and poems with attention to literary and cultural appreciation; development of basic language skills.

Au Qtr. 5 cl. Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**201 Intermediate Persian II U 5**

Extensive reading from literary texts, with practice in conversation and composition.

2 2-hr cl. Prereq: 104 or equiv. Not open to students with credit for 401.

**202 Intermediate Persian III U 5**

Continued reading from literary texts, with further practice in conversation, composition, and translation.

2 2-hr cl. Prereq: 201 or 401 or equiv. Not open to students with credit for 402.

**241 Persian Culture U 5**

A survey of Persian culture through the reading of Persian literature in translation, viewing of Persian films, and listening to Persian music.

GEC arts and hums cultures and ideas course.

**293 Individual Studies U 1-5**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Special topics to be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**370 Persian Mythology and Folklore U 5**

Mythology and folklore of Persian-speaking lands, from cosmological texts through popular theater and narrative performance to popular customs and beliefs.

Prereq: English 110 or 111. GEC arts and hums lit course.

**371\* Persian Literature in Translation U 5**

A study of Persian literature in translation and the history of its discourses, genres, and styles.

GEC arts and hums lit course.

**651 Persian Prose U G 5**

Selected readings reflecting the major genres of classical Persian prose, plus a modern novel.

Prereq: 402 or permission of instructor.

**652 Persian Poetry U G 5**

Selected topics in Persian poetry, concentrating primarily on the medieval poetic narrative, as exemplified by epic, romance, and the mystical/didactic poem.

Prereq: 402 or permission of instructor.

**693 Individual Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Special topics to be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**721 Studies in Persian Poetry U G 5**

Advanced study of specific poetic periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary source materials.

Prereq: 10 cr hrs of Persian literature at the 600 level or equiv. Repeatable to a maximum of 15 cr hrs.

**H783 Honors Research U 3-5**

A program of research for each student which includes individual conferences and which culminates in an honors thesis or oral defense.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC Honors Committee approval of project, a minimum 3.50 pt-hr ratio in the field of distinction, sr standing, and CPHR commensurate with honors program membership. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**811 Seminar in Persian Studies G 5**

Intensive investigation of a selected topic or problem in Persian literature, literary culture, philology, or linguistics.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**998 Research in Persian G 1-10**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

**Pharmacology**

5072 Graves Hall, 333 West 10th Avenue, 292-8608

**600 General Pharmacology U G 3**

Introduction to the general principles of pharmacology, drug classification, and the sites and mechanisms of drug action.

Sp Qtr. Prereq: Some background in biochemistry and/or physiology or permission of instructor. A distance learning section D is a totally online course in pharmacology. Students are expected to learn the material posted on the course web site. Su, Au, Wi Qtr.

**625 Undergraduate Independent Study in Pharmacology/ Pharmacogenomics U 1-10**

Offers undergraduate students the opportunity to gain research experience in laboratories in Pharmacology/Pharmacogenomics and learn the latest techniques and approaches.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**680 General Pharmacology for Optometrists P 3**

A survey of general pharmacologic principles and actions; effects of drugs on the central-nervous system, cardiovascular system, and other systems.

Sp Qtr. 3 cl. Prereq: 1st yr standing in optometry. Open only to students registered in the College of Optometry.

**700 Medical and Mammalian Pharmacology**

General principles of pharmacology; drugs used for diagnosis, prevention, or eradication of the cause of disease, including endocrine products and chemotherapeutic agents.

Prereq: 600 or permission of instructor.

**700.01 Pharmacokinetics, Antimicrobial, and Autonomic Drugs P G 3-5**

Au Qtr.

**700.02 Cardiovascular, Respiratory, and Endocrine Drugs P G 1-4**

Wi Qtr.

**700.03 Central Nervous System and Anticancer Drugs; Toxicology and Drug Interactions P G 2-5**

Sp Qtr.

**705 Neurobiology of Disease G 3**

Neurobiology of Disease will explore the basis of major diseases affecting the nervous system.

Sp Qtr. 3 1-hr cl. Prereq: Permission of instructor. Not open to students with credit for Neuro Sc 705. Cross-listed in Neuroscience Department.

**725 Pharmacogenomics G 3**

Introduction to the role of genetic factors in the development and evaluation of drugs.

Wi Qtr. 2 1.5-hr cl. Prereq: IBGP 701, 702, 703 or permission of instructor.

**751 Professional and Ethical Issues in Biomedical Sciences G 2-3**

A discussion course based on case scenarios dealing with ethical issues facing biomedical researchers, such as publishing practices, confidentiality, mentoring, etc.

Au, Wi Qtrs. 2 1-hr cl or 2 1.5-hr cl. Prereq: Currently enrolled in a graduate program in the biomedical sciences (3 cr hrs). Enrolled in the integrated biomedical science grad program (2 cr hrs). Cross-listed in Veterinary Biosciences (3 cr hrs). Offered Au Qtr for 2 cr hrs and Wi Qtr for 3 cr hrs. This course is graded S/U.

**793 Individual Studies in Pharmacology P G 3-15,18**

Digitalis pharmacodynamics; neuropharmacology; endocrine pharmacology; cardiovascular pharmacology; autonomic pharmacology, clinical pharmacology; biochemical pharmacology; toxicology.

Su, Au, Wi, Sp Qtrs. 1, 2, 3, months; offered all months except June (prof cr). Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**824\* Neuropharmacology G 3**

A study of the central nervous system including neurochemistry, neurotransmission, receptors, signal transduction, CNS disorders, treatments and the pharmacology of drugs that act on the CNS.

Sp Qtr. 2 cl arr. Prereq: 600, 700, or permission of instructor. Not open to students with credit for NeuroGSP 824. Cross-listed in Neuroscience Graduate Studies Program.

**825 Clinical Trials I P G 10**

To provide an introduction to clinical trials, including federal regulations, standard operating procedures and design of studies.

Wi Qtr. Prereq: 600 (Web based), Pharmacy 731, 732, Vis Sci 780.07. Lays the foundation for conducting clinical trials. Students will learn the fundamentals of protocols, writing consent forms, and completing other procedures related to clinical pharmacology.

**826 Clinical Trials II P G 10**

To provide instructions in all aspects of conducting clinical trials.

Sp Qtr. Prereq: 825. Instructs students in all aspects of clinical research, from writing proposals and consent forms to designing advertisements.

**830 Molecular Pharmacology and Human Disease G 3**

Molecular mechanisms of drug actions in the treatment of human disease.

Au Qtr. 3 cl. Prereq: 600 or 600D or IBGP 702 or permission of instructor/course director.

**850 Seminar in Pharmacology G 2**

Conferences on selected topics in pharmacology.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs.

**852 Biology of Aging G 3**

A survey of current research on aging with emphasis on experimental data.

Prereq: Permission of instructor.

**999 Research in Pharmacology G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Pharmacy**

217 Lloyd M. Parks Hall, 500 West 12th Avenue, 292-2266

**100 Pharmaceutical Sciences Survey U 1**

Introduction to the University, strategies for student success, academic programs, opportunities in the pharmaceutical sciences and practice, and contemporary issues.

Au Qtr. 1 cl, 1 rec. Prereq: Enrollment limited to students in the Pharmacy Honors and Scholars Program.

**200 The Rational and Irrational Use of Drugs U 3**

Survey of the fundamentals of drug action with special emphasis on drugs of abuse; discussion of medical, social, legal, and educational aspects of drug use.

Sp Qtr. 3 cl. Not open for credit to professional students in the College of Pharmacy. NS Admis Cond course.

**400 Introduction to Pharmacy U 2**

A survey of the profession of pharmacy, dealing with its history, educational requirements, organization, regulation, and current developments.

Wi Qtr. 2 cl.

**410 Introduction to Medicinal Chemistry U 3**

Chemical and biochemical principles governing the design, synthesis and properties of drugs.

Sp Qtr. 3 cl, 1 recitation. Prereq: 462 and Chem 253. Enrollment restricted to students in the BSPS program or with permission of instructor.

**411 Medicinal and Natural Products Chemistry Laboratory U 2**

Laboratory experiences in the isolation and synthesis of pharmaceutically relevant compounds.

Au Qtr. 2 3-hr labs. Prereq: 410, 462, and Chem 253. Enrollment restricted to students in the BSPS program or with permission of instructor.



**420 Pharmaceutics I U 4**

Principles of pharmaceutics, the science of dosage form design.

Au Qtr. 2 2-hr cl, 1 recitation. Prereq: Physics 113 or 133, Chem 253, Math 152, Physiol 312 or EEOB 232 or Zoology 232. Enrollment restricted to students in the BSPS program or with permission of instructor.

**421 Pharmaceutics Laboratory I U 2**

An application of basic pharmaceutics principles and methods used to develop and evaluate drug, drug delivery systems and treatment regimens.

Wi Qtr. 1 cl, 1 3-hr lab. Prereq: 420. Enrollment restricted to students in the BSPS program or with permission of instructor.

**425 Drug Discovery and Development U 3**

An introduction to research methods used for drug discovery and development with a focus on division faculty research labs.

Sp Qtr. 3 cl. Prereq: Rank 3 or 4 BSPS students, Physics 113 or 133, Chem 253, Math 152, Physiol 312 or EEOB 232 or Zoology 232.

**461 Biomedical Chemistry I U 3**

Fundamentals of biological chemistry for the study of pharmaceutical sciences.

Au Qtr. 3 1-hr cl, 1 recitation. Prereq: Chem 253. Enrollment restricted to students in the BSPS program or with permission of instructor.

**462 Biomedical Chemistry II U 3**

Fundamentals of biological chemistry for the study of pharmaceutical sciences.

Wi Qtr. 3 cl, 1 recitation. Prereq: 461. Enrollment restricted to students in the BSPS program or with permission of instructor.

**471 Concepts in Pharmacology I: Discovery of Drug Action U P 2**

Discussions and presentations on general principles and techniques used in pharmacology research.

Au Qtr. 2 cl. Prereq: Enrollment in College of Pharmacy.

**472 Concepts in Pharmacology II: Pharmacology Literature U 2**

Discussions and presentations dealing with recently published papers of general interest in the discipline of pharmacology.

Sp Qtr. 2 cl. Prereq: 480.

**473 Concepts in Pharmacology III: Therapeutic Frontiers U P 2**

Discussion of recent developments in one or more areas of pharmacology.

Sp Qtr. 1 2-hr cl. Prereq: Enrollment in College of Pharmacy.

**480 Integrated Pharmacology U 3**

An overview of pharmacological, biochemical, and physiological effects of drugs to facilitate an understanding of drug mechanism and pharmacotherapy.

Wi Qtr. 3 cl. Prereq: 461 or equiv; EEOB 232 or Zoology 232 or equiv. Enrollment restricted to students in the BSPS program, exercise science or with permission of instructor.

**481 Pharmacology Laboratory U 2**

Laboratory experiences in studying the effects of drugs and their mechanisms of action.

Sp Qtr. 1 cl, 1 3-hr lab. Prereq: 480. Enrollment restricted to students in the BSPS program or with permission of instructor.

**493 Individual Studies in Pharmaceutical Sciences U 1-5**

Laboratory and library work designed to give the qualified student an opportunity to complete an original investigation or pursue an interest in a special problem.

Su, Au, Wi, Sp Qtrs. Prereq: Rank 2 standing, a cumulative pt-hr ratio of 2.50, and permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**513 History of Pharmacy****513.01\* Lecture U P 3**

Evolution and development of the profession of pharmacy from antiquity to the present, with emphasis on its Anglo-American development since the 18th century.

Au Qtr. 3 cl. Prereq: Jr standing or permission of instructor.

**515 Pharmaceutical Distribution and Health Care Systems U 3**

A study of the pharmaceutical distribution system in the United States and its relation to the health care system.

Sp Qtr. 2 cl, 1 2-hr rec. Enrollment restricted to students in the BSPS program with at least rank III standing or with instructor's permission.

**601 Biopharmacy I P 3**

The first in a two-course sequence which provides the fundamental background in modern molecular life science required for pharmacy studies.

Au Qtr. 3 1-hr cl, 1 rec. Prereq: First-year standing in Pharm D program.

**602 Biopharmacy II P 3**

The second in a two-course sequence which provides the fundamental background in modern molecular life science required for pharmacy studies.

Wi Qtr. 3 1-hr cl, 1 rec. Prereq: First-year standing in Pharm D program.

**605 Medicinal Chemistry I P 3**

An introduction to functional group properties of importance to drugs, heterocycles, acidity and basicity, metabolism, prediction of ionization constants and physicochemical properties of drugs.

Au Qtr. 3 1-hr cl, 1 rec. Prereq: First-year standing in Pharm D program.

**606 Medicinal Chemistry II P 3**

Chemical and biochemical principles governing the properties of drugs. Drug categories include: CNS depressants, CNS stimulants, analgesics, and cardiac drugs.

Wi Qtr. 3 1-hr cl, 1 rec. Prereq: First-year standing in Pharm D program.

**607 Medicinal Chemistry III P 3**

Chemical and biochemical principles governing the properties of drugs. Drug categories include: cholesterol, adrenocorticoids, hormones, prostaglandins, analgesics, hypoglycemics, cancer agents, antihistamines, anticoagulants, and radiopharmaceuticals.

Sp Qtr. 3 1-hr cl, 1 rec. Prereq: First-year standing in Pharm D program.

**613 Chemical Dependency for Health Care Professionals P 1**

To prepare healthcare students to recognize, understand, and respond effectively to chemical dependency. Epidemiology, pathophysiology, presentation, consequences, and management of chemical dependency will be characterized.

Wi Qtr. 1 1-hr cl. Prereq: Admission to Pharm D program.

**614 Professional Ethics P 2**

The conceptual basis and content of pharmaceutical ethics; significance of codified ethics, interprofessionally considered; individual and group analysis of ethical issues; methods of encouraging compliance.

Sp Qtr. 1 2-hr cl. Prereq: Jr standing or permission of instructor.

**616 Medical Applications of Radionuclides and Radiopharmaceuticals U P G 3**

A study of the theoretical and clinical aspects of the preparation, use, control, and handling of radionuclides and radiopharmaceuticals used in medicine.

Au Qtr. 3 cl. Open to non-pharmacy students with instructor's permission.

**617 Introduction to Clinical Pharmacy Research U P 2**

An introduction to research in clinical pharmacy and to the interpretation of clinical research literature.

Au Qtr. 1 2-hr cl. Prereq: Enrollment in the Pharm D program or enrollment in the BSPS program with completion of Pharmacy 480. This course is graded S/U.

**619 Nonprescription Drug Products P 3**

Didactic and practical experience in appropriate nonprescription drug product selection, monitoring, and patient information.

Au Qtr. 3 cl. Prereq: Second-year standing in the Pharm D program.

**621 Drug Delivery I P G 3**

Principles that govern the design and use of solution dosage forms, including physicochemical properties, ionization, solubility and stability.

Au Qtr. 2 1-hr cl, 1 2-hr workshop. Prereq: First-year standing in Pharm D program.

**622 Drug Delivery II P G 3**

Routes of drug administration and the physiologic and physicochemical factors that influence drug penetration, absorption and bioavailability.

Wi Qtr. 2 1-hr cl, 1 2-hr workshop. Prereq: First-year standing in Pharm D program.

**623 Drug Delivery III P G 4**

Application of physicochemical principles to the design, formulation, manufacture and use of colloids, suspensions, emulsions, solid and topical drug delivery systems.

Sp Qtr. 3 1-hr cl, 1 2-hr workshop. Prereq: First-year standing in Pharm D program.

**624 Pharmaceutical Calculations P 1**

Introduction to prescription terminology and pharmaceutical calculations; emphasis on measurement systems, conversions, percent preparations, units of concentrations, calculation of doses, dilutions, milliequivalents, and milliosmoles.

Sp Qtr. 1 1-hr cl. Prereq: First-year standing in Pharm D program.

**661 Pharmacy Practice I P 3**

The first in a three-course sequence covering concepts fundamental to pharmacy practice. Topics include orientation to the profession, history, ethics, communications, and jurisprudence.

Au Qtr. 3 1-hr cl, 1 rec. Prereq: First-year standing in Pharm D program.

**662 Pharmacy Practice II P 3**

The second in a three-course sequence covering concepts fundamental to pharmacy practice with a focus on techniques used to evaluate the medical/pharmaceutical literature.

Wi Qtr. 3 1-hr cl. Prereq: First-year standing in Pharm D program.

**664 Introductory Pharmacy Practice Experience P 1**

Introductory experiences in pharmacy practice including hospital pharmacy, community pharmacy and a service learning geriatric rotation. Students also have opportunities to shadow pharmacists and pharmacy students to explore potential career options.

Au, Wi, Sp Qtrs. 4 hrs per week. Prereq: First-year standing in Pharm D program. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**673 Pharmacy Practice Management I P 3**

The first in a four-course pharmacy practice management sequence. Topics include the US health care and pharmaceutical distribution systems; product research, development and promotion.

Sp Qtr. 2 cl, 1 2-hr rec. Prereq: First-year standing in Pharm D program. Not open to students with credit for 773.

**693 Individual Studies in the Pharmaceutical Sciences P 1-5**

Laboratory and library work designed to give the qualified student an opportunity to complete an original investigation or pursue an interest in a special problem.

Su, Au, Wi, Sp Qtrs. Prereq: Jr standing, a cumulative pt-hr ratio of 2.50, and permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies in Pharmacy U P 1-3**

Group studies of selected topics in various fields of pharmacy.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**695 Seminar in Clinical Pharmacy Career Pathways U P 2**

Discussion and analysis of career pathways in clinical pharmacy and preparation of a career plan paper.

Au Qtr. 1 2-hr cl. Prereq: Soph standing in the BSPS or Pharm D program.

**700 Pharmaceutical Care Longitudinal Course P 1**

An integrated course to guide students to develop and implement a strategy of a patient focused model of pharmacy practice to improve disease state management in their own practice site.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 8 cr hrs. Distance education (internet-based). This course is graded S/U.

**705 Pharmacy-Based Cultural Competence in Health Care P 2**

A review of issues relating to cultural diversity in health care and techniques to improve pharmacist-patient communications among those from diverse backgrounds.

Sp Qtr. 1 1-hr weekly cl, 1 8-hr workshop. Prereq: Third-year standing in Pharm D program or permission of instructor. This course is graded S/U.

**710 Pharmaceutical Biotechnology I P 3**

Products of biotechnology used as drugs, with an emphasis on immunoactive biomacromolecules employed in prevention, diagnosis and therapy of infectious, allergic, immunodeficiency and other diseases.

Au Qtr. 3 cl. Prereq: Second-year standing in Pharm D program.

**711 Pharmaceutical Biotechnology II P 3**

Products of biotechnology used as drugs, with an emphasis on antibiotics, anticancer agents and other important natural products employed in disease therapy.

Wi Qtr. 3 cl. Prereq: Second-year standing in Pharm D program.

**715 Pediatric Pharmacotherapy P 2**

A review of pediatric pharmacotherapy of selected diseases with pharmaceutical care ramifications in various settings.

Sp Qtr. 1 2-hr cl. Prereq: Third year standing in PharmD program.

**717 Palliative Care Pharmacotherapy P 2**

An elective course in pain management and hospice care designed for third-year Pharm D students. Topics address interdisciplinary viewpoints on palliative care.

Wi Qtr. 1 2-hr cl. Prereq: Third-year standing in Pharm D program.

**721 Drug Information and Drug Literature Review P 3**

Introduction to the broad range of medical and pharmaceutical literature; approaches to understanding and evaluating medical and pharmaceutical literature; demonstrates link between pharmaceutical care and drug information.

Wi Qtr. Repeatable to a maximum of 3 cr hrs. Distance education (internet based).

**724 Clinical Pharmacogenomics P G 3**

Principles and techniques necessary to understand the role of genetic variation in the pharmacokinetics of drugs and therapeutic management of disease.

Sp Qtr. 2 1-hr cl, 1 2-hr workshop. Prereq: Third-year standing in the Pharm

D program.

**731 Clinical Pharmacokinetics I P G 4**

The first in a three-course sequence in clinical pharmacokinetics and pharmacodynamics and their application to pharmacotherapy.

Au Qtr. 3 cl, 1 2-hr workshop. Prereq: Second-year standing in Pharm D program.

**732 Clinical Pharmacokinetics II P G 4**

The second in a three-course sequence in clinical pharmacokinetics and pharmacodynamics and their application to pharmacotherapy.

Wi Qtr. 3 cl, 1 2-hr workshop. Prereq: Second-year standing in Pharm D program.

**733 Clinical Pharmacokinetics III P G 3**

The third in a three-course sequence in clinical pharmacokinetics and pharmacodynamics and their application to pharmacotherapy.

Sp Qtr. 2 cl, 1 2-hr workshop. Prereq: Second-year standing in Pharm D program.

**734 Clinical Pharmacokinetics P 5**

Covers the basic principles of pharmacokinetics and demonstrates how this is integrated into patient care.

Sp Qtr. Distance education (internet based).

**735 Drug Discovery and Drug Design P G 3**

A study of the discovery and design of new drugs; topics include natural products isolation, molecular modeling, molecular targets, and biosynthesis and metabolism.

Sp Qtr. 3 cl. Prereq: Permission of instructor.

**737 Advanced Pharmaceutical Analysis G 5**

The use of NMR in the assay and control methods of drug and drug preparations.

Su Term 2. 2 cl, 1 3-hr lab. Prereq: Permission of instructor. This course is graded S/U.

**747 Pharmacology I P G 3**

The first in a six-course sequence providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes.

Au Qtr. 3 cl. Prereq: Second-year standing in Pharm D program.

**748 Pharmacology II P G 3**

The second in a six-course sequence providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes.

Wi Qtr. 3 cl. Prereq: Second-year standing in Pharm D program.

**749 Pharmacology III P G 3**

The third in a six-course sequence providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes.

Sp Qtr. 3 cl. Prereq: Second-year standing in Pharm D program.

**750 Pharmacology IV P G 3**

The fourth in a six-course sequence providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes.

Au Qtr. 3 cl. Prereq: Third-year standing in Pharm D program.

**751 Pharmacology V P G 3**

The fifth in a six-course sequence providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes.

Wi Qtr. 3 cl. Prereq: Third-year standing in Pharm D program.

**752 Pharmacology VI P G 3**

The sixth in a six-course sequence providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes.

Sp Qtr. 3 cl. Prereq: Third-year standing in Pharm D program.

**763 Nonprescription Therapeutics P 3**

An overview of non prescription therapeutics with a focus on patient assessment, product recommendations and patient care plans.

Au Qtr. 2 1.5-hr cl, 1 1-hr workshop. Prereq: Third-year standing in Pharm D program. Not open to students with credit for 663.

**774 Professional Practice Laboratory I P 3**

The first in a three-course professional practice laboratory sequence. Topics include preparation/dispensing of various dosage forms, extemporaneous compounding, and use of instruments and references.

Au Qtr. 2 cl, 1 3-hr lab. Prereq: Second-year standing in Pharm D program.

**775 Professional Practice Laboratory II P 3**

The second in a three-course professional practice laboratory sequence. Topics include preparation/dispensing of various dosage forms, extemporaneous compounding, and use of instruments and references.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: Second-year standing in Pharm D program.

**776 Professional Practice Laboratory III P 3**

The third in a three-course professional practice laboratory sequence. Topics include preparation/dispensing of various dosage forms, extemporaneous compounding, and use of instruments and references.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: Second-year standing in Pharm D program.

**777 Pathophysiology and Therapeutics I P 5**

The first in a six-course sequence in pathophysiology and pharmacotherapy. Development of patient assessment and problem solving skills to construct therapeutic plans.

Au Qtr. 2 cl, 1 2-hr workshops. Prereq: Second-year standing in Pharm D program.

**778 Pathophysiology and Therapeutics II P G 4**

The second in a six-course sequence in pathophysiology and pharmacotherapy. Cardiovascular and renal disorders.

Wi Qtr. 3 cl, 1 3-hr case conference. Prereq: Second-year standing in Pharm D program.

**779 Pathophysiology and Therapeutics III P G 4**

The third in a six-course sequence in pathophysiology and pharmacotherapy. Psychiatric and other central nervous system disorders.

Sp Qtr. 3 cl, 1 3-hr case conference. Prereq: Second-year standing in Pharm D program.

**780 Pathophysiology and Therapeutics IV P G 4**

The fourth in a six-course sequence in pathophysiology and pharmacotherapy. Endocrine, hematologic, obstetric/gynecologic, genitourinary, women's health and respiratory disorders.

Au Qtr. 3 cl, 1 3-hr case conference. Prereq: Third-year standing in Pharm D program.

**781 Pathophysiology and Therapeutics V P G 4**

The fifth in a six-course sequence in pathophysiology and pharmacotherapy. Infectious diseases, immunologic, and bone and joint disorders.

Wi Qtr. 3 cl, 1 3-hr case conference. Prereq: Third-year standing in Pharm D program.

**782 Pathophysiology and Therapeutics VI P G 5**

The sixth in a six-course sequence in pathophysiology and pharmacotherapy. Oncologic, fluid and electrolyte, gastrointestinal, and multi-system disorders.

Sp Qtr. 4 cl, 1 3-hr case conference. Prereq: Third-year standing in Pharm D program.

**783 Community Pharmacy Practice Management P 2**

Focus on the development of a practice management plan for the implementation of innovative community pharmacy services that optimize patient care.

Wi Qtr. 1 2-hr cl. Prereq: Second-year standing in Pharm D program. This course is graded S/U.

**784 Intermediate Pharmacy Practice Experience P 1**

Intermediate experience in pharmacy practice including ambulatory, institutional and elective settings.

Au, Wi, Sp Qtrs. 4 hrs per week. Prereq: Third-year standing in Pharm D program. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**785 Introduction to Complementary and Alternative Medicine P G 2**

Overview of various complementary and alternative medicine modalities and the role of the health care profession in integrated care.

Prereq: Second-year standing in the Pharm D program.

**786 Pharmacy Practice Management II P 3**

The medication use system and resource management.

Au Qtr. 3 cl. Prereq: Third-year standing in Pharm D program.

**788 Pharmacy Practice Management III P 3**

The economic evaluation of pharmaceutical services and pharmacoepidemiology.

Sp Qtr. 2 1.5-hr cl. Prereq: Third-year standing in Pharm D program.

**789 Isolation Techniques in Research P G 5**

A study and application of selected isolation techniques for the purification of natural products or other organic mixtures.

Sp Qtr. 3 cl, 2 3-hr lab. Prereq: Chem 253 and 244 or 246 or 255, or equiv, or permission of instructor.

**790 Pharmaceutical Jurisprudence P 3**

A study of the laws and regulations relating to the practice of pharmacy.

Sp Qtr. 3 cl. Prereq: Third-year standing in Pharm D program.

**794 Group Studies in Clinical Pharmacy P 1-18**

Prereq: Admission to Pharm D program. Repeatable to a maximum of 50 cr hrs.

**799 Advanced Pharmacy Practice Experience**

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.

Su, Au, Wi, Sp Qtrs. 40 hrs per week. Prereq: Fourth-year standing in Pharm D program and adult CPR certification.

**799.01 Practice Experience I P 10**

First required advanced practice rotation. A 2 month rotation.

This course is graded S/U.

**799.02 Practice Experience II P 10**

Second required advanced practice rotation. A 2 month rotation.

This course is graded S/U.

**799.03 Practice Experience III P 5**

Third required advanced practice rotation. A 1 month rotation.

This course is graded S/U.

**799.04 Practice Experience IV P 5**

Fourth required advanced practice rotation. A 1 month rotation.

This course is graded S/U.

**799.05 Practice Experience V P 5**

Fifth required advanced practice rotation. A 1 month rotation.

This course is graded S/U.

**799.06 Practice Experience VI P 5**

Sixth required advanced practice rotation. A 1 month rotation.

This course is graded S/U.

**799.07 Practice Experience VII P 5**

Seventh required advanced practice rotation. A 1 month rotation.

This course is graded S/U.

**799.08 Practice Experience VIII P 5**

Optional/additional advanced practice rotation.

This course is graded S/U.

**799.09 Practice Experience IX P 1-5**

Optional longitudinal advanced practice scheduled over more than 1 quarter.

Repeatable to a maximum of 5 cr hrs. This is a Progress course.

**800 Radioisotope Tracer Techniques and Radiopharmaceuticals**

A survey of the properties of radioisotopes and radiation; radioisotope tracer methods and applications to pharmaceutical sciences; the preparation, standardization, and handling of radiopharmaceuticals.

Au Qtr. 3 cl, 2 3-hr lab. Prereq: Permission of instructor.

**800.01 Principles of Radioisotope Tracer Techniques G 3**

A survey of properties of radioisotopes and radiation, instrumentation used for detection of radioisotopes, and radioisotope tracer methods and applications to biomedical sciences.

Au Qtr. 3 cl. Prereq: Permission of instructor.

**800.02<sup>^</sup> Laboratory in Radioisotope Tracer Techniques G 2**

Laboratory applications of radioisotope tracer methodology in biomedical sciences and operations of instruments used for detection of radioisotopes.

Au Qtr. 2 3-hr labs. Concur: 800.01.

**801<sup>^</sup>\* Biomedical Proteomics and Mass Spectrometry G 3**

Presentation of some basic principles and techniques used in pharmaceutical research and product development: drug stabilization, solubilization, complexation, and macromolecule interactions.

Wi Qtr. 3 cl. Prereq: 506 or equiv with written permission of instructor. Offered alternate years.

**802\* Pharmacokinetics G 4**

The analysis of the absorption, distribution, and elimination of drugs, and the mathematical characterization of these processes, with emphasis on theory and application.

Wi Qtr. 2 2-hr cl. Prereq: 674 and Math 152, or equivs with written permission of instructor. Offered alternate years.

**803\* Disposition of Xenobiotics G 3**

Principles and practical considerations in the study of xenobiotic pharmacokinetics and metabolism; current research approaches and techniques.

Sp Qtr. Arr. Offered alternate years.

**804<sup>^</sup>\* Drug Transport G 3**

Theories and experimental approaches for the characterization of drug transport in biological and pharmaceutical systems.

Au Qtr. 3 cl. Offered alternate years.

**805\* Controlled Drug Delivery G 3**

Principles of the controlled release of drugs from polymer systems. Physical-chemical and engineering approaches are used to evaluate systems from experimental and theoretical viewpoints.

Au Qtr. 2 1.5-hr cl arr. Repeatable to a maximum of 6 cr hrs. Offered alternate years.

**806 Advanced Bioanalysis**

Theory and practice of quantitative pharmaceutical and bioanalytical analysis in biological samples with emphasis on modern methods.

Sp Qtr. Offered alternate years.

**806.01\* Principles of Advanced Bioanalysis G 4**

Sp Qtr. 2 1.5-hr cl. Prereq: Chem 253, 531, 532, Biochem 721.01, 721.02.

**806.02\* Laboratory in Advanced Bioanalysis G 2**

Laboratory applications of pharmaceutical and bioanalytical methods.

Sp Qtr. Arr lab. Prereq or concur. 806.01 and permission of instructor

**807\* Drug Equilibria in Biological Systems G 3**

In depth evaluation of the current literature of methods and techniques of evaluating drug interactions with blood components and receptors.

Sp Qtr. 2 1.5-hr cl. Offered alternate years.

**808\* Pharmacokinetic-Pharmacodynamic Models G 3**

Mathematical models and experimental approaches for characterization of the time course of drug effects.

Sp Qtr. 2 1.5-hr cl. Prereq: 802. Offered alternate years, starting Wi '01.

**809 Design and Evaluation of Drug Delivery Systems G 3**

Physical pharmacy and biopharmaceutical principles will be applied to the design, fabrication and evaluation of complex contemporary and advanced drug delivery systems.

Au Qtr. Prereq: Grad standing or permission of instructor. Offered alternate years.

**810 Non-Traditional PharmD Experiential**

Clinical rotations for non-traditional PharmD students.

Su, Au, Wi, Sp Qtrs. Prereq: PHP Rank 4 (360). Distance education (internet based).

**810.01 Non-Traditional PharmD Experiential I P 1-25**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**810.02 Non-Traditional PharmD Experiential II P 1-25**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**816 Medication Use System Management P G 4**

Understanding the medication use system, principles of operations improvement and strategies for improving medication use systems.

Au Qtr. 2 2-hr workshops.

**817 Pharmacy Management Systems G 4**

Administrative and professional principles and concepts of, and trends affecting pharmacy and health care.

Sp Qtr. 2 1-hr cl, 1 2-hr cl. Prereq: 816.

**820 Introduction to Design and Evaluation of Studies in the Pharmaceutical Sciences G 4**

Introduction to design and analysis of clinical and observational studies in the pharmaceutical sciences.

Au Qtr. Prereq: Permission of instructor needed for Pharm D and BSPS students.

**821 Research Methods and Literature Evaluation P G 4**

Investigation of the research principles and methods involved in planning, analysis, and interpretation of studies and projects in pharmacy practice.

Wi Qtr. 2 2-hr cl.

**824 Economic Evaluation of Health Care Programs and Services G 4**

Overview and appraisal of the state-of-the art in the evaluation of health care programs and services.

Sp Qtr. 2 2-hr cl. Cross-listed in Health Services Management and Policy.

**825 Drug Distribution and Public Policy P G 4**

Investigation of pharmaceutical markets with an emphasis on drug distribution and public policies affecting pharmaceutical firms.

Wi Qtr. 2 2-hr cl.

**826 Advanced Topics in Pharmaceutical Administration G 2**

Investigation and analysis of selected topics in pharmaceutical administration.

Su, Au, Wi, Sp Qtrs. 1-2 hr cl Repeatable to a maximum of 12 cr hrs.

**827 Pharmaceutical and Health Care Outcomes Evaluation G 4**

Introduction to measurement and evaluation issues associated with patient-centered pharmaceutical outcomes and quality of care studies with focus on application of measurements.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing. Encouraged to complete or concurrently take courses in Pharmacy Mgmt or Biostatistics.

**828 Pharmaceutical Health Services Research G 4**

Doctoral-level seminar on concepts, methods, and problem areas addressed by pharmaceutical health services research as a field of inquiry.

Wi Qtr. 2 2-hr cl. Prereq: Doctoral student in pharmacy or public health. Faculty members, post-docs, and fellows are welcome. Not open to PharmD and BSPS students. Seminar-type format, emphasizing student presentations and discussion related to development/critique of research proposals.

**835 Advanced Medicinal Chemistry G 3**

Selected topics on the chemistry of drug design and discovery; the subject matter drawn from the current literature on chemical and structural aspects of medicinal chemistry.

Au Qtr. 3 cl. Prereq: 674 or equiv, and Chem 833; or permission of instructor.

**836 Advanced Medicinal Chemistry G 3**

Selected topics in medicinal chemistry, the subject matter being drawn from the current literature.

Wi Qtr. 3 cl. Prereq: 674 or equiv, and Chem 833; or permission of instructor.

**837 Chemotherapy of Infectious Diseases G 3**

Discovery, development, and mechanisms of action of drugs used to treat bacterial, fungal, viral, and parasitic infections.

Au Qtr. 3 cl. Prereq: Grad standing and permission of instructor.

**850 Seminar**

Round-table discussion, oral and written reports dealing with recent advances in the pharmaceutical sciences.

Su, Au, Wi, Sp Qtrs. 1 cl. Repeatable to a maximum of 30 cr hrs.

**850.01 Presentation G 1**

Presentation of oral and written reports dealing with recent advances in the pharmaceutical sciences.

Repeatable to a maximum of 30 cr hrs.

**850.02 Participation G 1**

Participation in round-table discussion, oral, and written reports dealing with recent advances in the pharmaceutical sciences.

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**851 Advanced Pharmacognosy G 3**

A study of research involving biosynthesis of plant constituents of pharmaceutical interest.

Sp Qtr. 3 cl. Prereq: Biochem 707 or Botany 631 or permission of instructor.

**870 Molecular Pharmacology of Drug-Receptor Interactions G 3**

Integrates mathematical, biochemical, and molecular biological approaches in an effort to achieve a general appreciation of the mechanisms and signaling pathways by which drug-receptor interactions ultimately lead to therapeutic effects.

Wi Qtr. 3 cl. Prereq: Math 152 or equiv and an introductory course in pharmacology; or permission of instructor.

**871 Experimental Methods in Pharmacology G 4**

Qualitative and quantitative pharmacology covering the standard laboratory methods used in the screening and evaluation of drugs.

Wi Qtr. 1 2-hr cl, 1 6-hr lab. Prereq: 870 or equiv, and permission of instructor.

**872 Advanced Methods in Pharmacology G 3**

Theory and practical application of specialized pharmacological approaches used for the elucidation of mechanisms of drug action.

Sp Qtr. 1 cl, 2 3-hr lab. Prereq: 871 and permission of instructor.

**873 Contemporary Pharmacology G 1**

Analysis and discussion of current pharmacological research.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 12 cr hrs.

**874 History of Pharmacology and Drug Discovery G 3**

Critical review of global, historical, landmark developments of pharmacological sciences, associated contributors and its current therapeutic implications.

Au, Sp Qtrs. 3 cl. Prereq: Grad students or 3rd and 4th yr Pharm D students. Must have background courses in medicinal chemistry, biochemistry, physiology, and pharmacology.

**884 Field Experiences in Pharmaceutical Administration G 6**

Supervised practicum in an administrative setting within the pharmaceutical industry.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 25 cr hrs of course work in pharmacy administration and enrollment in pharmacy administration specialization. This course is graded S/U.

**894\* Group Studies in Pharmaceutical Sciences G 1-5**

Group studies of selected topics in various fields of the pharmaceutical sciences.

Su, Au, Wi, Sp Qtrs. 1-5 cl, opt lab. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**970 Supervised Project in Health-System Pharmacy Administration G 3**

Investigation of a major problem facing health-system pharmacy administration.

Su, Au, Wi, Sp Qtrs. Independent project. Prereq: 2nd yr standing in hospital pharmacy specialization. Required of all students specializing in hospital pharmacy; must be taken each qtr of 2nd yr. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**993 Individual Studies in the Pharmaceutical Sciences**

Individual investigation of problems in one of the decimal areas.

Su, Au, Wi, Sp Qtrs.

**993.01 Pharmaceutical Administration G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**993.02 Medicinal Chemistry and Pharmacognosy G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**993.03 Pharmaceutics and Pharmaceutical Chemistry G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**993.04 Pharmacology G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**993.05 Pharmacy Practice G 1-5**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**999 Research in the Pharmaceutical Sciences G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable. This course is graded S/U.

**Philosophy**

350 University Hall, 230 North Oval Mall, 292-7914

General Prerequisites for Courses Numbered 600 and 700

Not open to freshmen or sophomores. Unless otherwise indicated the prerequisites for 600- and 700-level courses are 10 hours in philosophy.

General Prerequisites for Courses Numbered 800 and 900

Unless otherwise indicated the prerequisites for 800- and 900-level courses are acceptable foundation courses either in general philosophy, logic and ethics, or history of philosophy, and in some cases in all these subjects.

**101 Introduction to Philosophy U 5**

Examination of major problems, such as the nature of reality, knowledge, truth, morality, and the relation of philosophy to science and religion.

H101 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums cultures and ideas course.

**H111 Mind and Its Place in Nature: Western Conceptions of the Self from Antiquity to the Present: Part I U 5**

Focuses on how changing conceptions of human self-understanding have affected developments in the sociopolitical, cultural, and economic realms, and vice-versa; close of the classical world to the modern age.

5 cl. Prereq: Honors standing or permission of instructor. GEC historical survey course.

**H112 Mind and Its Place in Nature: Western Conceptions of the Self from Antiquity to the Present: Part II U 5**

Focuses on how changing conceptions of human self-understanding have affected developments in the sociopolitical, cultural, and economic realms, and vice-versa; the modern age to the 21st century.

5 cl. Prereq: H111. GEC historical survey course.

**130 Introduction to Ethics U 5**

The nature of right and wrong, good and evil; the grounds of moral choice and decision; the resolution of moral conflicts.

H130 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums cultures and ideas course.

**131 Ethics in the Professions**

An introduction to applied ethics in the professions.

Not open to students with credit for 130. GEC arts and hums cultures and ideas course.

**131.01 Introduction to Engineering Ethics U 5**

An examination of contemporary issues in engineering ethics in the context of major ethical theories.

Not open to students with credit for 130 or any other 131 course.

**150 Introduction to Logic U 5**

Deduction and induction: principles of clear statement and valid reasoning; fallacies; and the methods by which theories and laws are established.

Prereq: Math 075 or equiv. GEC math and logical analysis course.

**153 Probability, Data, and Decision Making U 5**

How to make rational decisions when confronted by uncertainty; foundational issues and techniques pertaining to probability, selection of utilities and analysis of data relevant to decision making.

Prereq: Mathematics Placement Level L, M, N, or R; or Math 104. GEC data analysis course.

**215 Asian Philosophies U 5**

A survey including at least three of the following major philosophical systems of Asia: Hinduism, Buddhism, Jainism, Zoroastrianism, Taoism, and Confucianism.

GEC arts and hums lit course.

**230 Political and Social Philosophy U 5**

Philosophical bases of social and political institutions and practices; analysis of such fundamental conceptions as rights, justice, equality, political obligation, and civil disobedience.

Prereq: English 110 or 111 or equiv. GEC arts and hums cultures and ideas course.

**240 Philosophical Problems in the Arts U 5**

An introduction to major philosophical issues in the arts; examination of artistic intention, representation vs. abstraction, the grounds and objectives of art criticism, and the import of cultural differences in light of their application to specific works in the various arts.

H240 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC arts and hums VPA course.

**H242 Honors Philosophy of Film U 5**

An introduction to philosophical and aesthetic issues involved with film as an art and as an expressive medium.

Sp Qtr. 2-2-hr cl, arr viewing time. Prereq: Enrollment in an honors program or permission of instructor. GEC arts and hums VPA course.

**250 Symbolic Logic U 5**

A formal presentation of the elements of modern deductive logic; decision and proof procedures in sentential logic and functional logic.

GEC math and logical analysis course.

**270 Introduction to Philosophy of Religion U 5**

A philosophical analysis of the nature of religion and the foundations of religious belief.

GEC arts and hums cultures and ideas course.

**H276 Freshman-Sophomore Proseminar U 5**

Topic varies; emphasis on current philosophical problems.

Prereq: Fr or soph standing, and either a 3.00 CPHR, enrollment in an honors program, or permission of instructor. Not open to students with credit for H678. Repeatable to a maximum of 15 cr hrs.

**294 Group Studies U 1-5**

Groups of students are given an opportunity to pursue special topics not otherwise offered.

Repeatable to a maximum of 15 cr hrs.

**301 History of Ancient Philosophy U 5**

Major figures and issues in Greek philosophy; presocratics, Socrates, Plato, Aristotle.

Prereq: 5 cr hrs of philos other than 150 or permission of instructor. GEC arts and hums lit course.

**302 History of Medieval Philosophy U 5**

Major figures in medieval philosophy, including Augustine, Aquinas, Duns Scotus, and Ockham.

Prereq: 5 cr hrs of philos other than 150 or permission of instructor. GEC arts and hums lit course.

**303 History of 17th-Century Philosophy U 5**

Major figures in early modern philosophy: Descartes, Hobbes, Spinoza, Locke, and Berkeley.

Prereq: 5 cr hrs of philos other than 150 or permission of instructor. GEC arts and hums lit course.

**304 History of 18th-Century Philosophy U 5**

Major figures in European philosophy in the 17th and 18th centuries.

Prereq: 5 cr hrs of philos other than 150 or permission of instructor. Background in 303 strongly recommended. GEC arts and hums lit course.

**305 History of 19th-Century Philosophy U 5**

Major figures in 19th-century German idealism.

Prereq: 5 cr hrs of philos other than 150 or permission of instructor. GEC arts and hums lit course.

**306 Fundamental Concepts of Existentialism U 5**

Key concepts of the movement: commitment, absurdity, freedom, and death, as expressed in the works of Nietzsche, Sartre, Camus, Kierkegaard and others.

Prereq: 5 cr hrs of philos other than 150, or permission of instructor. GEC arts and hums lit course.

**307 Contemporary Continental Thought U 5**

Examination of contemporary continental thought including such movements as: structuralism, hermeneutics, critical theory, poststructuralism, semiotics, deconstruction, and postmodernism.

Prereq: 5 cr hrs of philos other than 150 or permission of instructor. GEC arts and hums lit course.

**321 Introduction to Jewish Philosophy U 5**

A general introduction to major figures and trends in medieval, modern, and contemporary Jewish philosophy; emphasis on Philo, Saadia, Maimonides, Spinoza, Mendelssohn, and Buber.

**323 Judaism and Ethics U 5**

Examination of the relationships of ethics to religion in general and Judaism in particular, emphasizing the place of ethical reasoning within Judaism as a religious system.

**336 Philosophical Perspectives on Issues of Gender U 5**

An examination of metaphysical, epistemological and ethical issues surrounding sex and gender, with issues chosen to represent both theoretical and practical controversies.

Prereq: English 110. GEC arts and hums cultures and ideas, and social diversity course.

**338 Philosophical Problems in the Law U 5**

Introduction to the nature of law and the philosophical and moral problems concerning law; justification of civil disobedience, criminal punishment, plea bargaining, and the enforcement of morality.

**367 Contemporary Social and Moral Problems in the U.S. U 5**

An intensive writing course concentrating on the analysis and evaluation of philosophical argumentation concerning contemporary social and moral problems about race, gender, class, and ethnicity.

Prereq: English 110 or 111 or equiv; and soph standing or above. Cannot be counted on a philosophy major or minor program. GEC second writing and social diversity course.

**431 Moral Philosophy U 5**

A rigorous examination of major issues in moral philosophy, such as: the basic moral value(s); the relation between value and obligation; justification of moral judgement.

Prereq: Philos major, or 15 cr hrs of philos course work exclusive of 150, or permission of instructor.

**450 Philosophy of Logic U 5**

Introduction into a variety of distinctly philosophical issues related to logic and its formal development. Presupposes a background in formal logic.

2 2-hr cl. Prereq: 250 or equiv.

**455 Philosophy of Science U 5**

A rigorous introduction to general methodological issues in the philosophy of science.

Prereq: 250 and either a major in philos or 15 cr hrs of philos course work exclusive of 150; or permission of instructor.

**460 Introduction to Theory of Knowledge U 5**

Survey of main philosophical positions concerning knowledge, justification, skepticism, and rationality.

Prereq: Philos major, or 15 cr hrs of philos course work exclusive of 150, or permission of instructor.

**463 Introduction to Metaphysics U 5**

Survey of main philosophical positions concerning the nature of reality, persons, freedom, identity, and causation.

Prereq: Philos major, or 15 cr hrs of philos course work exclusive of 150, or permission of instructor.

**465 Philosophy of Action U G 5**

Philosophical examination of the nature of human action. Topics include the nature of intention, practical rationality, issues in moral psychology, the metaphysics of free will.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Philos major or 15 cr hrs of philos course work, exclusive of 150 or permission of instructor.

**467 Introduction to Philosophy of Mind U 5**

General introduction to the philosophy of mind, the mind-body problem, intentionality, and the nature of consciousness.

Prereq: Philos major, or 15 cr hrs of philos course work exclusive of 150, or permission of instructor.

**468 Philosophy of Perception U G 5**

A philosophical examination of the nature of sensory perception, its relationship to conceptual thought and to consciousness, and its role in action and knowledge acquisition.

Sp Qtr. Prereq: Philos major, or 15 cr hrs of philos course work exclusive of 150, or permission of instructor.

**473 Introduction to Philosophy of Language U 5**

Survey of philosophical issues regarding the nature of linguistic representation and its role in thought and communication.

Prereq: 250 and 10 cr hrs of philos course work exclusive of 150, or permission of instructor.

**521 Topics in Jewish Philosophy U G 5**

An examination of a philosophical issue in Jewish thought or of the thought of a particular author; topics vary.

Prereq: 302 or 321, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**533 Environmental Ethics U G 5**

Examination of the moral issues generated by the impact of human beings on the natural environment.

Prereq: 130 or 431, or permission of instructor.

**H580 Ethical Conflicts in Health Care Research, Policy, and Practice U 5**

An interdisciplinary approach to an analysis of central moral dilemmas in health care research, policy, and practice.

Prereq: Jr or sr standing. Not open to students with credit for Nursing H580. Cross-listed in Nursing.

**595 Theorizing Race U G 5**

Introduction to issues of "race," consideration of the historical emergence and development of ideas of "race" and of racist practices, along with their contemporary formations.

Sp Qtr. 2 2-hr cl. Prereq: GEC second writing course or Philos 230 or jr level or above class standing or permission of instructor. Not open to students with credit for AfAm&ASt 595. Cross-listed in African-American and African Studies.

**601 Ancient Philosophy**

Prereq: 301 or 10 cr hrs of philos at the 200 level; or above; or grad standing in philos; or permission of instructor.

**601.01 Plato U G 5**

A survey of central philosophical themes in one or more Platonic dialogues.

**601.02 Aristotle U G 5**

A survey of central philosophical themes in one or more Aristotelian treatises.

**601.03 Studies in Ancient Philosophy U G 5**

Variable content; special topics in ancient Greek philosophy, including value theory, logic, metaphysics and natural science in pre-Socratics Socrates, Plato, Aristotle the Hellenistic schools or neo-Platonism.

Repeatable to a maximum of 15 cr hrs.

**602 Studies in Medieval Philosophy U G 5**

An intensive examination of a major philosopher, school or philosophical problem of the medieval period; topics vary.

Prereq: 302 and 10 cr hrs of philos course work at the 200 level or above; or grad standing in philos; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**603 Studies in 17th-Century Philosophy U G 5**

An intensive examination of a major philosopher or philosophical problem of the rationalist period; topics vary from quarter to quarter.

Prereq: 303 and 10 cr hrs of philos course work at the 200 level or above; or grad standing in philos; or written of instructor. Repeatable to a maximum of 15 cr hrs.

**604 Studies in 18th-Century Philosophy****604.01 Kant U G 5**

An intensive examination of one or more important themes in Kant's philosophical writings.

Prereq: 303, or 304, and 10 cr hrs of philos course work at the 200 level or above; or grad standing in philos; or permission of instructor.

**604.02 Selected Problems or Topics U G 5**

An intensive examination of a major philosopher or philosophical problem of the period; topics vary from quarter to quarter.

Prereq: 304 and 10 cr hrs of philos course work at the 200 level or above or grad standing in philos or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**606 Studies in 20th-Century Philosophy U G 5**

An intensive examination of one or more central movement in 20th-century philosophy; topics vary.

Prereq: 15 cr hrs of philos course work at the 200 level or above, or grad standing in philos or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**612 Introduction to Cognitive Science U G 3**

Cognitive science is an interdisciplinary study of the nature of human thought; psychological, philosophical, linguistic, and artificial intelligence approaches to knowledge representation.

Prereq: Permission of instructor or a total of 12 cr hrs from at least two of the following areas: cptr/inf, linguist, philos, and psych. Not open to students with credit for Cptr/Inf 612, Linguist 612, or Psych 612 or 794 (Sp Qtr 1989) or 794A (Wi Qtr 1990). Cross-listed in Computer and Information Science, Linguistics, and Psychology.

**625 Philosophical Topics in Feminist Theory U G 5**

An analytical study of selected philosophical issues arising out of feminist theory, such as the nature of autonomy, or the relation between gender and knowledge.

Prereq: 10 cr hrs of philos course work at the 300 level or above; or grad standing; or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**630 Advanced Political and Social Philosophy U G 5**

An intensive examination of issues in political and social philosophy, including democracy, civil disobedience, anarchism, totalitarianism, nature of the state, etc.

Prereq: 230 and 10 cr hrs of philos course work at the 200 level or above; or grad standing in philos; or permission of instructor, and English 110 or 111 or equiv.

**631 Advanced Moral Philosophy U G 5**

An intensive examination of major issues within moral philosophy such as: the foundations of morality; objectivity in ethics; morality, reason and sentiment; virtues and vices.

Prereq: 431 and 10 cr hrs of philos course work at the 200 level or above or grad standing in philos or permission of instructor.

**638 Advanced Philosophy of Law U G 5**

An examination of the nature and function of law and of such problems as the relation of law to morality and the justification of punishment.

Prereq: 338 and 10 cr hrs of philos coursework at the 200 level or above; or grad standing; or equiv or permission of instructor.

**640 Advanced Esthetic Theory U G 5**

Basic issues in philosophy of art: the definition of art; meaning, truth, and representation in art; the nature and basis of criticism; the criteria of interpretation of works of art.

Prereq: 15 cr hrs of philos course work at 200 level or above; grad standing in philos; or permission of instructor. Not open to students with credit for 641.

**650 Advanced Symbolic Logic U G 5**

Introduction to the metatheory of first-order logics and languages: axiomatic development of propositional and predicate logic; model theory; soundness, completeness, and Lowenheim-Skolem theorems.

Prereq: 250.

**652 Nonclassical Logic U G 5**

Study of selected systems of nonclassical logic, such as entailment systems, modal, many-valued, epistemic, deontic, imperative, erotetic, tense, and free logics.

Prereq: 650. Repeatable to a maximum of 10 cr hrs.

**655 Advanced Philosophy of Science U G 5**

A study of the nature and structure of scientific concepts, laws, and theories; appraisal of methodologies, presuppositions, and frames of reference in science.

Prereq: 250 and 10 cr hrs of philos course work at the 300 level or above (preferably 455); or 250 and grad standing in philos; or permission of instructor.

**660 Advanced Theory of Knowledge U G 5**

An intensive examination of major epistemological problems: the possibility, origin, foundation, structure, methods, limits, types, and validity of knowledge.

Prereq: 250 and 10 cr hrs of philos course work at the 300 level or above (preferably 460); or grad standing; or permission of instructor.

**663 Advanced Metaphysics U G 5**

An intensive examination of major metaphysical problems: categories, universals, substance and process, causality and law, space and time, metaphysical presuppositions of knowledge.

Prereq: 250 or 10 cr hrs of philos course work at the 300 level or above (preferably 463); or grad standing; or permission of instructor.

**667 Advanced Philosophy of Mind U G 5**

Classical and contemporary approaches to the nature of mind, mind-body, other minds, intentionality, and other problems.

Prereq: 15 cr hrs of philos course work at the 300 level or above (preferably 467); or grad standing in philos; or permission of instructor. Not open to students with credit for 767.

**670 Philosophy of Religion U G 5**

A study of religious concepts and problems; the idea and nature of God, of humans, their relation to the world and human destiny.

Prereq: 10 cr hrs of philos course work at the 300 level or above; or grad

standing; or permission of instructor.

**673 Advanced Philosophy of Language U G 5**

Basic problems and results in the philosophy of language, concentrating on theories of reference, theories of meaning, and theories of language-use (speech-acts, implicature, etc.).

Prereq: 250 and 10 credit hrs of philos course work at the 300 level or above (preferably 473); or grad standing in philos; or permission of instructor.

**H678 Junior-Senior Proseminar U G 3-5**

Topics vary; emphasis on recent philosophical writing in some specific area or on some specific problem.

Prereq: Honors level standing and 10 cr hrs in philos course work at or above the 200 level; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**693 Individual Studies U G 1-10**

Prereq: Permission of dept chairperson. Students ordinarily earn from 1 to 5 cr hrs, but honors students may earn up to 10 cr hrs. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-15**

Prereq: Permission of chairperson. Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**700 First-Year Seminar G 5**

A typically variable introduction to advanced philosophical methodology.

Open only to first-year philosophy grad students.

**737 Proseminar in Cognitive Science U G 2**

An in-depth examination of the interdisciplinary field of cognitive science; emphasizes fundamental issues of each discipline, provides illustrations of representative research being conducted at OSU.

Prereq: Cptr/Inf 612, Linguist 612, Psych 612, or Philos 612, or permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in Computer and Information Science, Industrial Systems Engineering, Linguistics, Psychology, and Speech and Hearing Science.

**750 Advanced Logical Theory U G 5**

Topics include formal arithmetic, recursive functions, Turing machines, Godel's incompleteness theorems, Church's thesis, arithmetical truth, logical paradoxes, and higher-order logic.

Prereq: 250 and 650. Repeatable to a maximum of 15 cr hrs.

**H783 Honors Research U 3-5**

A program of reading arranged for each student, with individual conferences, reports, and papers.

Prereq: 4th yr standing with a grade of A in at least half of the philos courses taken and with an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 2 qtrs are required of candidates for the BA with distinction in philos. Failure to receive a mark of S in this course is a disqualification for special honors. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**801 Seminar in the History of Philosophy G 5**

Prereq: Grad standing in philos or permission of instructor.

Repeatable to a maximum of 30 cr hrs.

**830 Seminar in Value Theory G 5**

Prereq: Grad standing in philos or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**850 Seminar in Logic G 5**

Prereq: Grad standing in philos or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**855 Seminar in Philosophy of Science G 5**

Prereq: Grad standing in philos or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**860 Seminar in Theory of Knowledge G 5**

Prereq: Grad standing in philos or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**863 Seminar in Metaphysics G 5**

Prereq: Grad standing in philos or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**873 Seminar in Philosophy of Language G 5**

Prereq: Grad standing in philos or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**993 Individual Studies G 2-15**

Doctoral students may register for individual study in areas not normally covered by courses.

Prereq: An MA degree or at least 50 cr hrs of grad study, and permission of dept chairperson. This course is graded S/U.

**999 Research in Philosophy G 1-18**

Research for thesis or dissertation purposes only.  
Repeatable. This course is graded S/U.

**Physical Medicine and Rehabilitation**

1012 Dodd Hall, 480 W. 9th Avenue, 293-3801

**736\*\* Clinical and Physiologic Bases of Physical Treatment P G 3**

The indications for, and choice of, physical modalities.

Au Qtr. 1 3-hr cl. Prereq: Grad or professional status and written permission of instructor. Offered odd numbered years.

**745 Biophysical Basis of Physical Treatment P 6,12,18**

The student will design and complete a laboratory or library research problem involving the biophysical aspects of physical diagnosis or treatment. 1, 2, or 3 months; offered all months.

Prereq: Grad or professional standing and permission of instructor. This course is graded S/U.

**750\* Natural History of Disability P G 3**

An analysis of the nature, patterns and evaluation of disability, the processes involved, and the factors influencing its course.

Su Qtr. Even years; 1 3-hr cl. Prereq: Grad or professional status and written permission of instructor. Offered even numbered years.

**760\* Basic Prosthetics and Orthotics P G 3**

In-depth study of prosthetics and orthotics including biomechanical principles, evaluation of the patient, indications for fitting of specific devices and components, fabrication techniques, and follow-up.

Sp Qtr. 1 3-hr cl Prereq: Grad or professional standing and written permission of instructor. Offered odd numbered years.

**770 Instrumentation, Neurophysiology, Clinical Aspects of Electromyography P G 3**

In-depth study of the instrumentation and correlation of neurophysiology and clinical aspects of electromyography, including excitable membranes, biological potentials, and nerve stimulation in clinical disorders.

Wi Qtr. 1 3-hr cl. Prereq: Grad or professional status and written permission of instructor.

**780\*\* Psychological Aspects of Physical Disability and its Management by Physicians P G 3**

Designed to synthesize and summarize various aspects of advances in the behavioral sciences which have practical application to the rehabilitation of physical disabilities.

Su Qtr. Odd years; 1 3-hr cl. Prereq: Grad or professional status and written permission of instructor. Offered odd numbered years.

**993 Individual Studies in Physical Medicine G 3-5**

Minor investigations using electrodiagnostic techniques; biophysical, physiologic, and therapeutic effects of physical agents, and other medical rehabilitation techniques.

Au, Wi, Sp Qtrs. Prereq: Grad or professional standing and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**999 Research in Physical Medicine and Rehabilitation G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: Grad or professional standing and permission of instructor. Repeatable. This course is graded S/U.

**Physical Therapy**

School of Allied Medical Professions

516 Atwell Hall, 453 West 10th Avenue, 292-5921

Programming for Severe Physical Impairments

See Phys Ed 676-Background information and survey of programmatic considerations related to physical, motor, and fitness training of the severely handicapped.

The Parent/Professional Partnership

See ED-S&R 677-Designed to help educators acquire knowledge and skills necessary to assist parents in facilitating the development, education, and socialization of severely handicapped children.

Reactions and Adjustment to Disability

See ED-PAES 864-A study of individual reactions to various disabling conditions,

the adjustment process, cultural norms and expectations, and responses to the rehabilitation process.

Consultation in the Human Services Profession

See ED-PAES 875-The consultation process, models, roles, skills, and outcomes for human services personnel will be addressed; emphasis is placed on extending theoretical and practical knowledge.

**630 Neuroscientific Basis of Rehabilitation in Physical Therapy I**

Focus on the neuroscientific knowledge that physical therapists need in order to understand the complex problems of the patient with musculoskeletal or neuromuscular disorder.

Su Qtr. Prereq: Permission of instructor.

**630.01 Lecture I G 2**

8 sessions 2.5 hrs each.

**630.02 Laboratory I G 1**

8 sessions 2.5 hrs each.

**631 Neuroscientific Basis of Rehabilitation in Physical Therapy II G 3**

Expand on previous neuroscience coursework and build a scientific basis for physical therapy practice in neurologic rehabilitation settings.

Sp Qtr. 12 2.5-hr cl. Prereq: Enrollment in physical therapy or permission of instructor.

**637 Pediatric Neurologic Physical Therapy U G 3**

Physical therapy management of the child with neurologic dysfunction.

Sp Qtr. 3 cl. Prereq: Sr standing in physther or grad standing in alli med and permission of instructor.

**645 Topics in Geriatrics U G 3**

The aging process and its impact on physical and functional abilities and needs of the older adult.

Sp Qtr. 2 cl and 1 1-hr discussion. Prereq: Permission of instructor.

**646 Rehabilitation Exercise Programming for Fitness in the Elderly and those with Neurodegenerative Disease G 2**

Designed to promote acquisition of clinical skills of assessing individuals who are disabled or elderly and prescribing exercise for those with disabilities.

Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. Honors undergraduates encouraged to enroll. This course is graded S/U.

**670 Service Learning in Physical Therapy G 1**

Designed to provide service learning experiences at the Physicians Free Clinic to enhance student civic skills and to facilitate interdisciplinary collaborations.

Au, Wi, Sp Qtrs. 2-hr cl, 5 sessions. Prereq: Enrollment in Allied Medicine Graduate School Program. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**689 Clinical Experience in Physical Therapy**

Supervised provision of physical therapy services in a variety of clinical practice settings.

Minimum 4 weeks; and maximum 8 weeks; 40 hrs/wk. Prereq: Admission to physther and permission of instructor. Minimum of 32 weeks of clinical experience required for completion of program.

**689.01 Clinical Experience I U G 3-6**

Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**689.02 Clinical Experience II U G 3-6**

Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**689.03 Clinical Experience III U G 6-12**

Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**689.04 Clinical Experience IV U G 6-12**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**689.05 Clinical Experience V G 6-12**

Su, Au, Wi, Sp Qtrs. This course is graded S/U.

**693 Individual Studies U G 1-15**

Guided study or individual readings, research, or experiences related to physther.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Admission to physther or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**720 Advanced Concepts in Evaluation and Treatment of the Spine G 3**

Analysis and application of concepts of manual therapy, motor control, and exercise in managing spinal disorders.

Wi Qtr. 3 cl. Prereq: Permission of instructor.

**730 Advanced Concepts in Neuromotor Control G 3**

Critical analysis of neuromotor systems, motor control, and motor dysfunction.

Wi Qtr. 1 2.5-hr cl. Prereq: 630 or equiv or permission of instructor.



**740 Clinical Laboratory: Upper Quarter G 1**

Designed to develop skill in basic assessment techniques for physical therapy practice.

Au Qtr. 1 2-hr lab. Prereq: Enrollment in physical therapy program. This course is graded S/U.

**741 Clinical Laboratory: Lower Quarter G 1**

Designed to develop skill in basic assessment techniques for physical therapy practice.

Wi Qtr. 1 2-hr lab. Prereq: Enrollment in physical therapy program. This course is graded S/U.

**750 Clinical Science I: Upper Quarter G 4**

Designed to establish a knowledge base of concepts, promote understanding and appreciation of principles of biomechanics, normal and pathological movement of spine and upper extremity.

Au Qtr. 5 1-hr cl. Prereq: Permission of instructor.

**751 Clinical Science II: Lower Quarter G 4**

Designed to establish a knowledge base of concepts, promote understanding and appreciation of the principles of biomechanics, normal and pathological movement of lower extremity including gait.

Wi Qtr. 5 1-hr cl. Prereq: Permission of instructor.

**752 Clinical Science III: Special Topics G 3**

Designed to establish a knowledge base of concepts and promote an understanding and appreciation of the principles of disease.

Sp Qtr. 5 1-hr cl for 6 weeks. Prereq: Permission of instructor.

**753 Clinical Science IV: Pediatric G 4**

Designed to develop an understanding of normal development and the result of damage to the developing nervous and musculoskeletal systems.

Su Qtr. 5 1-hr cl. Prereq: Permission of instructor.

**754 Clinical Science V: Adult/Geriatric G 4**

Designed to develop an understanding of the effects of damage to the central nervous system and cardiopulmonary system.

Au Qtr. 5 1-hr cl. Prereq: Permission of instructor.

**755 Clinical Science VI: Adult Neurology G 3**

Designed to develop an understanding of the effects of damage to the central nervous system on sensorimotor function, building on a foundation of anatomy, neuroanatomy, and physiology.

Wi Qtr. 5 1-hr cl for 6 weeks. Prereq: Permission of instructor.

**760 Clinical Applications: Upper Quarter**

Designed to promote analysis and application of the concepts and principles of musculoskeletal evaluation, examination, diagnosis, and treatment of upper extremity and spine.

Au Qtr. Prereq: Permission of instructor.

**760.01 Lecture G 5**

5 1-hr cl.

**760.02 Laboratory G 3**

2 3-hr labs.

**761 Clinical Applications: Lower Quarter**

Designed to promote analysis and application of the concepts and principles of musculoskeletal evaluation, examination, diagnosis, and treatment of the lower quarter.

Wi Qtr. Prereq: Permission of instructor.

**761.01 Lecture G 5**

5 1-hr cl.

**761.02 Laboratory G 3**

2 3-hr labs.

**762 Clinical Applications: Special Topics in Physical Therapy**

Designed to promote an understanding and appreciation for the concepts and principles of evaluation, diagnosis of patients with wounds, burns, pain syndromes, and neoplasms.

Sp Qtr. Prereq: Permission of instructor.

**762.01 Lecture G 3**

5 1-hr cl for 6 weeks.

**762.02 Laboratory G 2**

2 3-hr labs for 6 weeks.

**763 Clinical Applications: Pediatric Therapy**

Designed to promote an understanding of the principles of developmental evaluation, diagnosis and treatment of disorders of childhood including neurological, musculoskeletal, and cardiopulmonary problems.

Su Qtr. Prereq: Permission of instructor.

**763.01^ Lecture G 4**

5 1-hr cl.

**763.02^ Laboratory G 3**

2 3-hr labs.

**764 Clinical Applications: Adult/Geriatric**

Designed to promote the understanding of principles of neurologic evaluation, exercise testing, diagnosis, and treatment of the patient with neurological and cardiopulmonary pathologies.

Au Qtr. Prereq: Permission of instructor.

**764.01 Lecture G 5**

5 1-hr cl.

**764.02 Laboratory G 3**

2 3-hr labs.

**765 Clinical Applications: Adult Neurology**

Designed to promote an understanding of the principles of neurologic evaluation, diagnosis, and treatment of the patient with stroke, traumatic brain injury and other neurological disorders.

Wi Qtr. Prereq: Permission of instructor.

**765.01 Lecture G 3**

4 1-hr cl for 6 weeks.

**765.02 Laboratory G 2**

2 3-hr labs for 6 weeks.

**770 Foundations of Physical Therapy Practice G 2**

Introduction to the profession of physical therapy and the behaviors consistent with that profession.

Su Qtr. 2 1-hr cl. Prereq: Permission of instructor.

**771 Decision Making in Physical Therapy Practice G 1**

Introduction to clinical decision making and documentation related to evaluation, goal setting, and treatment of the patient with a musculoskeletal condition.

Au Qtr. 1 1-hr cl. Prereq: Permission of instructor.

**772 Physical Therapy in a Healthcare System G 1**

Introduction to health care delivery systems, critical issues in physical therapy including reimbursement, liability, the role of the PTA and aide, and clinical education.

Wi Qtr. 1 1-hr cl. Prereq: Permission of instructor.

**773 Physical Therapy Management of the Child G 2**

Introduction to health care delivery systems in pediatric practice, critical issues in pediatric physical therapy, the role of family and culture in therapeutic program of child.

Su Qtr. 2 1-hr cl. Prereq: Permission of instructor.

**774 Physical Therapy Management of the Elderly G 2**

Introduction to health care delivery systems and critical issues in rehabilitation and geriatrics as well as the resources available for the patient with a disability.

Au Qtr. 2 1-hr cl. Prereq: Permission of instructor.

**775 Physical Therapy Management of the Adult G 1**

Designed to further introduce the student to health care delivery systems and critical issues in rehabilitation and geriatrics as well as the resources available for the patient with a disability.

Wi Qtr. 2 1-hr cl for 6 weeks. Prereq: Permission of instructor.

**785 Research Seminar**

Designed to provide a forum for the student to explore and analyze the process involved in critical inquiry and clinical research.

1 hr cl. Prereq: Permission of instructor.

**785.01 Introduction to Research G 1**

Au Qtr. This course is graded S/U.

**785.02 Research Methods in Physical Therapy G 1**

Wi Qtr. This course is graded S/U.

**785.03^ Research Applications in Physical Therapy G 1**

Su Qtr. This course is graded S/U.

**785.04^ Advanced Topics in Research G 1**

Au Qtr. This course is graded S/U.

**785.05 Advanced Case Study in Research in Physical Therapy G 1**

Sp Qtr. 2-hr cl biweekly. This course is graded S/U.

**795 Seminar G 1-3**

Discussion of selected topics.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**840 Electromyography and Biomechanics in the Control of Human Movement G 3**

The study and analysis of biomechanics and motor control as applied to human movement.

Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: Anatomy 200 or equiv; Physics 111 or equiv; Edu PAES 414 or 500 or equiv; or permission of instructor.

**851 Cellular Biology in Physical Therapy G 3**

The student will compare and contrast the role of cellular components in the development and treatment of diseases and conditions relevant to physical therapy.

Prereq: Satisfactory completion of 860 and 870.

**860 Advanced Case Studies in Physical Therapy Practice G 5**

Designed to promote synthesis of the curriculum, and the practice of physical therapy by integrating the content through case studies of patients with complex diagnoses.

Sp Qtr. 2 3-hr cl. Prereq: Permission of instructor.

**861 Differential Diagnosis G 6**

Demonstrate an understanding of the disease etiology, risk factors, pathogenesis, pain behavior, and medical or surgical treatment of these systemic diseases.

Prereq: Satisfactory completion of 860 and 870.

**862 Clinical Diagnostic Testing I G 3**

Develop a foundation in clinical electromyography. Gain entry level competence in performing electromyography testing.

Prereq: Satisfactory completion of 860 and 870.

**863 Clinical Diagnostic Testing II G 3**

Develop a foundation in radiology and imaging. Gain entry level competence in interpreting findings from radiologic and imaging testing.

Prereq: Satisfactory completion of 860 and 870.

**865 Clinical Reasoning in PT Practice G 3**

Learner will examine theories of clinical reasoning and apply them to a clinical case scenario. Students develop their own model of clinical reasoning.

Prereq: Satisfactory completion of 860 and 870.

**870 Advanced Issues in Physical Therapy Practice G 5**

Designed to integrate the previously discussed information on health care delivery systems and critical issues in physical therapy practice.

Sp Qtr. 2 1.5-hr cl, 1 2-hr cl. Prereq: Permission of instructor.

**871 Health Care in America and its Impact on Physical Therapy Past, Present, Future G 4**

Describes the healthcare system in America and how working within this system impacts the practice of Physical Therapy. Healthcare is undergoing a paradigm shift.

Sp Qtr. 2 2-hr cl.

**889 Advanced Clinical Practicum G 1-4**

Advanced clinical experiences in specialized areas of physical therapy practice.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**999 Research G 1-3**

Research for terminal project only.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**Physics**

1012 Smith Laboratory, 174 West 18th Avenue, 292-5713

**103 The World of Energy I U 5**

An examination of the concept of energy with its personal and global impact using the hands-on discovery mode.

Au, Sp Qtrs. 1 cl, 2 2-hr rec. Not open to students with credit for 100.02. Intended for non-science majors. NS Admis Cond course. GEC phys sci course.

**104 The World of Energy II U 5**

Continuation of 103.

Su, Wi Qtrs. 1 cl, 2 2-hr rec. Prereq: 103. Intended for non-science majors. Not open to students with credit for 100.02. NS Admis Cond course. GEC phys sci course.

**106 Physics by Inquiry: Properties of Matter U 5**

Properties of matter and experimental physics for undergraduates contemplating a teaching career.

Wi Qtr. 2 3-hr cl. Not open to students with credit for 201. Intended for non-science majors, especially those interested in education. NS Admis Cond course. GEC phys sci course.

**107 Physics by Inquiry: Electric Circuits U 5**

Electric phenomena, electric circuits, and experimental physics for undergraduates contemplating a teaching career.

Sp Qtr. 2 3-hr cl. Not open to students with credit for 202. Intended for non-science majors, especially those interested in education. NS Admis Cond course. GEC phys sci course.

**108 Physics by Inquiry: Concepts of Light with Applications to Optics U 5**

Principles of light and optics with applications to real-world phenomena such as astronomy appropriate for undergraduates contemplating a teaching career.

Au Qtr. 2 3-hr cl. NS Admis Cond course. GEC phys sci course.

**109 Preparation for Physics U 4**

Introduction to elementary concepts of mechanics with emphasis on correction of misconceptions and elementary mathematical methods in physics.

Au, Wi Qtrs. 4 cl. Prereq or concur: Math 150 or eligibility for Math 151. Recommended for students with little or no prior physics experience.

**110 The Physics of Sports U 5**

Examines the physics of motion set in the context of sports.

Au, Wi, Sp Qtrs. 5 cl. Prereq: Math 075 or equiv. GEC phys sci course.

**111 General Physics: Mechanics and Heat U 5**

Su, Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Prereq: Eligibility for Math 150. This course is available for EM credit. NS Admis Cond course. GEC phys sci course.

**112 General Physics: Electricity, Magnetism, and Light U 5**

Su, Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Prereq: 111. This course is available for EM credit. NS Admis Cond course. GEC phys sci course.

**113 General Physics: Modern Physics U 5**

Su, Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Prereq: 112. This course is available for EM credit. NS Admis Cond course. GEC phys sci course.

**131 Introductory Physics: Particles and Motion U 5**

Major concepts of physics from a contemporary point of view; for students in physical sciences, mathematics, or engineering.

Su, Au, Wi, Sp Qtrs. 5 cl, 1 2-hr lab. Prereq: 1 entrance unit of physics or chem; and Math 151 and concur Math 152, or concur Math 161 or higher. This course is available for EM credit. NS Admis Cond course. GEC phys sci course. E131 may be available for honors embedded experience at the regional campuses.

**H131 Honors Physics: Particles and Motion U 5**

Major concepts of physics from a contemporary point of view; challenging, flexible format; includes honors lab; for students strong in physical sciences, mathematics, or engineering.

Au Qtr. 5 cl, 1 2-hr lab. Prereq: 1 entrance unit of physics or chem; and Math 151 and concur Math 152, or concur Math 161 or higher, or written permission of instructor. NS Admis Cond course. GEC phys sci course.

**132 Introductory Physics: Electricity and Magnetism U 5**

Continuation of 131.

Su, Au, Wi, Sp Qtrs. 5 cl, 1 2-hr lab. Prereq: 131; and Math 152 and concur Math 153, or concur Math 162 or higher. This course is available for EM credit. NS Admis Cond course. GEC phys sci course.

**H132 Honors Physics: Electricity and Magnetism U 5**

Continuation of H131.

Wi Qtr. 5 cl, 1 2-hr lab. Prereq: H131 with grade of C or better; and Math 152 and concur Math 153, or concur Math 162 or higher, or written permission of instructor. NS Admis Cond course. GEC phys sci course.

**133 Introductory Physics: Thermal Physics, Waves, and Quantum Physics U 5**

Continuation of 132.

Su, Au, Wi, Sp Qtrs. 5 cl, 1 2-hr lab. Prereq: 132, and Math 153 or Math 162 or higher. This course is available for EM credit. NS Admis Cond course. GEC phys sci course.

**H133 Honors Physics: Thermal Physics, Waves, and Quantum Physics U 5**

Continuation of H132.

Sp Qtr. 5 cl, 1 2-hr lab. Prereq: H132 with grade of C or better, and Math 153 or Math 162 or higher, or written permission of instructor. NS Admis Cond course. GEC phys sci course.

**161 The Building Blocks of Creation I U 5**

An overall perspective on our physical universe from the historical development of fundamental physics concepts to their impact on culture and society.

Au Qtr. 5 cl. Prereq: Math 075 or equiv. GEC phys sci course. NS Admis Cond course.

**162 The Building Blocks of Creation II U 5**

Continuation of 161.

Wi Qtr. 5 cl. Prereq: 161 and Math 075 or equiv. GEC phys sci course. NS Admis Cond course.

**261 Dynamics of Particles and Waves I U 4**

Vectors and kinematics; foundations of Newtonian mechanics; momentum, work, and energy; conservative and nonconservative forces; potentials; angular momentum; rotation about a fixed axis.

Au Qtr. 4 cl. Prereq or concur: 132. Not open to students with credit for 525.

**262 Dynamics of Particles and Waves II U 4**

Rigid body motion; noninertial systems and fictitious forces; central force motion; the special theory of relativity; relativistic kinematics; relativistic momentum and energy.

Wi Qtr. 4 cl. Prereq: 261 and prereq or concur 133; and concur Math 254 or Math 263. Not open to students with credit for 525.

**263 Dynamics of Particles and Waves III U 4**

Introduction to quantum systems; photons; the Bohr atom; matter waves.

Sp Qtr. 4 cl. Prereq: 262, and Math 254 or Math 263.

**294 Group Studies U 1-6**

Designed to permit groups of students the opportunity to pursue special studies not otherwise offered.

Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**295 Introductory Seminar U 1**

Introduction to departmental research programs and to selected topics of interest in contemporary physics.

Au Qtr. 1 1-hr cl. Prereq: 131. This course is graded S/U.

**367 Uses of Science in Solving Problems of Society U 5**

Energy, environment, and the arms race are examined using the methods of science; focuses on interaction of science and technology; and social and ethical implications of choices.

Au and/or Sp Qtrs at Marion campus, qtrs vary at Columbus campus. 5 cl. Prereq: Math Placement S or higher; 1 5-hr 100-level course in either astron, bio sci, chem, geol sci, or physics; English 110 or 111 or equiv. Not open to students with credit for Phys Sci 180. GEC second writing and phys sci course.

**416 Methods of Experimental Physics U 4**

Introduction to the experimental techniques of physics and the statistical analysis of data, through lectures and a variety of experiments.

Au, Wi, Sp Qtrs. 1 1-hr cl, 2 2-hr labs. Prereq: 131, 132, and 133. GEC data analysis course.

**H455 Honors Holography I U 5**

The basic technique of 3D image making; construction of a diode laser and use of this device to make holograms.

Sp Qtr. Prereq: Enrollment in an honors program or permission of dept or of instructor. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in Art 455 and H455. Cross-listed in Art. GEC arts and hums VPA course.

**516 Intermediate Physics Laboratory U G 4**

Selected intermediate level experiments from basic areas of physics.

Wi, Sp Qtrs. 2 3-hr labs. Prereq: 113 or 133 or permission of instructor. Not open to physics majors or grad students in physics. Repeatable to a maximum of 12 cr hrs.

**517 Introductory Electronics for Physicists U 4**

Intermediate level introduction to electronic circuits, devices, and instrumentation with emphasis on laboratory experience.

Su, Au, Sp Qtrs. 1 2-hr cl, 2 3-hr labs. Prereq: 133 or permission of instructor. Not open to students with credit for 617; or to grad students in physics.

**555 Fields and Waves I U G 4**

Introduction to the description of electrostatic fields; dielectrics; boundary-value problems.

Au Qtr. 4 cl. Prereq: 133 and prereq or concur 261, and Math 415 or Math 255, and Math 513 or 551 or 416.

**593 Individual Studies U G 2-5**

Independent reading, study, or laboratory work at an intermediate level.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**594 Group Studies U G 1-6**

Group studies of special topics not otherwise offered.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Satisfactory intermediate level courses in physics and permission of instructor. Repeatable to a maximum of 15 cr hrs.

**596 Senior Seminar: Writing and Speaking about Physics and Astronomy U 3**

Seminar on selected topics in physics and astronomy; training in written and oral presentations; third writing course.

Au, Sp Qtrs. 4 cl. Prereq: 262 or equiv, Math 255 or 415, second writing course, and jr or sr standing. Not open to students with credit for 595. GEC third writing course.

**616 Advanced Physics Laboratory U G 4**

Experiments selected from all areas of physics; independent work emphasized.

Wi, Sp Qtrs. 2 3-hr labs. Prereq: 263, 555, and 416 or Stat 245, grad standing or permission of instructor; 631 recommended. Repeatable to a maximum of 24 cr hrs.

**617 Electronics for Physicists U G 5**

An intensive introduction to electronic circuits, devices, and instrumentation with emphasis on laboratory experience.

Su, Au, Sp Qtrs. 1 2-hr cl, 2 3-hr labs. Prereq: 263 or grad standing.

**621 Statistical Physics I U G 4**

Thermodynamics and statistical mechanics; applications to noninteracting classical and quantum systems.

Au Qtr. 4 cl. Prereq: 263.

**622 Statistical Physics II U G 4**

Interacting systems, special states of matter, critical phenomena and phase transitions.

Wi Qtr. 4 cl. Prereq: 621 or equiv.

**631 Introductory Quantum Mechanics I U G 4**

Introduction to quantum mechanics, including its historical background, the Schrodinger equation, solutions of one-dimensional scattering and bound state problems.

Au Qtr. 4 cl. Prereq: Course in modern physics beyond 133 and Math 255 or 415 and Math 568 or 571.

**632 Introductory Quantum Mechanics II U G 4**

Continuation of 631; the Schrodinger equation in three dimensions, angular momentum, the hydrogen atom, Dirac notation, and time-independent perturbation theory.

Wi Qtr. 4 cl. Prereq: 631.

**633 Introductory Quantum Mechanics III U G 4**

Continuation of 632; time-dependent perturbation theory, scattering theory and the Born approximation, multi-electron atoms, and selected further applications.

Sp Qtr. 4 cl. Prereq: 632.

**655 Grad Holography I G 5**

Introduction to the theory and basic technique of 3D image making. Students will construct a diode laser and use it to make holograms.

Repeatable to a maximum of 15 cr hrs. Cross-listed with H455. For graduate students enrolled in the graduate interdisciplinary specialization "Analysis of Material Culture".

**656 Fields and Waves II U G 4**

Continuation of 555; magnetic fields of steady currents; induction; Maxwell's equations; plane waves; special relativity.

Wi Qtr. 4 cl. Prereq: 555 or equiv.

**657 Fields and Waves III U G 4**

Continuation of 656; plane waves in matter; physical optics; coherence, interference, diffraction, and dispersion.

Sp Qtr. 4 cl. Prereq: 656 or equiv.

**664 Theoretical Mechanics U G 4**

Development of Lagrangian mechanics, inertia and stress tensors, rigid body rotations and introduction to the mechanics of continuous media.

Sp Qtr. 4 cl. Prereq: 262 and Math 255, concur Math 513 or 551.

**670 Physics for In-Service Teachers U G 1-15**

Designed to deepen teachers' understanding of basic physical concepts and methods of treatment of selected topics; includes lectures, discussions, demonstrations, and individualized laboratory work.

Su Qtr. Prereq: 15 cr hrs in physics, teaching experience, and permission of instructor. Repeatable to a maximum of 30 cr hrs. Intended for secondary school science teachers.

**681\* Principles of Stellar Evolution and Nucleosynthesis U G 5**

Physics of stellar structure, evolution, and nucleosynthesis.

Wi Qtr. 5 cl. Prereq: Math 255 or 415; Physics 263; Physics 621 (or concurrent) recommended; or permission of instructor. Not open to students with credit for Astron 641 or 651 or 681. Cross-listed in Astronomy.

**682\* Introduction to Cosmology U G 5**

Structure and evolution of the Universe.

Wi Qtr. 5 cl. Prereq: Math 255 or 415; Physics 263; Physics 621 (or concurrent) recommended; or permission of instructor. Not open to students with credit for Astron 642 or 682. Cross-listed in Astronomy.

**693 Individual Studies U G 0-15**

Designed to give a properly qualified student opportunity for independent reading, study, or laboratory work in a specialized field of interest.

Su, Au, Wi, Sp Qtrs. Prereq: Satisfactory advanced courses in experimental and theoretical physics and permission of instructor. Repeatable to a maximum of 30 cr hrs. Physics 693A to be offered for 0 cr hrs only. This course is graded S/U.

**699 Undergraduate Research in Physics U 1-15**

Undergraduate research or creative activities in various topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**730 Methods of Theoretical Physics I U G 4**

Sturm-Liouville theory of orthogonal functions; boundary value problems in Cartesian, cylindrical, spherical coordinates; Fourier series, Legendre polynomials, spherical harmonics, and Bessel functions.

Su Qtr. 4 cl. Prereq: Math 601, and 701 or equiv.

**740 Introduction to Astrochemistry U G 3**

A treatment of the chemistry occurring in regions outside of the solar system including interstellar clouds, areas of star formation, and envelopes and atmospheres of stars.

Wi Qtr. 3 1-hr cl. Prereq: Introductory courses in quantum mechanics, thermodynamics, and basic kinetics. Not open to students with credit for Astron 740 or Chem 740. Cross-listed in Astronomy and Chemistry.

**780 Topics in Contemporary Physics**

Experimental and theoretical aspects of areas of current interest in physics.

3 cl. Prereq: 633 or grad standing or permission of instructor.

**780.02 Elementary Particle Physics U G 4**

Sp Qtr.

**780.04 Atomic and Molecular Physics U G 4**

Wi Qtr.

**780.05 Nuclear Physics U G 4**

Wi Qtr.

**780.06 Condensed Matter Physics U G 4**

Sp Qtr.

**780.20^ Special Topics U G 4****H783 Honors Research U 3-5**

A program of research for each student which includes individual conferences and which culminates in an honors thesis or oral defense.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC Honors Committee approval of project, a minimum 3.50 pt-hr ratio in the field of distinction, sr standing, and cumulative pt-hr ratio commensurate with honors program membership. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**795 Special Topics Seminar U G 1**

A survey of current research problems in physics.

Au, Wi Qtrs. Prereq or concur: 631 or equiv. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**801 Seminar in Physics G 1**

Seminars will be conducted by various members of the staff on topics of current interest in their fields of specialization; students will participate in the presentation and discussion of material.

Su, Au, Wi, Sp Qtrs. Prereq: Acceptable specialized courses and permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**816 Topics in Physics G 3-6**

Laboratory and/or theoretical work on an individual basis on topics of current interest.

Su, Au, Wi, Sp Qtrs. Prereq: 616 or equiv and permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**821 Classical Dynamics G 4**

Lagrangian dynamics, variational principles, Hamilton's equations, canonical transformations, symmetries and conservation laws, small oscillations, normal coordinates, and classical fields.

Sp Qtr. 4 cl. Prereq: 664 or equiv.

**822 Elasticity and Fluid Mechanics G 4**

Elasticity of solids; stress and strain tensors, dislocations; fluid mechanics; ideal and viscous fluids, chaos, and turbulence.

Au Qtr. 4 cl. Prereq: 821 or permission of instructor.

**827 Quantum Mechanics I G 5**

Postulates and Schrodinger equation, linear vector spaces, one-dimensional problems, path-integral formulation of quantum theory; multiparticle systems, symmetry, orbital angular momentum, and central potentials.

Au Qtr. 4 cl. Prereq: 633 or equiv or permission of instructor.

**828 Quantum Mechanics II G 5**

Spin angular momentum and its dynamics; addition of angular momenta; variational method; time-dependent and time-independent perturbations, semiclassical treatment of electromagnetic radiation.

Wi Qtr. 4 cl. Prereq: 827.

**829 Quantum Mechanics III G 5**

Quantized electromagnetic radiation; scattering theory; density matrix; Dirac equation, relativistic hydrogen atom; Hartree-Fock theory, atoms, and molecules.

Sp Qtr. 4 cl. Prereq: 828.

**830 Quantum Mechanics IV G 4**

Systems with several electrons, exclusion principle; applications to atoms and molecules, and to scattering; Hartree-Fock approximation; Dirac equation for free electrons and for hydrogen.

Au Qtr. 4 cl. Prereq: 829.

**834 Electromagnetic Field Theory I G 4**

Boundary value problems involving static electric and magnetic fields, fields in material media.

Au Qtr. 4 cl. Prereq: 656 or equiv.

**835 Electromagnetic Field Theory II G 4**

Maxwell's equations, electromagnetic waves, radiation by simple systems, wave guides.

Wi Qtr. 4 cl. Prereq: 834 or permission of instructor.

**836 Electromagnetic Field Theory III G 4**

Special theory of relativity, dynamics of relativistic particles, collisions between charged particles, energy loss, scattering, radiation by moving charges.

Sp Qtr. 4 cl. Prereq: 835 or permission of instructor.

**846 Statistical Physics I G 4**

Physical thermodynamics and introduction to statistical physics; fundamental postulates, entropy, thermodynamic potentials and changes of phase; microscopic expression for entropy and basis of classical ensemble theory.

Au Qtr. 4 cl. Prereq: 622 and 664 or equiv.

**847 Statistical Physics II G 4**

Canonical and grand ensembles; Quantum statistical mechanics; density matrices, partition functions, Bose and Fermi gases; Debye specific heat; black-body radiation; Bose-Einstein condensation; interacting systems.

Wi Qtr. 4 cl. Prereq: 846 and 828.

**848 Advanced Statistical Physics G 4**

Interacting systems; Ising and Heisenberg models of magnetism, theory of dense gases and liquids, phase transitions and critical phenomena; non-equilibrium statistical physics, Boltzmann equation.

Au Qtr. 4 cl. Prereq: 829 and 847, or permission of instructor.

**880 Advanced Topics**

A systematic advanced treatment of areas of current interest in physics; topics will be announced each quarter.

Au, Wi, Sp Qtrs. 3 cl. Prereq: 828 or permission of instructor.

**880.02 Elementary Particle Physics G 3**

Repeatable to a maximum of 9 cr hrs.

**880.05 Nuclear Physics G 3**

Repeatable to a maximum of 9 cr hrs.

**880.06 Condensed Matter Physics G 3**

Repeatable to a maximum of 9 cr hrs.

**880.08 Theory of Quantized Fields G 3**

Repeatable to a maximum of 9 cr hrs.

**880.20 Special Topics G 3**

Repeatable to a maximum of 9 cr hrs.

**999 Research in Physics G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Physiology and Cell Biology**

302 Hamilton Hall, 1645 Neil Avenue, 292-2310

**311 Principles of Human Physiology I U 5**

First of a two-quarter sequence covering the following areas of physiology: neuromuscular, heart and circulation, endocrine, brain and special senses, body fluids and kidney, respiration, digestion, temperature control, and metabolism.

Au Qtr. 5 cl. Prereq: 2 qtrs chem, Anatomy 199 or 200 or equiv recommended, or permission of instructor. Not open to students with credit for Physiol 311.

**312 Principles of Human Physiology II U 5**

Continuation of 311.

Wi Qtr. 5 cl. Prereq: 311 or permission of instructor. Not open to students with credit for Physiol 312.

**601 Organ System Physiology I U P G 5**

First of a two-quarter sequence presenting the following areas of physiology: Cell, Neuroscience, Gastrointestinal, Endocrine, Reproduction, Muscle, Cardiovascular, Respiration, Renal and Acid-base.

Au Qtr. 5 cl. Open only to students enrolled in the College of Pharmacy, Biomedical Engineering, Sport and Exercise Science, or permission of the instructor. Not open to students with credit for Physiol 601.

**602 Organ System Physiology II U P G 5**

Continuation of 601.

Wi Qtr. 5 cl. Prereq: 601 or Physiol 601. Normally to be taken directly following 601. Not open to students with credit for Physiol 602.

**604 Advanced Physiology I P 4**

First of a 2-qtr sequence covering these physiological areas; neuromuscular central nervous system and special senses, endocrinology and reproduction, cardiovascular, digestion, respiration, body fluids, and kidney.

Au Qtr. 4 cl. Open only to students enrolled in the College of Dentistry.

**605 Advanced Physiology II P 4**

Continuation of 604.

Wi Qtr. 4 cl. Prereq: 604 or Physiol 604. Open only to students enrolled in the College of Dentistry.

**793 Individual Studies in Physiology and Cell Biology U P G 2-18**

Reading, conferences, and laboratory work by individual arrangement with qualified students who desire more intensive and specialized study than is available in other courses.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**804 Current Topics in Cell Biology G 5**

Advanced studies in selected areas of cell biology, with a focus on the structural components of the cell and an emphasis on interrelationships of cellular compartments.

Sp Qtr. Arr. Prereq: Permission of instructor and Biochem 511 or 613 series. Not open to students with credit for CBN&Anat 804.

**850 Seminar in Physiology and Cell Biology G 2**

Cardiovascular Journal Club

Su, Au, Wi, Sp Qtrs. Repeatable. Open to all Physiology and Cell Biology Seminars.

**911 Advanced Studies in Physiology and Cell Biology**

Su, Au, Wi, Sp Qtrs. Prereq: 601, 602 or 607, and 608; or Physiol 601, 602 or 607, and 608; or equivs with written permission of instructor. Quarter schedule of topics to be announced.

**911.24 Muscle Contraction G 3**

In-depth examination of molecular mechanisms of activation and contraction in muscle.

Not open to students with credit for Physiol 911.24.

**911.26 Advanced Topics in Integrative Neurophysiology G 3**

In-depth presentation of the theory and concepts of neural networks and microcircuits.

2 1.5-hr cl. Not open to students with credit for Physiol 911.26 or Neurosci 911.26. Cross-listed in Neuroscience.

**911.27 Advanced Cardiovascular Physiology G 3**

Advanced presentation of cardiovascular physiology, including electrical and mechanical properties of the heart; calcium handling, beta-adrenergic stimulation of the heart, and cardiac intracellular signaling.

Wi Qtr. 1hr journal club and 2hr class Prereq: 601 and 602, or Physiol 601 or 602; or equiv with permission of instructor. Enrollment limited to 25. Not open to students with credit for Physiol 911.27. Offered every second year. Graduate students only.

**999 Research in Physiology and Cell Biology G 1-18**

Research for thesis or dissertation purposes only.

Repeatable. This course is graded S/U.

**Plant Cellular and Molecular Biology (Plant Biology)**

500 Aronoff Laboratory, 318 W. 12th Ave., 292-8952

**101 Introduction to Plant Biology I: Plants, People, and the Environment U 5**

Plants and their relationships to humans and the biosphere; plant structure and function, growth, and development; practical and economic uses of plants.

Au, Wi, Sp Qtrs. 4 cl, 1 2-hr rec. Not open to students with credit for Biology 101 or 113. This course is available for EM credit. NS Admis Cond course. GEC bio sci course.

**102 Introduction to Plant Biology II: Plants, People, and the Environment U 5**

Continuation of 101; plant genetics and biotechnology, diversity and evolution, and the importance of plants for the biosphere and for human survival.

Wi, Sp Qtrs. 3 cl, 1 3-hr lab. Prereq: 101. This course is available for EM credit. NS Admis Cond course. GEC bio sci course.

**203 Plant Growth Physiology U 4**

Introduction to the growth of the whole plant and of its organs, tissues and cells, emphasizing the role of hormones and environmental factors and tissue culture approaches.

Au Qtr. 3 cl, 1 hr 45 min rec/lab. Prereq: 101, or equiv, or permission of instructor.

**293 Individual Studies U 1-5**

Individual work in the field of the chosen problem.

Su, Au, Wi, Sp Qtrs. Prereq: 102 or 112 or Biology 114, and written permission of instructor. Repeatable to a maximum of 10 cr hrs. Only 5 cr hrs may count towards a plant bio major. This course is graded S/U.

**294 Group Studies U 1-5**

Group study of topics in plant biology.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**300 General Plant Biology U 5**

Plant structure and function; growth and development; diversity, reproduction, and evolution of lower and flowering plants; people, the biosphere, and plant diversity.

Au, Wi, Sp Qtrs. 3 cl, 2 2-hr labs. Prereq: Biology 101 or 113. Not open to students with credit for Hort 201 or 300, or H&CS 300. Cross-listed in Horticulture and Crop Science. GEC bio sci course.

**402 Plant Development U 3**

Concepts in plant development at the introductory level; from seed to seedling, seedling to the adult, flowering and fruiting, with emphasis on current research.

Wi Qtr. 3 cl. Prereq: 300 or H&CS 300, or Biology 113 or H115, or permission of instructor. NS Admis Cond course.

**436 Introductory Plant Physiology U 5**

Topics in plant physiology at the introductory level: diffusion, transpiration, water stress, translocation, enzyme kinetics, photosynthesis, plant growth hormones, tropisms, flowering, fruit development.

Au, Wi Qtrs. 4 cl. Prereq: 101 or 112 or Biology 114; 10 cr hrs in chemistry, or equiv with written permission of instructor.

**H436 Introductory Plant Physiology U 5**

Topics in plant physiology at the honors level: diffusion, transpiration, water stress, translocation, enzyme kinetics, photosynthesis, plant growth hormones, tropisms, flowering, fruit development.

Sp Qtr. 4 cl. Prereq: 112 or Biology 114; 10 cr hrs in chemistry, or equiv with written permission of instructor.

**H494 Group Studies in Plant Molecular Biology U 1-5**

Honors group studies; laboratory and classroom experience in cellular and molecular biology of plants.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**604 Research Methods in Plant Science**

2.5-hr cl, 2 3-hr labs. Prereq: 300 or 436, or Biology 114 or H&CS 300 or grad standing or permission of instructor. Not open to students with credit for these courses in H&CS or Plnt Pth. Cross-listed in Horticulture and Crop Science, and Plant Pathology.

**604.01 Whole Plant U G 4**

Introduction to scientific skills and modern research methods for the study of plants at the whole plant level.

Au Qtr.

**604.02 Cell and Tissue Level U G 4**

Introduction to scientific skills and modern research methods for the study of plants at the cell and tissue level.

Wi Qtr.

**604.03 Molecular Level U G 4**

Introduction to scientific skills and modern research methods for the study of plants at the molecular level.

Sp Qtr.

**622 Plant Molecular Biology U G 4**

An in-depth survey of molecular biology of plants with emphasis on current research projects.

Wi Qtr. 3 cl, 1 2-hr discussion. Prereq: Mol Gen 500 and Biochem 511; or Mol Gen 605; or permission of instructor. Not open to students with credit for Mol Gen 622 or 632. Cross-listed in Molecular Genetics.

**623 Plant Genetics and Genomics U G 4**

A survey and discussion of genetic systems and analytical tools in higher plants, including current genomic studies and genetic and physical mapping.

Sp Qtr. 3 cl, 1 2-hr recit. Prereq: Mol Gen 500 or 501 and Biochem 511; or Mol Gen 605; or permission of instructor.

**625 Plant Metabolic Engineering U G 3**

Plant metabolic engineering with particular emphasis on the emerging role of plants and cultured plant cells as bioreactors.

Sp Qtr. 2 cl, 1 2-hr recit. Prereq: 622 or Mol Gen 622, or 735, or 736, or Biochem 613; or permission of instructor.

**630 Plant Physiology U G 3**

Advanced study of plant physiology; solutions, diffusion, osmotic quantities, transpiration, absorption and translocation of water, protein metabolism, enzymes, and respiration.

Au Qtr. 3 cl. Prereq: 101 or 300 or Biology 114, Chem 242 or 252 or Biochem 511, or written permission of instructor.

**631 Plant Physiology U G 3**

Advanced study of plant physiology; pigments, photosynthesis, carbohydrate and fat metabolism, absorption of mineral salts, translocation of solutes, regulation of plant growth, and development.

Wi Qtr. 3 cl. Prereq: 101 or 300 or Biology 114, Chem 252 or Biochem 511, or written permission of instructor.

**643\* Plant Anatomy U G 5**

The structure, function, and development of cells, tissues, and organs of vascular plants.

Sp Qtr. 2 cl, 3 2-hr labs. Prereq: 101 or 300 or Biology 114, and 10 cr hrs in biological sciences; or permission of instructor.

**648\* Plant Cell Biology U G 4**

The structure and function of plant cells and their components in the context of eukaryotic cell biology.

Wi Qtr. 3 cl, 1 recit. Prereq: Some background in plant bio and/or cell biology. Students are encouraged to consult with instructor before enrolling.

**650 Biological Microtechnique U G 3**

Modern microscopic methods for various biological studies; topics include immunocytochemistry, in situ, hybridization, confocal microscopy and fluorescent microscopy.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: Biology 114 or H116, Plant Bio 300 or EEOB 410 or 415 or Mol Gen 607, or permission of instructor.

**693 Individual Studies U G 1-5**

Problems may be selected in the fields of physiology, development, cell biology, molecular biology, biochemistry, signal transduction, genetics, genomics, proteomics, and natural products.

Su, Au, Wi, Sp Qtrs. Prereq: 102 or 693 or Biology 114, and 15 additional cr hrs in biological sciences. Not more than 5 cr hrs may be counted toward an undergrad major in plant bio. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Group study of special topics in plant biology.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**722 Plant Transgenic Systems G 3**

Solutions to applied plant biotechnology problems are developed through the application of plant transgenic systems.

Sp Qtr. Prereq: 622 or 623 or 625 or permission of instructor.

**725 Circadian Biology U G 3**

Introduction to and discussion of the phenomenology and molecular mechanisms of the circadian timing system of five model systems.

Au Qtr. Prereq: 622 or Mol Gen 500 or 605 or equivs or permission of instructor.

**735 Plant Biochemistry I U G 3**

The biochemistry of plant chloroplasts and mitochondria: photosynthesis, carbohydrate metabolism, sulfate and nitrate reduction, chlorophyll and heme synthesis, chloroplast development, respiration, and mitochondrial development.

Au Qtr. 3 cl. Prereq: Biochem 511 or 614. Not open to students with credit for 631 prior to Wi Qtr 1988, or to students with credit for 635 prior to Wi Qtr 1995, or to students with credit for Biochem 735. Cross-listed in Biochemistry.

**736 Plant Biochemistry II U G 3**

The biochemistry of plants with emphasis on the synthesis and structure of cell walls, lipids, secondary compounds, phytohormones and nitrogen fixation.

Wi Qtr. 3 cl. Prereq: 735 or Biochem 735. Not open to students with credit for 631 prior to Wi Qtr 1988, or to students with credit for 635 prior to Wi Qtr 1995, or to students with credit for Biochem 736. Cross-listed in Biochemistry.

**741\* Reproductive Biology of Flowering Plants U G 3**

An advanced course on reproductive processes in flowering plants with emphasis on recent biochemical, molecular, and genetic approaches.

Sp Qtr. 3 cl. Prereq: 101 or 300 or H&CS 300 or Biology 114; and 15 additional cr hrs in biological sciences; or permission of instructor. Not open to students with credit for 641. Alternate years.

**H783 Honors Research U 3-5**

Problems may be selected in the fields of physiology, development, cell biology, molecular biology, biochemistry, signal transduction, genetics, genomics, proteomics, and natural products.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing, a grade of A in at least half of the plant bio courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. Failure to receive a mark of S in this course is a disqualification for graduation with distinction. This course is graded S/U.

**795 Special Topics in Plant Biology U G 1-3**

Lecture/discussion in a seminar format of publications, current research, or research techniques in plant biology.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 25 cr hrs in biological sciences at 200 level or above. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**796 Current Topics in Signal Transduction G 3**

A discussion of signal transduction mechanisms revealed in plant systems.

Sp Qtr. 2 1.5-hr cl. Prereq: Biochem 511 and Mol Gen 500, or equivs; or permission of instructor.

**800 Plant Biology Colloquium G 1**

Attendance at weekly seminars presented by outside speakers, faculty, and post-doctoral researchers; presentations will be on cutting edge research in cellular, developmental, and molecular biology in plant biotechnology.

Au, Wi, Sp Qtrs. 1 cl. Repeatable. This course is graded S/U.

**803 Seminar in Developmental and Regulatory Plant Biology G 1-3**

Discussion of advanced topics in developmental and regulatory plant biology. Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**833\* Advanced Plant Physiology: Growth G 3**

The physiology of growth; special attention given to the interrelated effects of plant hormones and environmental factors on the growth process in plants.

Sp Qtr. 3 cl. Prereq: Biochem 511, and 10 additional cr hrs in biological sciences; or permission of instructor.

**835\* Advanced Plant Physiology: Plant Reproduction and Development G 3**

Physiology of flowering, fruit and seed development, vegetative reproduction, dormancy, apical dominance, abscission, and senescence.

Sp Qtr. 3 cl. Prereq: 631 or equiv and Biochem 511.

**836 Mechanisms of Plant Development G 3**

Discussion of current research topics on the mechanisms of plant development, including such topics as genetic control and the role of biochemical and environmental signals.

Sp Qtr. 2 1.5-hr cl. Prereq: 436 or 622 or 631 and Mol Gen 500 or 622; or permission of instructor.

**890 Interdepartmental Seminar in Molecular, Cellular, and Developmental Biology G 2**

Students will present oral reports and lead discussion on research progress in specific areas of molecular, cellular, and developmental biology.

Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Given cooperatively by Microbiology, Molecular Genetics, and Plant Biology. This course is graded S/U.

**892 Interdepartmental Seminar in Plant Physiology G 1**

Students will present seminars on their research or related topics in plant physiology and/or attend seminars by local and visiting researchers.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Including cr hrs earned in Agronomy/Biochem/Fd Sc&Nu/Fd Sc&Te/H&CS/Hort 892. Cross-listed in Biochemistry, Food Science and Technology, and Horticulture and Crop Science. This course is graded S/U.

**998 Research in Plant Biology: Thesis G 1-18**

Research for master's thesis only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Plant Biology G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Plant Pathology

201 Kottman Hall, 2021 Coffey Road, 292-1375

### 201 Social Impact of Plant Diseases in Shaping Human Society U 3

Review of the interactions of plant pathogens and the social, economic, and historic consequences for civilization.

Au, Wi, Sp Qtrs. 1 3-hr cl. Available in web version. 201D is an entirely online distance learning class offered winter quarter.

### 294 Group Studies U 1-5

Special group studies of a selected area in plant pathology not provided in other courses.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 10 cr hrs.

### 300 Field and Woodland Fungi U 3

An introduction to common macrofungi in natural habitats with emphasis on identification and ecology.

Au Qtr. 2 3-hr lec/lab. Prereq: Biology 101 or 113 or Plnt Bio 101 or PCMB 101.

### 395 Plant Health Science Forum U 1

A seminar series for those interested in plant health science. Students will meet with professional plant health managers and take field trips. Professional development issues also covered.

Au, Sp Qtrs. 1 1-hr cl. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

### 401 General Plant Pathology U 5

An introduction to diseases of plants.

Au Qtr. 3 cl, 2 2-hr lab. Prereq: Biology 101 or 113 or H115 or PCMB 101 or Plnt Bio 101, Biology 114 recommended.

### 455 Bioterrorism: An Overview U 5

A broad awareness course on the bioterrorism threat to our food supply, crops, animal and public health, and bioterrorist organizations.

Wi Qtr. 2 2.5-hr cl. Prereq: Jr or sr standing. Not open to students with credit for Int Stds 455. Cross-listed in International Studies.

### 489 Internship Experiences in Plant Health Management U 1-5

Ten or more weeks of an individualized experiential learning opportunity designed to link theoretical classroom knowledge with practical field application.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 401. Open to plant health management majors and plant pathology minors. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

### 501 Diseases of Ornamentals U G 3

Biology and integrated control of important diseases of ornamental plants.

Sp Qtr. 2 2-hr cl. Not open to students with credit for 610.

### 597 Societal Issues: Pesticides, Alternatives, and the Environment U 5

Consideration of the political, ethical, and economic issues related to pesticide usage, atmospheric pollution, and release of genetically engineered organisms.

Au, Wi, Sp Qtrs. 2 2.5-hr cl. Prereq: Jr or sr standing. GEC/LAR course.

### 600 Introduction to Bacterial and Viral Pathogens of Plants

Au Qtr. 3 cl, 2 2-hr labs. Prereq: 401 or Micrbiol 521 or permission of instructor.

#### 600.01 Phytobacteriology U G 3

Taxonomy, biology, ecology, control and host-parasite interactions of bacteria that cause plant disease.

3 cl, 1 1-hr lab and 2 2-hr labs per week for 5 weeks. Prereq: 401 or Micrbiol 521 or permission. Taught during the first 5 weeks.

#### 600.02 Plant Virology U G 3

Introduction to the diversity, biology and life cycles of plant viruses.

3 cl, 1 1-hr lab and 2 2-hr labs per week for 5 weeks. Prereq: 401 or Micrbiol 521 or permission. Taught during the second 5 weeks.

### 602 Plant-Microbe Interactions U G 3

An introduction to pathogenesis, disease resistance and biological control at the cellular, molecular and biochemical level.

Sp Qtr. 2 2-hr cl. Prereq: 401, Biochem 511 or Micrbiol 509 or permission of instructor.

### 603 Plant Disease Management U G 5

Theory and practice of plant disease management; emphasis on integration of cultural, biological, chemical, and plant breeding techniques.

Sp Qtr. 3 2-hr cl. Prereq: 401; and sr standing in Crop Science, Landscape Hort, Turfgrass Science, Plnt Hlth Mgt, or Entomol; or permission of instructor. GEC course.

### 604 Research Methods in Plant Science

2.5-hr cl, 2 3-hr labs. Prereq: H&CS 300 or Plnt Bio 300 or PCMB 300 or Biology

114 or Plnt Bio 300 or 436 or grad standing or permission of instructor. Not open to students with credit for these courses in H&CS or Plnt Bio. Cross-listed in Horticulture and Crop Science, Plant Biology.

#### 604.01 Whole Plant U G 4

Introduction to scientific skills and modern research methods for the study of plants at the whole plant level.

Au Qtr.

#### 604.02 Cell and Tissue Level U G 4

Introduction to scientific skills and modern research methods for the study of plants at the cell and tissue level.

Wi Qtr.

#### 604.03 Molecular Level U G 4

Introduction to scientific skills and modern research methods for the study of plants at the molecular level.

Sp Qtr.

### 610 Diseases of Forest and Shade Trees U G 4

Major types of forest and shade tree diseases with emphasis on diagnosis, etiology, epidemiology, and control.

Au Qtr. 2 2-hr cl. Prereq: Plnt Pth 401. Not open to students with credit for 510.

### 612 Turfgrass Diseases U G 3

A detailed study of the diseases of turfgrass, factors influencing disease severity, specific measures for disease control.

Sp Qtr. 2 2-hr cl. Prereq: 401.

### 613 Integrated Turf Health and Pest Management U G 4

Identifying the most appropriate genetic, cultural, biological, and chemical programs for reducing pest damage.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: H&CS 422, 470, Entomol 462 or 460.01 and Plnt Pth 612.

### 615\*\* Fruit and Vegetable Crop Diseases U G 3

Major diseases of fruit and vegetable crops with emphasis on etiology, epidemiology and management.

Wi Qtr. 2 2-hr cl. Prereq: 401 or equiv. Not open to students with credit for 615.01.

### 636\*\* Plant Nematology U G 3

Bionomics and control of plant-parasitic nematodes.

Wi Qtr. 3 cl. Prereq: 401.

### 655 Quantitative Methods in Applied Biology U G 3

Review of quantitative methods used in biological research especially emphasizing practical application to agricultural and environmental sciences.

Au Qtr. 3 1-hr lectures. Prereq: Stat 528 or equiv. Not open to students with credit for Entomol 655. Cross-listed in Entomology. Recommended to graduate students beginning their research.

### 660 Mycology U G 5

An introduction to the study of fungi.

Wi Qtr. 2 2-hr lec/lab, 2 hrs lab work arr. Prereq: 300 or 401 or 601 or Biology 114 or permission of instructor. Not open to students with credit for Botany 660.

### H683 Honors Projects U 1-10

Conducting and reporting the honors project.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Agr H590.01, enrollment in honors program, and permission of honors project supervisor. Repeatable to a maximum of 10 cr hrs. Hours repeatable as H683 or in combination with 293, 593, H593, H599, 693, or H693. This course is graded S/U.

### 685 Diagnostic Field Plant Pathology U G 3

Study of traditional and modern diagnostic procedures for diagnosis of plant diseases; study of plant diseases in crop production systems.

Su Qtr. 10 days. Prereq: 401 or 615, and permission of instructor. Course will be held at Stone Labs along with tours of production areas in northern Ohio.

### 693 Individual Studies U G 1-5

Problems may be selected in the various areas of plant pathology.

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 cumulative pt-hr ratio and written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

### 694 Group Studies U G 2-3,5

Special group studies of a selected area in plant pathology not provided in other courses.

Su, Au, Wi, Sp Qtrs. Prereq: Sr or grad standing. Repeatable to a maximum of 10 cr hrs.

### 702\* Plant Disease Epidemiology U G 4

Study of the dynamics of plant diseases; statistical modeling of plant disease epidemics.

Wi Qtr. 2 2-hr cl. Prereq: 401, Stat 528, or permission of instructor.

**703 Agricultural Genomics: Principles and Applications U G 3**

Introduction to new developments in genomics and application in agriculture. Sp Qtr. 2 1.5-hr cl. Prereq: Mol Gen 500 or Biochem 613 or permission of instructor. New developments in agricultural genomics.

**704<sup>A</sup> Advanced Topics in Fungal Biology U G 4**

Advanced treatment of the nature, genetics, physiology, ecology, and importance of fungi in terrestrial ecosystems with an emphasis on plant pathogens.

Sp Qtr. 3 1-hr lec, 1 3-hr lab. Prereq: Plnt Pth 660 or equiv, or permission of instructor.

**830 Current Topics in Plant Pathology G 1-2**

Readings from the current literature will be examined in detail for both technical and conceptual content.

Su, Au, Wi, Sp Qtrs. 1 1-2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**832<sup>A\*</sup> Plant-Bacteria Interactions G 5**

Bacterial pathogens and symbionts affecting plant health and productivity; molecular, cellular, and environmental determinants of plant-microbe interactions and successful biological control.

Sp Qtr. 3 2-hr cl. Prereq: 600 or Micrbiol 520, Mol Gen 501 or Micrbiol 581, and Biochem 511; or permission of instructor. Not open to students with credit for Horticulture & Crop Science 832. Cross-listed in Horticulture & Crop Science.

**838<sup>A\*</sup> Plant Virology G 3**

Plant virus detection, identification, structure, purification, serology, replication, transmission, vector relationships, variability, nomenclature and classification, and virus disease symptoms, physiological effects, epidemiology, economic importance, and control.

Sp Qtr. 3 1-hr cl. Prereq: 600 or equiv, or permission of instructor.

**839<sup>A\*</sup> Plant Virology Laboratory G 2**

Experimental approach to plant virus detection and identification; structure, purification serology, replication, transmission, vector relationships, variability, nomenclature and classification, virus disease symptoms, physiological effects, and epidemiology.

Sp Qtr. 2 2-hr cl. Prereq or concur: 838, or permission of instructor.

**841<sup>\*</sup> Molecular Mechanisms of Pathogenicity G 4**

The molecular mechanisms used by viruses, bacteria and fungi to parasitize plants. The current status of these areas will be reviewed.

Au Qtr. 2 2-hr cl. Prereq: Biochem 511 or Micrbiol 509; or permission of instructor. Video-linked to OARDC, Wooster. Offered every other year.

**842<sup>\*</sup> Biochemistry of Plant Responses to Infection G 3**

Introduction to the molecular and genetic basis of plant responses to microbial infection and symbiosis.

Wi Qtr. 2 2-hr cl. Prereq: Biochem 511 and 521 or equivalents, one 600-level course in plant physiology or plant biochemistry, or written permission of instructor. Biochem 631 or Plnt Bio 630 or 631 recommended.

**843 Ecology of Plant-Associated Microbes G 5**

Review of microbial diversity and ecology as it relates to plants and plant health in natural and managed ecosystems.

Sp Qtr. 2 2-hr lec, 1 1-hr rec. Prereq: 602 or permission of instructor.

**901 Mentored Teaching in Plant Pathology G 1-5**

Students work with faculty mentors to gain intensive hands-on and mentored experiences focused on direct interactions with students and on the scholarly aspects of teaching.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing and completion of OSU FTAD University-wide Orientation on Teaching and Learning. Agr Educ 135 and Edu P&L 851. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**902 Mentored Extension/Outreach Teaching in Plant Pathology G 1-3**

Students work with mentors to gain experiences focused on direct interactions with growers/industry groups and the scholarly aspects of developing/delivering extension-outreach programs and educational materials.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**995 Seminar G 1**

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**101 Elementary Polish I**

Introduction to Polish; development of listening, reading, speaking, and writing skills.

Not open to students with credit for 101, or to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

Students must register for and complete 5 cr hrs during the qtr.

**102 Elementary Polish II**

Continued study of Polish; development of listening, reading, speaking, and writing skills.

Not open to students with credit for 102; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

Prereq: 101 or 101.01 or 5 cr hrs of 101.51 or permission of instructor. Students must register for and complete 5 cr hrs during the qtr.

**103 Intermediate Polish I**

Continued study of Polish; development of listening, reading, speaking, and writing skills.

Not open to students with credit for 103; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**103.01 Intermediate Polish U 5****104 Intermediate Polish II**

Readings, oral and written practice, and grammar review.

Not open to students with credit for 104; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**104.01 Intermediate Polish U 5****405 Polish Conversation and Composition**

Reading texts of moderate difficulty, conversation, and simple compositions.

Not open to native speakers of this language through regular course enrollment or EM credit.

**405.01 Classroom Track U 5****407 Polish Conversation and Composition**

Reading from modern Polish literature, practice in writing and speaking.

Not open to native speakers of this language through regular course enrollment or EM credit.

**407.01 Classroom Track U 5**

Prereq: Permission of instructor.

**409 Advanced Polish Conversation and Composition U 5**

Review of Polish grammar, written compositions, perfection of pronunciation, translation practice, and expansion of vocabulary.

Prereq: 407.01. Not open to native speakers of this language through regular course enrollment or EM credit.

**630 Polish Literature to 1900 U G 5**

Survey of Polish literature from its beginnings to 1900.

Prereq: 10 cr hrs in literature courses at the 200 level or above, or permission of instructor. Given in English, but students majoring in Slavic will do portions of the readings in the original.

**631 Polish Literature 1900 to Present U G 5**

Survey of Polish literature from 1900 to present.

Prereq: 10 cr hrs in literature courses at the 200 level or above, or permission of instructor. Given in English, but students majoring in Slavic will do portions of the readings in the original.

## Political Science

2140 Derby Hall, 154 North Oval Mall, 292-2880

General Prerequisites for Courses Numbered 600

Unless otherwise indicated, the prerequisites for 600-level courses are two courses in political science, or the consent of the instructor.

Enrollment in 700-level courses is limited to graduate students or others with written permission of the instructor only.

General Prerequisites for Courses Numbered 800 and 900

A general foundation in undergraduate courses in history and the social sciences is assumed. Any of the 800-level courses listed may be repeated provided that no student shall earn more than 10 hours of credit in any single course.

## Polish

400 Hagerty Hall, 1775 College Road, 292-6733



**100 Introduction to Comparative Politics U 5**

Introduction to modern nation-state in diverse institutional forms: problems of state- and nation-building, representation, conflict, and making of government policy in selected countries.

Au, Wi, Sp Qtrs. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci organizations and politics course.

**101 Introduction to American Politics U 5**

Introduction to American politics, the institutions and processes which create public policy, the strengths and weaknesses of the American political systems.

Su, Au, Wi, Sp Qtrs. 5 cl. H101 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 300. GEC soc sci organizations and politics course. SS Admis Cond course.

**110 Contemporary Public Policy Issues U 5**

Contemporary challenges to fulfilling the promise of American democracy, including such issues as poverty, discrimination, education, health, environment, and public participation.

Au, Wi Qtrs. 2 2-hr cl. Prereq: Enrollment is limited to students in the OSU Academy.

**145 The Politics of Global Problems U 5**

The politics of scarcity and security; concepts including power, national interest, cooperation, and expansion applied to global relations in energy, food, technology, and war.

Su, Au, Wi, Sp Qtrs. H145 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 105. GEC soc sci human, natural, and economic resources course.

**165 Introduction to Politics U 5**

Introduction to politics and political science: power, democracy and authoritarianism, political participation, the state, political institutions, subfields of the discipline, and political research methodology.

Su, Au, Wi, Sp Qtrs. 5 cl. H165 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci organizations and politics course. SS Admis Cond course.

**201 Introduction to Political Behavior U 5**

Focus on concepts such as attitude, role, and group and their application in such areas as voting behavior and political participation.

5 cl. H201 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci individuals and groups course. SS Admis Cond course.

**210 Introduction to Political Theory U 5**

An introduction to the field of political theory through classic and contemporary texts and selected case studies.

2 2-hr cl. H210 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci organizations and politics course. SS Admis Cond course.

**245 The United States in World Politics U 5**

The role of the United States in world politics since the Second World War, emphasizing structural change in economic and political-military relations.

Su, Au, Wi, Sp Qtrs. H245 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 215. GEC soc sci organizations and politics course. SS Admis Cond course.

**294 Group Studies**

Su, Au, Wi, Sp Qtrs. 5 cl.

**294.01 Group Studies U 1-5**

Repeatable to a maximum of 10 cr hrs.

**294.02 Group Studies U 1-5**

Repeatable to a maximum of 10 cr hrs.

**294.03 Group Studies U 1-5**

Repeatable to a maximum of 10 cr hrs.

**294.04 Group Studies U 1-5**

Repeatable to a maximum of 10 cr hrs.

**294.05 Group Studies U 1-5**

Repeatable to a maximum of 10 cr hrs.

**300 American Politics and Policy Making U 5**

An examination of American political institutions and the policy-making process.

5 cl. Not open to students with credit for 101.

**305 Introduction to Public Policy U 5**

Introduction to the workings of policy-making processes within governments, and the use of social science reasoning to evaluate and improve the content of policies.

5 cl.

**367 Second Writing Course**

GEC second writing course.

**367.01 Contemporary Issues in American Politics U 5**

Discussion of and critical writing about controversies in contemporary American politics; aimed at fostering analytical abilities in reading comprehension, oral, and written expression.

Au Qtr. 2 2-hr cl or 5 cl. H367.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 101 or 300 or permission of instructor, English 110 or 111, and soph standing.

**449^ Survey Research in Political Science U G 5**

The conducting of public opinion polls.

2 2-hr cl. Not open to students with credit for 581 or Comm 449. Crosslisted with Comm 449.

**489 Political Science Internship U 2**

Combines experience in political institutions or policy processes with analysis of that experience.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of dept. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**496 Study at a Domestic Institution U 1-15**

An opportunity for students to study at a domestic institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept. Repeatable to a maximum of 15 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as travel and subsistence costs.

**501 The American Presidency U G 5**

An examination of the American presidency, emphasizing the contemporary role of the president, the institutionalized presidency, and theories of presidential behavior.

5 cl.

**502 Campaign Politics U G 5**

The organization and strategy of American political campaigns; practical politics seen in the light of knowledge about political behavior and public opinion.

5 cl.

**503 Public Opinion U G 5**

Origins and nature of political attitudes; the content of public opinion; the public's influence on policy-making.

Wi Qtr. 5 cl. Not open to students with credit for 603.

**504 Black Politics U 5**

Economic, political, and social constraints on the development of black political power; the efforts made by black people in recent times to organize for effective political action.

5 cl. Not open to students with credit for AfAm&ASt 504. Cross-listed in African-American and African Studies.

**505 Urban Government U G 5**

Introduction to the governance of urban communities in the United States.

5 cl.

**506^ Ohio Politics U G 5**

Examination of state politics with special reference to Ohio.

5 cl.

**507 American State Politics U G 5**

Comparative analysis of politics in the American states.

5 cl. Prereq: 101 or 300 or permission of instructor. Not open to students with credit for 604.

**508 Asian American Politics U G 5**

An examination of the experiences of Asian Americans in the political process, including public opinion, mass political behavior, elite politics, and contemporary policy debates.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. GEC social diversity course.

**510 Bureaucracy and Public Policy U G 5**

An examination of bureaucracies as political institutions, and a consideration of their role in several areas of public policy implementation.

2 2-hr cl. Not open to students with credit for 610.

**511 Political Strategy, Public Policy, and the Private Sector U 5**

Explores the relationships between business and government, including topics ranging from regulatory politics and legislative lobbying, to trade politics and multinational corporations, to business ethics.

H511 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor.

**512\* Women and Politics U G 5**

An examination of women's participation in political activity, including changes over time in women's political roles and comparison with the roles of men.

5 cl.

**513 Women, Government, and Public Policy U G 5**

An examination of policymaking on gender-related issues and the impact of women in government.

Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for Wom Stds 513. Cross-listed in Women's Studies.

**514 Women and the Law U G 5**

An examination of the legal status of women and the ways in which law affects the situation of women in American society.

5 cl.

**515 The Politics of Legal Decision Making U G 5**

An examination of the literature relating social-science theories and research to the law, focusing on the criminal justice system.

Sp Qtr. 2 2-hr cl.

**516 Judicial Politics U G 5**

Analysis of the roles of judges and lawyers as participants in the American political process; analysis of courts as political institutions.

5 cl.

**517 Legislative Politics U G 5**

Analysis of legislatures and legislators, with a focus on the U.S. Congress and some attention to state legislatures and representative assemblies in other countries.

Au, Wi Qtrs. 5 cl. Prereq: 101 or 300 or permission of instructor. Not open to students with credit for 617.

**518 Gun Politics U G 5**

Examination of the arguments and issues surrounding gun control in the United States.

Wi Qtr. 2 2-hr cl. Not open to students with credit for 590.01 Wi 2006 or Wi 2007.

**519 Civil Liberties in the Courts U G 5**

An examination of civil liberties decisions by American courts, their legal and political bases, and their effects on government and society.

5 cl.

**520 The American Constitution and Governmental Powers U G 5**

Assessment of the contemporary realities of U.S. governmental authority as interpreted by the judiciary; emphasis on judicial review, case and controversy requirements, and legislative and executive power.

5 cl. Not open to students with credit for 694 Sp Qtr 1979 or Sp Qtr 1980.

**H521 Supreme Court Decision Making U 5**

Study of explanations for Supreme Court decisions; use of those explanations and independent research to predict justices' positions in current cases.

Au Qtr. 2 2-hr cl.

**526 The New Religious Politics U G 5**

Considers how religious beliefs and practices affect politics in a variety of countries: variation in "church-state" relations; religiously-based political divisions; democracy and religion.

Au, Wi, Sp Qtrs. 2 2-hr cl.

**528 Politics of European Integration U G 5**

A survey of the politics of European integration since the Second World War; topics include theories of political integration, institutions of the EU, its policies and decision making, common currency, and internal and external relations.

Not open to students with credit for 628.

**530 Politics of Post-Communist Societies in Eastern Europe U G 5**

Systematic comparison of the sources, dynamics, and outcomes of political, economic, and social transformations in the former Communist countries of Eastern Europe.

5 cl.

**H531 Seminar in Comparative Politics: Democracy in Muslim Majority Countries U 5**

A seminar on democracy in Muslim majority nations, concentrating on such issues as ethnicity, economic development, and colonialism and their effects on these countries' political development.

Prereq: Rank 3 or higher and enrollment in an honors program; or permission of instructor.

**532 Government and Politics of Southern Europe U G 5**

Survey of the emergence and distinguishing characteristics of stable democracies and modern societies in Italy, Spain, Portugal, and Greece.

Not open to students with credit for 627.02.

**533 Soviet and Post-Soviet Politics U G 5**

Survey of the politics of the successor states of the USSR with the emphasis on democratization, economic reform, institutional development, elites, mass behavior and ideology.

3 11/3-hr cl. Not open to students with credit for 630.

**534 Government and Politics of Northern Europe U G 5**

Survey of politics in selected countries of Northern Europe, including Britain, France, Germany, and the smaller European democracies; themes include social welfare, corporatism, parties, and party systems.

Not open to students with credit for 627.03. Repeatable to a maximum of 10 cr hrs.

**535 Government and Politics in Modern Democracies U G 5**

A survey of the basic institutions and politics of modern democracies, with emphasis on representativeness and democratic stability.

2 2-hr cl.

**536 Greater China: Politics of China, Hong Kong, and Taiwan U G 5**

An examination of contemporary politics in the People's Republic of China, Hong Kong, and Taiwan. Focus on the inter-relationships between these three entities.

Prereq: 537 or Chinese 231 or 232 or EALL 131 or 341 or History 132 or 345.02 or 547.03; or permission of instructor.

**537 Government and Politics of China U G 5**

A study of the contemporary political process of Communist China; considerable time will be spent on an analysis of recent political change in China and the process of revolution.

5 cl. Not open to students with credit for 637.

**539 Contemporary Politics of South Asia U G 5**

A survey of the politics of South Asia since 1947; topics include the development and consolidation of democracy, the role of social cleavages in politics, and economic development and reform.

**540 Latin American Government and Politics**

2 2-hr cl.

**540.01 Latin American Government and Politics: An Overview U G 5**

A study of political processes, institutions, and groups in Latin America, with emphasis on constitutional, geographical, social and economic environments in which they operate.

Not open to students with credit for 540.

**540.02 Special Topics in Latin American Politics U G 5**

Examination of contemporary political challenges confronting Latin America in the twenty-first century, including globalization, poverty, inequality and democratic consolidation.

Repeatable to a maximum of 10 cr hrs. Repeatable to a maximum of 10 cr hrs with permission of instructor.

**541 Politics of the Developing World U G 5**

A general introduction to the theoretical and substantive literature dealing with the historical development and contemporary characteristics of the new states of Asia and Africa.

5 cl.

**544 International Security and the Causes of War U G 5**

Examines various issues regarding international conflict and cooperation, including theories of strategic interaction and the causes of war.

**545 Foreign Policy Decision Making U G 5**

Examination of how political leaders make decisions, emphasizing such issues as leaders' reasoning processes and the impact of public opinion and foreign policy bureaucracies.

Au Qtr. 2 2-hr cl. Prereq: 245 or permission of instructor.

**546 Politics in the Middle East U G 5**

Politics of Arab-Israeli relations, Persian Gulf, Islamic fundamentalism, and oil; processes of change and their effects on governments and international relations.

Wi Qtr. 2 2-hr cl.

**547 Identity Politics U G 5**

Identity politics explores who controls the meaning of identity in society, examining identity from the perspective of liberal, sociological, and social psychological, structuralist, and institutionalist theories.

**550 Theories of International Relations U G 5**

Various theories of world politics, such as: realism, liberalism, long cycles, domestic and bureaucratic politics, and decision-making level theory.

Sp Qtr. 2 2-hr cl.

**551 The United Nations System in Global Problem Solving U G 5**

Activities and potential of the United Nations system in promoting economic well-being, environmental management, resource sharing, social justice, and control of violence.

5 cl.

**552 Security Policy During and After the Cold War U G 5**

An examination of national security and military policy issues and trends since 1945, covers containment, deterrence, Vietnam, nuclear weapons, terrorism, and globalization.  
Au Qtr.

**553 Political Analysis of International Economic Relations U G 5**

Examines the relationship between political and economic events in the international system; topics include global interdependence, inequality, scarce resources, periphery nation strategies.  
5 cl. H553 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 653 or 753.

**554 Comparative Economic Diplomacy U G 5**

A survey of foreign economic policies followed by European and other advanced industrial economies since the Napoleonic Wars, with a special emphasis on Britain, France, Germany, the United States, and Japan.

**555^ Soviet and Post-Soviet Foreign Policy U G 5**

Basic concepts about, and choices in Soviet and post-Soviet foreign policy; development and presentation of patterns of relations with key nations; major problems in future relationships.  
2 2-hr cl. Not open to students with credit for 655.

**556 Global Governance U G 5**

Examination of emergence and form of global governance, including questions of legitimization, democratization, and enforcement; as well as collective security humanitarian intervention, and proliferation.  
Au Qtr. 2 2-hr cl.

**559 International Environmental Politics U G 5**

Theories and debates over sustainable development, environment and security, and effectiveness of international regimes with a focus on international fisheries management and global climate change.  
Au, Wi, Sp Qtrs. 2 2-hr cl.

**H565 Power and Resistance U 5**

Focuses on both theoretical treatments of the concept of power and empirical studies of power relations.  
Sp Qtr. 2 2-hr cl. Prereq: Rank 3 or higher; enrollment in an honors program, or permission of instructor.

**H567 Politics and Ethics U 5**

Explores the relationship between ethical action and political reality, considering the problem of "dirty hands" in political theory and the conflicts among ethical frameworks that appear to give rise to it.  
Wi Qtr. 2 2-hr cl Prereq: Membership in an honors program or permission of instructor.

**568 Islamic Political Philosophy: The Traditional Eras U G 5**

Islamic political thinking at the time of the Prophet Muhammad, in the Islamic Golden Age, and at the beginning of the nationalist era.

**569 Islamic Political Philosophy: The Contemporary Era U G 5**

Islamic political thinking in the last half of the 20th century and emerging trends in the 21st century.

**571 Political Theories of Democracy U G 5**

An examination of theories of democracy, focusing on normative and descriptive dilemmas such as participation versus liberty in democratic societies.  
5 cl. Prereq: 210; or philosophy course work numbered 200 or higher; or grad standing; or permission of instructor.

**572 Political Theories of Justice U G 5**

Focuses on debates among political theorists about the meaning of justice; "What is justice?" and "How might we order our world justly?"  
Prereq: 210; or philosophy course work numbered 200 or higher; or permission of instructor.

**573 American Political Ideas U G 5**

An analysis of American ideas on law and government, authority and liberty, oligarchy and democracy.  
5 cl. Prereq: 210; or philosophy course work numbered 200 or higher; or grad standing; or permission of instructor.

**574 Political Participation and Voting Behavior U G 5**

A study of political participation and its correlates, determinants of the vote decision, and analysis of recent American elections.  
5 cl. Not open to students with credit for 674.

**575 American Political Parties U G 5**

Theories of political parties, party organization, individual voting behavior, nomination and electoral politics, the party in government.  
5 cl. Not open to students with credit for 675.

**576 Religion and American Politics U G 5**

Investigates relationship between politics and religion in America, considering historical context and influence of religion on political culture, coalitions and political behavior.  
Au, Wi, Sp Qtrs. 2 2-hr cl.

**579 Domestic Politics of International Conflict U G 5**

Examination of war and the impact of domestic politics on the decision; influence of domestic institutions and public opinion on leaders' ability/willingness to wage war.

**580 State and Economy U G 5**

Introduction to comparative political economy; relations between the state and the economy, politics and markets, and democracy and capitalism; the consequences of state intervention.  
Wi Qtr. 2 2-hr cl.

**585 Techniques of Political Analysis U 5**

Introduction to research design, nature of data, its generation and analysis; analysis of political variables.  
5 cl. H585 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 585: One course in polit sc at the 300 level or above. Prereq for H585: One course in polit sc at the 300 level or above, and Math 150. GEC data analysis course.

**586 Research Methods in Political Science U 5**

Research methods for a variety of political science applications, ranging from data presentation and analysis to legal research.  
Prereq: 585, Stat 135, or equiv.

**589 Student Internship in Politics and Public Policy U G 0-15**

Combines experience in political institutions or policy processes with analysis of that experience in light of relevant scholarly literature.  
Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**590 Topics in Political Science**

Selected issues and topics in American, international, or comparative politics, political theory or public policy; topics vary by section and instructor.

**590.01 Topics in Political Science U G 3-5**

Repeatable to a maximum of 10 cr hrs.

**590.02 Topics in Political Science U G 3-5**

Repeatable to a maximum of 10 cr hrs.

**590.03 Topics in Political Science U G 3-5**

Repeatable to a maximum of 10 cr hrs.

**590.04 Topics in Political Science U G 3-5**

Repeatable to a maximum of 10 cr hrs.

**590.05 Topics in Political Science U G 3-5**

Repeatable to a maximum of 10 cr hrs.

**593 Individual Studies U G 1-15**

Students will devote their time to special projects including papers, exams, and practical political experience.  
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**H596 Honors Seminar in Political Science**

Intensive study of selected political science topics and issues in seminar format; topics vary.  
Prereq: Enrollment in an honors program or permission of instructor.

**H596.01 Honors Seminar in Political Science U 3-5**

Repeatable to a maximum of 20 cr hrs.

**H596.02 Honors Seminar in Political Science U 3-5**

Repeatable to a maximum of 20 cr hrs.

**H596.03 Honors Seminar in Political Science U 3-5**

Repeatable to a maximum of 20 cr hrs.

**H596.04 Honors Seminar in Political Science U 3-5**

Repeatable to a maximum of 20 cr hrs.

**H596.05 Honors Seminar in Political Science U 3-5**

Repeatable to a maximum of 20 cr hrs.

**597 Issues of the Contemporary World**

Prereq: Jr or sr standing. GEC contemporary world courses.  
**597.01 Interdependence and Nationalism in World Politics U 5**  
An examination of the relationships industrialized countries have with each other and nations in the Third World; focus on the potential for cooperation and conflict.  
Sp Qtr. 3 11/3-hr cl or 2 2-hr cl or 5 cl. H597.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 350.

**597.02 Political Problems of the Contemporary World U 5**

Critical political problems of industrialized and Third World societies, including governmental legitimacy, conflict and violence, social welfare, equality, and economic development.

Au, Wi, Sp Qtrs. 5 cl. H597.02 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 325. E597.02 may be offered for honors embedded experience at the regional campuses.

**608\* Ethnic Politics in the American Cities U G 5**

Group conflict along ethnic lines in major American cities: factors contributing to group cohesion in politics; strategies and resources for exercising power through collective political action.

5 cl.

**609 The Mass Media and American Politics U G 5**

An overview of the influence of the mass media on contemporary American politics; primary focus on news media with consideration of entertainment programming.

Au Qtr. 2 2-hr cl.

**612 Political Leadership U G 5**

Establishment of a working definition of political leadership, investigation of recruitment of leaders, analysis of major functions political leaders perform, and assessment of consequences of political leadership.

Sp Qtr. 2 2-hr cl. Prereq: 100 or 101 or 300 or permission of instructor. Not open to students with credit for 510.

**614 Urban Politics U G 5**

The study of political problems facing the cities: including community power, poverty, welfare, urban renewal, urban education, law enforcement, and violence.

5 cl.

**627 Government and Politics in Europe**

2 2-hr cl.

**627.01 Government and Politics in Europe: An Overview U G 5**

An analysis of European politics, focusing on the political institutions of European democracies, and the emergence of the European Union.

Sp Qtr. Prereq: Two polit sc courses or permission of instructor.

**627.02 Government and Politics in Southern Europe U G 5**

An analysis of the emergence and distinguishing characteristics of stable democracies and modern societies in Italy, Spain, Portugal, and Greece.

Au Qtr. Prereq: 535 or 627.01, or permission of instructor.

**627.04 Government and Politics in Central and Eastern Europe U G 5**

A comparative analysis of political and social developments in the region since the end of Communism, and the establishment of democratic governments and market economies.

Au Qtr. Prereq: 535 or 627.01, or permission of instructor.

**628 Political Integration in Western Europe U G 5**

A study of the European Union including pooled sovereignty models of international cooperation, and political integration.

Wi Qtr. 2 2-hr cl.

**635^ Government and Politics of Japan U G 5**

The government and politics of Japan, with special emphasis being given to the impact of cultural and social patterns on the processes of government with imported political institutions.

5 cl.

**636 Southeast Asia U G 5**

Governments and politics of the Philippines, Indonesia, Indo-China, Malaysia, Thailand, and Burma; contemporary problems of this region in relation to world politics.

5 cl.

**670 Political Theory: Socrates to Machiavelli U G 5**

The study of major works by political theorists, including Plato, Aristotle, Cicero, Augustine, Aquinas, Machiavelli, and others, in ancient and medieval times.

5 cl. Prereq: 210 or 571 or 572 or 573; or philosophy course work numbered 300 or higher; or grad standing; or permission of instructor.

**671 Political Theory: Machiavelli to Hume U G 5**

The study of major works by political theorists, including Machiavelli, Hobbes, Locke, Rousseau, Hume, and others, from the Renaissance into the 18th century.

5 cl. Prereq: 210 or 571 or 572 or 573; or philosophy course work numbered 300 or higher; or grad standing; or permission of instructor.

**672 Political Theory: Hume to Marx U G 5**

The study of major works by political theorists, including Hume, Bentham, Kant, Hegel, Mill, Marx, and others, before and after the French Revolution.

5 cl. Prereq: 210 or 571 or 572 or 573; or philosophy course work numbered 300 or higher; or grad standing; or permission of instructor.

**673 Political Theory: 20th Century U G 5**

The study of major works by political theorists in the 20th century.

Su Qtr. 5 cl. Prereq: 210 or 571 or 572 or 573; or philosophy course work numbered 300 or higher; or grad standing; or permission of instructor.

**678 Political Decision-Making and Public Policy U G 5**

Comparative analysis of decision-making processes of contemporary nations considering the welfare, education, economic, and environmental policy arenas.

3 cl., 1 lab. Not open to students with credit for 578.

**679 Policy Analysis U G 5**

An analysis of the policy process emphasizing the determinants of public policy, theories of public choice, and the implementation, impact, and evaluation of policy decisions.

5 cl.

**680 Models of Politics U G 5**

An introduction of major approaches used in modelling politics, including social choice, game theory, and probability models.

Au Qtr. 5 cl.

**684 Introduction to Political Science Research Methods U G 5**

Introduction to political science research with emphasis on survey and experimental designs, data generation techniques, data processing, and computer utilization.

2 2-hr cl. Prereq: Grad standing in polit sc or permission of instructor.

**685 Methods of Quantitative Analysis: Elementary U G 5**

Explication, interpretation, and application of techniques for quantitative analysis of political data; descriptive and inferential statistics, with emphasis on bivariate analysis.

5 cl. Prereq: Grad standing in polit sc or permission of instructor.

**686 Methods of Quantitative Analysis: Intermediate U G 5**

Descriptive and inferential statistics with emphasis on multivariate analysis; additional topics offered as desired and possible: scaling, index construction, sampling, measurement reliability.

5 cl. Prereq: 685 and grad standing in polit sc, or permission of instructor.

**694 Contemporary Political Problems**

Prereq: Sr standing and 15 cr hrs in polit sc.

**694.01 Contemporary Political Problems U G 3-5**

Repeatable to a maximum of 30 cr hrs.

**694.02 Contemporary Political Problems U G 3-5**

Repeatable to a maximum of 30 cr hrs.

**694.03 Contemporary Political Problems U G 3-5**

Repeatable to a maximum of 30 cr hrs.

**694.04 Contemporary Political Problems U G 3-5**

Repeatable to a maximum of 30 cr hrs.

**694.05 Contemporary Political Problems U G 3-5**

Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**700^ Basic Theories in the Study of American Politics U G 5**

Examination of basic concepts and approaches; consideration of methodological and substantive problems encountered at various levels of analysis.

2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**701 Seminar on the American Presidency U G 5**

Examination of presidential research and analysis of literature on selected aspects of the presidency.

2 2-hr cl. Prereq: 501 or grad standing or permission of instructor. Not open to students with credit for 601.

**702 Questions on Surveys G 5**

Theories of the survey research response process and their implications for question wording and question order effects.

Wi Qtr. 2 2-hr cl.

**703\* Readings in Public Opinion U G 5**

Intensive analysis of literature on selected topics in public opinion.

2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**704 Readings in State and Local Politics U G 5**

Intensive review of selected aspects of the literature on state and local politics in the United States.

2 2-hr cl. Prereq: 604 or 614 or equiv; and grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**707 Race and Ethnicity in American Politics**

An examination of the role of race and ethnicity in American politics, including public opinion, political incorporation, electoral behavior, and minority representation.

Sp Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor.

**707.01 Seminar in Race and Ethnicity in American Politics U G 5**

Introduction to the central research areas and literature of the field of race and ethnicity in American politics.

Repeatable to a maximum of 10 cr hrs.

**707.02 Selected Topics in Race and Ethnicity in American Politics U G 5**

Intensive readings and discussions on selected topics in the study of race and ethnicity in American politics.

Repeatable to a maximum of 10 cr hrs.

**709 Seminar in American Politics U G 5**

Introduction to the central research areas and literature of the field of American politics.

Wi Qtr. 5 cl. Prereq: Grad standing in polit sc or permission of instructor. Not open to students with credit for this topic under 894.

**711 Organized Interest Groups G 5**

Roles and impact of interest groups in American politics, including formation, recruitment, and maintenance of organizations; grassroots mobilization; and lobbying in legislatures, courts, and bureaucracies.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing.

**712 Gender and American Politics U G 5**

An examination of the role of gender in American politics, including public opinion, electoral behavior, political institutions, and policy making.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**713 Political Communication U G 5**

A graduate-level examination of the role of communication in American politics, acquainting the student with the literature on political communication and stimulating ideas for original research in the field of political communication.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for J Com 713. Cross-listed in Journalism and Communication.

**715 Judicial Politics: Process and Policy Making U G 5**

Examination of the judicial process with emphasis on the work of trial courts and the roles of courts as policy makers.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**716\* Judicial Politics: Decision Making U G 5**

Examination of decision making in appellate courts.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**717 Readings in Legislative Politics and Policy-Making U G 5**

A theoretical-empirical analysis of the functioning and policy product of American legislatures; intensive reviews of selected aspects of the legislative literature to be conducted.

2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**725 Basic Theories in the Study of Comparative Politics U G 5**

Examination of such concepts and theories as structural-functional analysis; general systems theory; and sociocultural systems as determinants of governmental structures.

3 cl. Prereq: Grad standing or permission of instructor.

**726 Methods and Approaches in Comparative Politics G 5**

Overview of the various approaches, methods, and data used in comparative politics; discussion of the strengths and shortcomings of each approach.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**727 European Government and Politics**

Prereq: Grad standing or permission of instructor.

**727.01 Special Topics in European Politics U G 5**

Intensive examination of special topics in European politics and government.

Repeatable to a maximum of 10 cr hrs.

**727.02 Government and Politics of Southern Europe U G 5**

A comprehensive overview of government and politics in Greece, Italy, Portugal, and Spain.

**727.03 Government and Politics of Northern Europe U G 5**

A comprehensive overview of government and politics in the United Kingdom, Germany, France, and the smaller European democracies.

**727.04 The Politics of Central and Eastern Europe U G 5**

An examination of the transformation of East European societies since the end of the Communist era.

**730 Seminar in Soviet and Post-Soviet Politics G 5**

Introduction to the literature on Soviet politics; examination of theoretical and empirical analyses of socio-economic and political transformation in the Soviet successor states.

Wi Qtr. 2 2-hr cl.

**734\* Readings on Chinese Politics U G 5**

A seminar for the purpose of reading advanced scholarly materials on contemporary Chinese politics.

1 3-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**735 Comparative Political Economy G 5**

A graduate-level course designed to survey contemporary theories on the interaction between economic policies, domestic institutions, the international economy, and their consequences on the macroeconomy.

Wi Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Econ 735. Cross-listed in Economics.

**736 Seminar on East Asian Politics G 5**

An examination of approaches to the study of contemporary East Asian politics.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**737 Identity Politics U G 5**

Explores origins, reproduction, and effects of social identity from perspectives of self, group, society, and state. Includes examinations of nation, ethnicity, gender, and race in identity politics.

Wi Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor.

**739 Seminar on the Contemporary Politics of South Asia U G 5**

Examination of core theories in the study of South Asian politics. Topics include party and electoral politics, religious violence, economic development and reform, international conflict.

Prereq: Grad standing or permission of instructor.

**740\* Problems in Latin American Politics U G 5**

An advanced seminar devoted to a structured examination of the major theories, concepts, and approaches used in the analysis of Latin American politics.

1 3-hr cl. Prereq: 562 or 640; and grad standing or permission of instructor.

**741 Politics of the Developing World U G 5**

Theories, approaches, and methods in the analysis of political life in Asia, Africa, and Latin America; discussion of selected case and cross-national studies with theoretical importance.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**743 Peasant Politics U G 5**

Intensive study of selected aspects of peasant political behavior, with particular attention to non-institutionalized political participation and collective action.

Au Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor.

**744 Democratic Transitions U G 5**

Theoretical examination of the dynamics of the transition from authoritarian to democratic regimes, with special attention to Southern Europe and South America.

Au Qtr. 1 3-hr cl. Prereq: Grad standing or permission of instructor.

**745 Basic Theories in the Study of International Politics U G 5**

Examination of such basic concepts and theories as equilibrium models, balance of power, national interest, geopolitical configurations.

2 3-hr cl. Prereq: Grad standing or permission of instructor.

**746 Synthesizing International Politics Scholarship U G 5**

Synthesis of international politics research and writings, intended for advanced graduate students.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**747 Research Methods in International Politics U G 5**

Examines a number of research techniques and approaches common in international politics such as content analysis, simulation, mathematical modeling, and factor analysis.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**748 Social Theories of International Politics U G 5**

An examination of the main themes, debates, and social theories of world politics.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**750 Research on Cognition in International Politics U G 5**

Problem representation and research in cognition in international politics and foreign policy, including computational research, text analysis, and experimentation examining such cognition.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**751^ Conflict and Peace U G 5**

Sources and types of social conflict with special attention to international violence; causes of war, their avoidance and control.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**752 Security Policy for the Post-Cold War World U G 5**

Theories of conflict and war causation and an assessment of their durability in a new era of world politics.

Wi Qtr. 2 2-hr cl. Prereq: Any prior course work in international relations and permission of instructor; or grad standing.

**753 Theories of International Political Economy U G 5**

Contemporary literatures in international political economy; their ties to classical schools of thought in international relations and political economy; points of contention between them.

2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**756 Foreign Policy Design U G 5**

Problems of designing foreign policy including organizational, contextual, economic, and public opinion constraints; how to create an information retrieval system to aid decision-making.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**757 Comparative Foreign Policies U G 5**

Examines comparatively the sources and classes of behavior of territorial actors in the international political system.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**759 International Organization U G 5**

Comprehensive view of international governmental, non-governmental, and business organizations; their roles in solving problems such as poverty, war, pollution; particular attention to the U.N. system.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**760 Transnational Relations U G 5**

Comprehensive view of nongovernmental relations (trade, agriculture, science, religion, health, labor) between people in different nation-states with particular attention to opportunities for increased citizen control.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**761 Political Psychology and International Relations G 5**

A seminar introducing students to theories of international relations that employ psychological perspectives; cognitive world views and political identity, especially nationalism, receive special attention.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**763 Fundamental Concepts in Political Theory U G 5**

A graduate survey of the scope, concepts, and methods of political theory, examining important debates throughout political science through works of both canonical and contemporary thinkers.

Prereq: Grad standing or permission of instructor.

**765 Interpretation of Texts in Political Theory U G 5**

Approaches to interpretation of texts of political theory, contemporary as well as classic, grounded in study of selected texts.

2 2-hr cl. Prereq: Grad standing or permission of instructor.

**766 Selected Topics in Political Theory U G 5**

Intensive joint readings and discussions concentrating upon one of the major themes, problems, or movements in political theory; topic information available from instructor.

1 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**768 Contemporary Political Analysis U G 5**

An examination of theories and concepts used in modern qualitative political analysis, including attention to political economy and political institutions.

1 3-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**770 Institutions and International Political Economy U G 5**

Examines international political economy from the perspective of institutions and institutionalist theories in political science, economics and international relations.

Wi Qtr. 1 3-hr cl.

**773 International Security and Political Economy U G 5**

Examination of connections between economic growth/stagnation and interstate conflict, and the effect of economic ties upon cooperation and armed strife.

Prereq: Permission of instructor.

**774 Readings in Political Participation and Voting Behavior U G 5**

Intensive examination of literature on selected topics in the area of participation and voting behavior in the United States.

2 2-hr cl. Prereq: 674 or equiv, and grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**775^ Readings in American Political Parties U G 5**

Intensive study of literature on selected aspects of American political parties.

3 cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**776 Comparative Political Institutions U G 5**

Study of state building process, regime types, and contemporary governmental institutions from a broad cross-national perspective.

3 cl. Prereq: Grad standing or permission of instructor.

**777 Comparative Political Behavior U G 5**

A cross-national examination of political behavior, including such topics as socialization, participation, voting, elite behavior, mass-elite linkages.

3 cl. Prereq: Grad standing or permission of instructor.

**778 Comparative Political Parties and Interest Groups U G 5**

Comparative analysis of the nature and role of political parties and interest groups in contemporary societies.

3 cl. Prereq: Grad standing or permission of instructor.

**779 Readings on the Policy Process U G 5**

Consideration of the basic theories, concepts, and techniques used in policy analysis; the determinants of public policy; and the impact and evaluation of public policy.

2 2-hr cl. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**780 The Field of Political Economy G 5**

The modern field of political economy; the interaction of markets and politics as well as the use of the tools of economics to explain social behavior.

Wi Qtr. 2 2-hr cl. Not open to students with credit for Econ 780. Cross-listed in Economics.

**H783 Honors Research U 3-5**

Prereq: 4th yr standing and 40 cr hrs in social sciences, including 15 cr hrs in polit sc with a record of A in at least half of the polit sc courses and an average of B in the remainder; and permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 2 qtrs are required of candidates for the degree BA with distinction in polit sc. Failure to receive a mark of S in this course is a disqualification for special honors. A special topic is assigned to each student and results are tested by the requirement of papers and special examinations. This course is graded S/U.

**786\* Causal Analysis U G 5**

Analysis of causal models by Simon-Blalock techniques, recursive and nonrecursive path estimation; special topics include measurement error, standardization, and ordinal data.

2 2-hr cl. Prereq: 685, 686, and grad standing or permission of instructor.

**787\* Scaling and Dimensional Analysis in Political Science U G 5**

Topics include measurement and data theory, unfolding, proximity and dominance (Guttman) scaling, multidimensional scaling, and factor analysis.

2 2-hr cl. Prereq: 685, 686, and grad standing or permission of instructor.

**788^ Mathematical Theories of Politics U G 5**

Introduction to various major mathematical theories of political phenomena and the role of formal analysis in political science.

2 2-hr cl. Prereq: 790 or equiv, and grad standing or permission of instructor.

**789 Survey Research Practicum G 5**

Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.

Sp Qtr. 1 3-hr cl. Prereq: Admission to grad interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 789 in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Psych, Pub Hlth, PubPol&M, Sociol, and Stat. Cross-listed in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Psych, Pub Hlth, PubPol&M, Sociol, and Stat.

**790 Foundations of Political Science U G 5**

Introductory study of diverse efforts to ground knowledge of politics, positivist and post-positivist views of science, sources of formal rigor, and interpretation and evaluation.

2 2-hr cl or equiv. Prereq: Grad standing or permission of instructor.

**793 Individual Studies**

Individual studies in political science; student work is evaluated by papers and/or special examinations.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 50 cr hrs in any combination of decimal subdivisions, with not more than 20 cr hrs in a single subdivision.

**793.01 American Politics U G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**793.02 Comparative Politics U G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**793.03 International Politics U G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**793.04 Political Theory U G 1-5**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**793.05 Political Methodology U G 1-5**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**795 Teaching Political Science G 2**

Examination of issues in teaching political science in colleges and universities and preparation for teaching careers.

Wi Qtr. 1 2-hr cl. Prereq: Grad standing in polit sc. This course is graded S/U.

**800 Research Seminar in American Politics**

Repeatable hrs include hrs earned in 894.

**800.01 Design of Research in American Politics G 5**

Development of a research design on a selected topic in American politics; consultation on substantive and methodological problems offered by faculty.

Wi Qtr. 1 2-hr cl, arr time. Prereq: 45 cr hrs of graduate work in polit sc or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**800.02 Research in American Politics G 5**

Execution of a research design on a selected topic in American politics; consultation on substantive and methodological problems offered by faculty.

Sp Qtr. 1 2-hr cl, arr time. Prereq: 800.01 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**803<sup>A</sup> Research in Public Opinion G 5**

Development and execution of a research design focusing on a problem in American public opinion; consultation on substantive and methodological problems offered by instructor.

1 2-hr cl. Prereq: 702 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**805 Experimental Research in Political Psychology G 5**

Experimental methods appropriate for research in political psychology.

Wi Qtr. 2 2-hr cl. Prereq: 892 and grad standing; or permission of instructor.

**812 Seminar: Political Elites and Leadership G 5**

Advanced research seminar on political leadership behavior and political elite structure.

Sp Qtr. 2 2-hr cl.

**817<sup>A</sup> Research in Legislative Politics and Policy-Making G 5**

Development and execution of a research design focusing on a particular problem in American legislative research; consultation on substantive and methodological problems offered by instructor.

1 2-hr cl. Prereq: 717 or equiv. Repeatable to a maximum of 10 cr hrs.

**826 Research in Comparative Politics G 3-5**

Research seminar on various topics in comparative politics.

1 2-hr cl. Prereq: 2 polit sc courses in foreign governments at 600-level or above, or equiv. Repeatable to a maximum of 15 cr hrs.

**846 Research in International Politics G 3-5**

Research seminar in international politics.

1 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**848 Game Theory for International Relations G 5**

The refinement and application of game theory techniques in such areas as war, deterrence, cooperation, and institution building.

Wi Qtr. 2 2-hr cl. Prereq: 788 or permission of instructor.

**853 Advanced Research in International Political Economy G 5**

Advanced study and research in international political economy.

Wi Qtr. 1 3-hr cl. Prereq: 753 or permission of instructor.

**866 Research in Political Theory G 5**

Research seminar in political theory; intensive treatment of selected topics.

1 2-hr cl. Repeatable to a maximum of 10 cr hrs.

**867 Research in Mathematical Political Science G 5**

Design and examination of research focusing on a problem in mathematical

political science.

2 2-hr cl. Repeatable to a maximum of 10 cr hrs.

**874 Research in Mass Political Behavior G 5**

Development and execution of a research design focusing on a problem in electoral or public opinion research; consultation with instructor on substantive and methodological issues.

1 2-hr cl. Prereq: 703 or 774 or equiv. Repeatable to a maximum of 10 cr hrs.

**875<sup>A</sup> Research on American Political Parties G 5**

Development and execution of a research design focusing on a problem relating to American political parties; consultation on substantive and methodological problems offered by instructor.

1 2-hr cl. Repeatable to a maximum of 10 cr hrs.

**879 Research on Public Policy G 5**

Research into the process of policy making and the substance of public policy; consultation on substantive and methodological problems offered by instructor.

1 2-hr cl. Repeatable to a maximum of 15 cr hrs.

**892 Workshop G 1-5**

Intensive study of an area or problem in political science.

Arr cl. Repeatable to a maximum of 15 cr hrs.

**894 Group Studies: Contemporary Political Problems**

Group studies to examine specific contemporary political problems.

5 cl.

**894.01 Contemporary Political Problems G 5**

Repeatable to a maximum of 30 cr hrs.

**894.02 Contemporary Political Problems G 5**

Repeatable to a maximum of 30 cr hrs.

**894.03 Contemporary Political Problems G 5**

Repeatable to a maximum of 30 cr hrs.

**894.04 Contemporary Political Problems G 5**

Repeatable to a maximum of 30 cr hrs.

**894.05 Contemporary Political Problems G 5**

Repeatable to a maximum of 30 cr hrs.

**899 Interdepartmental Seminar G 1-5**

Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced.

Repeatable with permission.

**999 Research in Political Science G 1-18**

Research for thesis or dissertation purposes only.

Repeatable. This course is graded S/U.

## Portuguese

298 Hagerty Hall, 1775 College Road, 292-4958

Students studying foreign languages at the elementary and intermediate levels typically take the sequence of courses numbered 101-102-103-104 and then move on to advanced courses. Students with knowledge of Spanish, however, may choose the condensed introductory sequence 501-502 instead. Students who need to satisfy the Arts and Sciences foreign language requirement must demonstrate competence through the 104 level.

Information concerning course frequency and quarter(s) of offering, if not specified, may be obtained by contacting the department.

**101 Elementary Portuguese I**

Elements of Portuguese grammar, with oral and written exercises; attention to ear training, oral practices and customs.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

**101.01 Elementary Portuguese I, Classroom U 5**

Beginning Portuguese language course designed for classroom instruction.

Au Qtr. Not open to students with credit for 101.

**101.51 Elementary Portuguese I, Individualized U 1-5**

Beginning Portuguese language course designed for individualized instruction.

Not open to students with credit for 101, 102.40, or 501. Repeatable to a maximum of 5 cr hrs. Students may enroll for fewer than 5 credits and complete the course over more than one quarter. Students may enroll for a maximum of 5 cr hrs of Port I.I. in any given quarter.

**102 Elementary Portuguese II**

The elements of Portuguese grammar with abundant oral and written exercises; development of conversational skill; reading, vocabulary building.

Prereq: 101 or 101.01 or 5 cr 101.51. Not open to students with credit for 102; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Elementary Portuguese II, Classroom U 5**

Beginning Portuguese language course designed for classroom instruction.

Wi Qtr.

**102.51 Elementary Portuguese II, Individualized U 1-5**

Beginning Portuguese language course designed for individualized instruction.

Not open to students with credit for 102, 102.40, or 501. Repeatable to a maximum of 5 cr hrs. Students may enroll for fewer than 5 credits and complete the course over more than one quarter. Students may enroll for a maximum of 5 cr hrs of Port I.I. in any given quarter.

**103 Intermediate Portuguese I**

Continuation of Portuguese grammar; reading of short stories, plays, and novels; increased attention to development of oral proficiency.

Prereq: 102 or 102.01 or 5 cr 102.51 or 102.40 or 501. Not open to students with credit for 103, 502 or native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

**103.01 Intermediate Portuguese I, Classroom U 5**

Intermediate Portuguese language course designed for classroom instruction.

Wi Qtr.

**103.51 Intermediate Portuguese I, Individualized U 1-5**

Intermediate Portuguese language course designed for individualized instruction.

Repeatable to a maximum of 5 cr hrs. Students may enroll for fewer than 5 credits and complete the course over more than one quarter. Students may enroll for a maximum of 5 cr hrs of Port I.I. in any given quarter.

**104 Intermediate Portuguese II**

Reading of Portuguese plays, short stories, and novels; emphasis on oral practice; non-fiction of cultural and historical significance.

Prereq: 103 or 103.01 or 103.51. Not open to students with credit for 104, 502 or to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

**104.01 Intermediate Portuguese II, Classroom U 5**

Intermediate Portuguese language course designed for classroom instruction.

Sp Qtr.

**104.51 Intermediate Portuguese II, Individualized U 1-5**

Intermediate Portuguese language course designed for individualized instruction.

Repeatable to a maximum of 5 cr hrs. Students may enroll for fewer than 5 credits and complete the course over more than one quarter. Students may enroll for a maximum of 5 cr hrs of Port I.I. in any given quarter.

**330 Introduction to Brazilian Culture U 5**

Integrated, multidisciplinary overview of modern Brazilian culture in terms of its visual, plastic, musical, literary, dramatic, and popular arts within socio-economic and political context.

2 2-hr cl. Knowledge of Portuguese not needed. GEC arts and hums cultures and ideas course.

**395 Topics in Foreign Study U 1-15**

Credit from study abroad for courses not offered by department.

Su, Au, Wi, Sp Qtrs. Arr. Used only to convert 697 credit to more appropriate level. Repeatable to a maximum of 15 cr hrs. Arranged only with permission of Departmental study abroad adviser.

**401 Advanced Portuguese Grammar U 5**

Advanced review of Portuguese grammar.

2 2-hr cl. Prereq: 104 or 502 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit.

**402 Portuguese Reading and Listening U 5**

Development of students' reading and listening skills through newspapers, magazines, radio and TV stories and newscasts.

Prereq: 104 or 502 or permission of instructor. Not open to native speakers of this language through regular course enrolment or EM credit.

**403 Portuguese Conversation and Composition U 5**

Intensive practice in conversation and composition based on short stories written by lusophone authors with review of grammar.

2 2-hr cl. Prereq: 104 or 502 or permission of instructor. Not open to students with credit for 202.

**450 Introduction to the Study of Literatures and Cultures U 5**

Strategies for reading and extensive practice in analyzing literary and cultural texts from the Portuguese-speaking world.

Prereq: 401 or 402 or 403 or 502 or permission of instructor.

**501 Portuguese for Spanish Speakers I U G 5**

Rapid introduction to Portuguese language intended for students with at least intermediate-level Spanish skills.

Wi Qtr. 5 cl. Prereq: Spanish 104 or equiv. Not open to students with credit for 101, 102, 103, or 104.

**502 Portuguese for Spanish Speakers II U G 5**

Continuation of 501; Portuguese language for students with at least intermediate-level Spanish skills.

Su Term 2, Sp Qtr. 5 cl. Prereq: 501. Not open to students with credit for 101, 102, 103, or 104.

**510 Portuguese Translation U G 5**

Advanced practice in Portuguese-to-English translation based primarily on the contemporary written Portuguese of Brazil and Portugal; emphasis on formal grammar and style.

3 80-min cl. Prereq: 401 or permission of instructor.

**511 Advanced Portuguese Composition U G 5**

Analysis of prose style and practice in writing fluent Portuguese compositions.

Prereq: 104 or 502 or permission of instructor.

**551 Literature from the Middle Ages to Neoclassicism U G 5**

Overview of Portuguese and Brazilian literatures from the 12th to 18th centuries, with emphasis on representative authors and literary works.

2 2-hr cl. Prereq: 450, or 502 and grad standing, or permission of instructor.

**552 Literature from Romanticism to the Present U G 5**

Overview of Portuguese and Brazilian literatures from the 19th and 20th centuries, with emphasis on representative authors and literary works.

2 2-hr cl. Prereq: 450, or 502 and grad standing, or permission of instructor.

**560<sup>A</sup> Cultural Expressions of Portugal and Lusophone Africa U G 5**

The culture of Portugal and Portuguese Africa from their founding to the present through the study of selected Portuguese-language literature, news, and film.

2 2-hr cl. Prereq: 450, or 502 and grad standing, or permission of instructor.

**561<sup>A</sup> Cultural Expressions of Brazil U G 5**

Study of the development of Brazilian culture through its Portuguese language, literature, folklore, music, art, and film; special emphasis on contemporary issues.

2 2-hr cl. Prereq: 450 or 502 and grad standing or permission of instructor.

**595 Special Topics in Foreign Study U 1-15**

Credit from study abroad for courses not offered by department but eligible for Portuguese major core.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 401 or 502 or special permission. Used only to convert 697 credit to more appropriate level. Repeatable to a maximum of 15 cr hrs. Arranged only with permission of Departmental study abroad adviser.

**606 Business Culture and Communication in Portuguese U G 5**

Use of Portuguese in work- and business-related situations; development of oral and written language to be used in business.

2 2-hr cl. Prereq: 104 or 502 or permission of instructor.

**611<sup>A\*</sup> The Portuguese Language U G 5**

Phonetic transcription from tapes of major continental and Brazilian dialects; the phonological pattern of modern Portuguese; general characteristics of its historical evolution from Hispano-Romance.

4 cl, 1 lab hr. Prereq: 102 and jr standing, or permission of instructor.

**650\* Studies in Literatures and Cultures of the Portuguese-Speaking World U G 5**

Intensive exploration of a specific topic or problem; topic varies, for example: modern Brazilian novel, Luso-African literature, Portuguese poetry since 1974.

2 2-hr cl. Prereq: 450 and one 500 level literature and/or culture course or 502 and grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**693 Individual Studies U G 1-15**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-15**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.



**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**730 Studies in Portuguese Linguistics G 5**

Analysis of Portuguese morphology and phonology using contemporary linguistic framework; topic varies from year to year and may be historical or synchronic.

Wi Qtr. 2 2-hr cl. Prereq: Linguistics 601 or Spanish 730, and permission of instructor. Repeatable to a maximum of 10 cr hrs.

**750 Studies in Literatures and Cultures of the Portuguese-Speaking World U G 5**

Study of topics in the literature and culture of Brazil, Portugal, or Lusophone Africa.

Sp Qtr. 2 2-hr cl. Prereq: 401 or 502 and grad standing; or 2 of 551, 552, 560, or 561; or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**H783 Honors Research U 3-5**

A program of research for each student which includes individual conferences and which culminates in an honors thesis or oral defense.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC Honors Committee approval of project, a minimum 3.50 pt-hr ratio in the field of distinction, sr standing, and CPHR commensurate with honors program membership. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**893 Individual Studies G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies G 1-15**

Investigation of minor problems in the various fields of Portuguese literature and language.

Prereq: Written permission of instructor. Repeatable to a maximum of 30 cr hrs.

## Psychiatry

140 Neuropsychiatric Hospital, 1670 Upham Drive, 293-8282

**793 Individual Studies in Psychiatry P G 1-18**

A supervised, scholarly investigation of some aspects of psychiatry in which there is interest by the student and expertise by the faculty.

Su, Au, Wi, Sp Qtrs. Prereq: Adequate clinical training in psychiatry and permission of chairperson and instructor. Repeatable to a maximum of 18 cr hrs. 1, 2, or 3 months. This course is graded S/U.

**850 Seminars in Psychiatry**

1 cl. Prereq: Permission of chairperson and instructor.

**850.01 Clinical Psychiatry G 1-6**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**850.02 Group Therapy G 1-6**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**850.03 Psychotherapy G 1-6**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**850.04 Psychiatric Literature G 1-6**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**850.05 Child Psychiatry G 1-6**

Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**999 Psychiatry Research G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: MD and residency in psychiatry. Repeatable. This course is graded S/U.

## Psychology

Psychology Building, 1835 Neil Avenue, 292-6741

Information concerning frequency and quarter(s) of offering may be obtained by contacting the department.

**100 General Psychology U 5**

Introductory psychology, a prerequisite to advanced courses; the application of the scientific method to behavior; topics include learning, motivation, perception, personality, physiological basis of behavior.

Su, Au, Wi, Sp Qtrs. 5 cl. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. SS Admis Cond course. This course is available for EM credit. GEC soc sci individuals and groups course. GEC social diversity in US course. E100 may be available for honors embedded experience at the regional campuses.

**120 The Psychology of Academic and Personal Effectiveness U 3**

A survey of theories and practices designed to improve higher level skills in reading, perception, learning, and adjustments.

2 cl, 1 2-hr lab. Available at regional campuses only.

**294 Group Studies U 1-5**

Topics vary each quarter offered.

Prereq: 100 or concurrent enrollment in 100 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**300 Research in Psychology: An Introduction U 4**

An overview of issues, methods, and techniques of scientific psychological research.

Au, Wi, Sp Qtrs. Prereq: 100.

**301 Psychology of Extraordinary Beliefs U 5**

Considers beliefs in extraordinary phenomena through the application of the findings and principles of psychological science.

2 2-hr cl.

**302 Introduction to the Psychology of Listening and Reading U 4**

The recognition of spoken and written words will be traced from their registration by the senses to their storage in memory.

Prereq: 100 or permission of instructor.

**305 Drugs and Behavior U 4**

Introduction to the psychology of licit and illicit psychoactive drug use.

Wi Qtr. 2 2-hr cl. Prereq: 100. Not open to students with credit for Psych 597.01 or Psych 394 in SP03.

**309 Human Motor Control and Learning U 4**

Experimental analyses of the processes underlying the performance, learning and adaptation of movement skills.

2 1.5-hr cl; 1 1.5-hr lab/qtr, during 1 cl. Prereq: 300 or 220 or 320, or Stat 145, or permission of instructor.

**310 Basic Psychology: Perception U 4**

Theory, methods, and physiological correlates of sensory and perceptual processes; emphasis on the relation of behavior to stimulus variation.

Prereq: 100, and 220 or 320 or Stat 145 or 245.

**311 General Psychology: Motivation and Action U 3**

A behavioristic presentation of experimental work on learning and motivation.

Prereq: 100; prereq or concur: 220 or 320, or Stat 145 or 245. Available at regional campuses only.

**312 Learning, Memory, and Cognition U 4**

An introduction to experimental study of human memory, learning, and cognition.

Au, Wi, Sp Qtrs. Prereq: 100; and 220 or 320, or Stat 145 or 245.

**313 Behavioral Neuroscience U 5**

Introduction to the structure and function of the nervous system in relation to behavior.

Au, Wi, Sp Qtrs. 4 cl. Prereq: 300.

**320 Introduction to Data Analysis in Psychology U 5**

Introduction to statistical data analysis; random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab. Prereq: Math 130 or 148 or 150 or 151 or 152 or equiv. Not open to students with credit for Stat 245.

**H320 Introduction to Data Analysis in Psychology U 5**

Introduction to statistical data analysis; random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.

Au, Wi Qtrs. 2 1.5-hr cl. Prereq: Math 148 or 150 or 151 or 152 or equiv; and honors standing or permission of instructor. Not open to students with credit for Stat 245.

**321 Quantitative and Statistical Methods in Psychology U 4**

A concentrated examination of applications of statistical tools in inference in contemporary psychology; hypothesis testing, regression, correlation, and analysis of variance.

2 cl, 1 2-hr lab. Prereq: 100; and 220 or 320, or Stat 145 or 245. Not open to students with less than a grade of B in 220 or 320 or Stat 145 or 245.

**H321 Quantitative and Statistical Methods in Psychology U 5**

A concentrated examination of applications of statistical tools in inference in contemporary psychology; hypothesis testing, regression, correlation, and analysis of variance.

3 cl. Prereq: 100 or permission of instructor; 220 or 320, or Stat 145 or 245; and honors standing. Not open to students with less than a grade of B in 220 or 320 or Stat 245.

**325 Introduction to Social Psychology U 5**

An introduction to research in social psychology; topics include individual motivation, group behavior, attitudes, and perception of self and others.

Prereq: 100. Not open to students with credit for 367.01.

**H325 Introduction to Social Psychology U 5**

An in-depth, empirically based introduction to research in social psychology; topics include individual motivation, group behavior, attitudes, and perception of self and others.

Prereq: 100 and honors standing or permission of instructor. Not open to students with credit for 367.01.

**331 Abnormal Psychology U 5**

Examination of current theories and empirical findings regarding the major forms of psychopathology.

Su, Au, Wi, Sp Qtrs. E331 may be available for honors embedded experience at the regional campuses.

**H331 Abnormal Psychology U 5****333 Human Behavior Problems**

Overview of the psychology of human sexuality including the nature and variety of human sexual experience, theories and therapies regarding sexual issues.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 100.

**333.02 Sexual U 5****335 Psychology of Adjustment U 4**

Examination of psychological concepts and theories related to individual adjustment and adaptation.

Prereq: 100.

**340 Introduction to Life Span Developmental Psychology U 5**

A survey of developmental psychology including some phylogenetic perspective.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. E340 may be available for honors embedded experience at the regional campuses.

**H340 Introduction to Life Span Developmental Psychology U 5****350 Contemporary Issues in Developmental Psychology U 3**

A survey course acquainting students with issues resulting from the social changes of the past decade and from an increased interest in the life span.

Wi Qtr. 3 cl. Prereq: 100.

**367 Second Writing Course**

Au, Wi, Sp Qtrs. Prereq: 100, English 110 or 111 or equiv, and soph standing or above. GEC second writing course.

**367.01 Social Psychology U 5**

Survey of group processes as they affect individual behavior; topics include individual motivation, group behavior, attitudes, and perception of self and others.

Not open to students with credit for 325.

**371 Language and the Mind U 5**

Introduction to psychological processes for producing and understanding speech, the means by which these processes arise in the child, and their bases in the brain.

Au, Wi, Sp Qtrs. H371 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 100, or Linguist 201 or 202 or 601, or permission of instructor. Not open to students with credit for Linguist 271 or 371. Cross-listed in Linguistics. GEC soc sci individuals and groups course.

**375 Stereotyping and Prejudice U 4**

Lectures address experimental research in stereotyping and prejudice; readings focus on historical, cultural, and sociological perspectives on issues related to gender, ethnicity, and social class.

Prereq: 100. GEC social diversity course.

**376 Interpersonal Relationships U 5**

Surveys the scientific literature on interpersonal relationships, including family, friends, and romantic partnerships.

2 2-hr cl. Prereq: 100.

**389 Career Exploration in Psychology U 3**

Designed for psychology majors to explore career paths of interest, as well as facilitate vocational development and acquisition of career search skills.

Prereq: 100; psych majors only. Credit does not apply to hours in the psychology major. This course is graded S/U.

**394^ Group Studies U 1-5**

Undergraduate seminar; topics vary and will be announced.

Prereq: 100. Repeatable to a maximum of 10 cr hrs. Including cr hrs earned in 294.

**420 Psychology Applied to Sport U 5**

Psychological factors that influence sport participation and performance;

psychological techniques to enhance performance; psychological problems associated with sport.

2 2-hr cl. Prereq: 100.

**465 Cognition: Language and Memory U 4**

Explores cognitive processes of language comprehension and memory through readings, class discussion, and demonstration experiments.

2 2-hr cl. Prereq: Soph standing or higher.

**475 The Self U 5**

Survey of classic and contemporary theory and research on social psychological study of the self; diverse approaches, and various gender, ethnic, and cross-cultural perspectives.

Prereq: 325 or 367.01 or 375.

**485 Psychology and the Law U 4**

Contributions of psychological theories to the legal system and the role of mental health professionals in this system.

2 2-hr cl. Prereq: 100 or permission of instructor.

**489 Internship in Psychology U 4**

Provides psychology majors with an opportunity to intern in a professional setting to integrate academic knowledge with experience in the world of work.

Prereq: 100; psych majors only; jr or sr standing and permission of instructor.

**500 Experimental Psychology U 5**

An overview of experimental methodological techniques with experiments selected for cultural value; as preparation for technical study; and to represent paradigms used in human and animal research.

2 cl, 3 lab hrs. Prereq: 100; 220 or 320, or Stat 145 or 245; and 300; and English 110 or 111 or equivs with permission of instructor. Open only to psych majors. GEC third writing course.

**501 Advanced Behavioral Neuroscience U G 4**

Advanced discussion of contemporary issues in psychobiology, including: synaptic pharmacology, drugs, and behavior, neurodegenerative diseases and the biological bases of psychopathology.

Wi Qtr. Prereq: 313.

**503 Introduction to Cognitive Psychology U G 4**

A study of cognitive processes from an information processing perspective; including attention, memory, language representation, reasoning, problem solving, and others.

Prereq: 220 or 320 or 321, or Stat 145 or 245, and 310 or 312, or permission of instructor.

**505 Historical Development of Psychology U 5**

Development of psychology from the 19th century to present status as science and profession. Emphasis on contributions and lives of psychologists.

3 1.5-hr cl. Prereq: 100.

**508 Psychology of Judgment and Decision-Making U 5**

An overview of current models and empirical research on cognitive processes in human decision-making and judgment under risk or uncertainty.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab, field trips may be required. Prereq: 220 or 320, or Stat 145 or 245; or permission of instructor.

**H508 PSYCHOLOGY OF JUDGEMENT AND DECISION U 5****510 Research Methods in Cognitive Psychology U 5**

Issues in experimental design; laboratory experiments include topics such as memory, perception, and attention.

2 cl, 1 3-hr lab. Prereq: 100; 220 or 320, or Stat 145 or 245; and 300 and jr or sr standing. Open only to psych majors. GEC third writing course.

**511 Psychological Testing U G 4**

An overview of theoretical and practical aspects of the assessment and prediction of human behavior; topics include achievement, intelligence, personality, attitudes, interests, and interpersonal relations.

2 2-hr cl. Prereq: 100; 220 or 320 or 321 or Stat 145 or 245. Not open to students with credit for 597.02.

**H512 Human Memory and Cognition U 5**

Provides an overview of memory and cognition with a focus on simple memory models.

Prereq: Math 151 or equiv; enrollment in an honors program or by permission of instructor.

**513 Introduction to Cognitive Neuroscience U 4**

Examination of the neuroscientific approach to the study of cognition; primary focus on the psychobiology of memory, attention, language, and spatial orientation.

Prereq: 313 or permission of instructor.

**515 Psychology of Emotions U 5**

An examination of emotion focusing on how emotions are interconnected to other basic psychological processes such as cognition, motivation, decision making, and well-being.

2 2-hr cl. Prereq: 100 and 300.

**518 Attitudes: Structure, Function, and Consequences U G 4**

Survey of theory and evidence related to the structure and functional value of attitudes and their effects on information processing, judgments, and behavior.

Prereq: 325 or 367.01 or 375 or 376 or grad standing.

**520 Experimental Social Psychology U 5**

Training in experimental and qualitative methods in social psychology.

Au, Wi, Sp Qtrs. 2 cl, 4 lab hrs. Prereq: 100; 220 or 221 or 320 or Stat 145 or 245; 300 and 325 or 367.01 or permission of instructor. Open only to psych majors. GEC third writing course.

**521 Personnel Psychology U G 4**

Overview of theory, method, and practices of personnel psychology: job analysis, recruiting, personnel section, performance appraisal, and training.

Prereq: 100; 220 or 320, or Stat 145 or 245.

**522 Organizational Psychology U G 4**

Overview of theory, method, and practice of organizational psychology: motivation, job attitudes, leadership, groups, organizational design.

Prereq: 100; 220 or 320 or Stat 145 or 245.

**525 Psychology of Personal Security: Global and Local Perspectives U G 5**

Surveys the diverse psychological literature on personal security, a key ingredient in psychological well-being.

Wi Qtr. 2 cl. Prereq: 100.

**530 Psychology of Personality U G 4**

Major theoretical and research orientations in the study of personality; consideration of psychological processes involved in the attribution of personality characteristics.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 100.

**531 Health Psychology U 4**

Introduction to health psychology; health-promoting and health-damaging behaviors; modification of health behaviors; stress and coping; management of illness; stress management strategies.

Prereq: 100. Not open to students with credit for 531.03.

**532 Clinical Psychological Science U 5**

Surveys the scientific foundations of clinical psychological interventions and assessment techniques and considers their implications for the profession of clinical psychology.

Au, Sp Qtrs. 2 2.5-hr cl. Prereq: 331. Not open to students with credit for 332.

**539^ Stress, Social Support, and the Professional Helper U G 3**

Stress at work and elsewhere; emphasis on treatment through social support. Designed for health professionals, personnel workers, teachers, and related specialists in human services.

Prereq: 100. Not open to students with credit for 640. Available at Newark campus.

**540 Counseling Psychology: An Introduction U G 4**

Introduction to the theories, research, and practice of counseling psychology.

Su, Au, Wi, Sp Qtrs. Prereq: 100.

**543 Psychology of Women U G 5**

Exploration of the nature and causes of sex differences in behavior patterns and factors influencing development of women through psychological theory and research.

Prereq: 100.

**545 Cross- Cultural Psychology U G 4**

Introduction to cross-cultural theories and research in various specialties in psychology (e.g., social, developmental, and abnormal psychology).

Prereq: 100.

**550 Psychology of Childhood U G 4**

Presentation of psychological aspects of growth and development in early and middle childhood.

Su, Au, Wi, Sp Qtrs. Prereq: 100.

**H550 PSYCHOLOGY OF CHILDHOOD U G 4****551 Adolescence U G 5**

An examination of the biological, psychological, and social aspects of normal adolescent development.

Su, Au, Wi, Sp Qtrs. Prereq: 100.

**552 Psychology of the Adult Years U G 3**

Theory and research related to adulthood as a sequence of psychological stages involving adjustment and coping behaviors; relationship of adulthood to other life-span stages.

Prereq: 100.

**554 Language Development U 5**

A survey of children's language acquisition, including phonemes, words, morphology, and syntax. Roles for universal grammar, linguistic input, social interaction, and statistical learning are considered.

Au Qtr. 2 2-hr cl. Prereq: 100 or Linguist 201 or permission of instructor.

**555 Adolescent Sexuality U 5**

An examination of the psychological, biological, and social influences on adolescent sexuality.

Prereq: 100.

**560 Educational Psychology U G 3**

Critical appraisal of the implications for education of modern psychological findings in advanced educational psychology.

Prereq: 100. Available at Marion campus.

**571 Psychology of Developmental Disabilities U G 4**

Overview of developmental disabilities including causes, nature, and psychological characteristics; diagnosis and psychometric assessments; and behavioral, psycho-educational, and biological forms of prevention and intervention.

Arr 20-hr practicum at select off-campus sites involving active, hands-on experience. Prereq: 100 or permission of instructor.

**594 Group Studies U G 1-5**

Topics vary from quarter to quarter and will be announced at least one month in advance.

H594 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 100. Repeatable to a maximum of 10 cr hrs.

**597 Issues of the Contemporary World**

Arr. Prereq: Jr or sr standing. GEC contemporary world courses.

**597.01 Drugs, Behavior and Modern Society U 5**

An examination of drugs, their psychological and biological effects, and their widespread use (medicinal, recreational, ceremonial) and abuse in contemporary society.

2 2-hr cl, 1 hr recitation. Prereq: 100 and jr or sr standing or permission of instructor. Not open to students with credit for 305. At least one GEC natural science course is recommended.

**597.02 Testing in Modern Society U 5**

Addresses the history and role of testing, both standardized and otherwise, in the United States and across the globe.

2 2-hr cl. Prereq: Jr or sr standing. Not open to students with credit for 511.

**597.03 Aging, Health, and Psychological Functioning in the Modern World U 5**

Addresses primary psychological and physiological changes associated with aging, implications for aging in the modern world, and world perspectives on aging.

2 2-hr cl. Prereq: Jr or sr standing and 100 or permission of instructor.

**600 Psychology of Learning U G 5**

The study of principles which underlie the discovery, fixation, and retention of behavior; emphasis on theoretical formulation of the conditions necessary for learning and remembering.

Prereq: 100 and jr or sr standing.

**601 Comparative Psychology U G 5**

Research on animal behavior by psychologists and ethologists; studies of the behavior of different species in the lab and in the field.

2 2-hr cl. Prereq: 100 and an additional 15 cr hrs in psych or zoology, or permission of instructor.

**602^ Psychology of Listening and Reading U G 3**

Introductory survey of work on reading and the perception of speech; emphasis is on reading with a focus on the underlying perceptual and cognitive processes.

2 1.5-hr cl. Prereq: 100 or grad standing or permission of instructor.

**603 Visual Perception U G 3**

Principles, theories, and methods relevant to the study of visual perception; emphasis on the availability and usefulness of visual information.

Prereq: 310 or grad standing or permission of instructor.

**606 High-Level Vision U G 4**

Visual perception of solid shape, models of object recognition, perception of self-motion and of action.

Prereq: 310 or grad standing or permission of instructor.

**608^ Introduction to Mathematical Psychology U G 3**

Survey of current topics in mathematical psychology; topics include measurement theory, scaling, utility theory, subjective probability, decision making in uncertain situations, choice theory.

Prereq: 321 or equiv, or permission of instructor.

**609^ Introduction to Mathematical Models in Experimental Psychology U G 4**

A survey of mathematical models and theories in important areas of experimental psychology; models of perceptual and cognitive processes, memory, and learning.

Prereq: 321 and 608; or grad standing or permission of instructor.

**610^ Contemporary Mathematical Models and Theories in Psychology U G 4**

Topics include axiomatic, geometric, conjoint measurement, functional measurement, and artificial intelligence models.

Prereq: 321 and 608; or grad standing or permission of instructor.

**612 Introduction to Cognitive Science U G 3**

Cognitive science is an interdisciplinary study of the nature of human thought; psychological, philosophical, linguistic, and artificial intelligence approaches to knowledge representation.

Prereq: Permission of instructor or a total of 12 cr hrs from at least two of the following areas: cptr/inf, linguist, philos, and psych. Not open to students with credit for 794 (Sp Qtr 1989) or 794A (Wi Qtr 1990), Cptr/Inf 612, Linguist 612, Philos 612. Cross-listed in Computer and Information Science, Linguistics, and Philosophy.

**H613 Biological Bases of Psychopathology U G 4**

Provides a contemporary overview of the biological bases of several significant psychopathologies, including: mood disorders, schizophrenia, and PTSD/dissociative identity disorders.

Sp Qtr. Prereq: 501 or permission of instructor.

**615^ Psychology of Language U G 3**

An introduction to high-level language processing, including word recognition, sentence understanding, and discourse processing.

Prereq: Linguist 201 or 202 or 601 or permission of instructor.

**616^ Psychological Scaling U G 4**

Theory and applications of unidimensional and multidimensional scaling methods for proximity and preference data; emphasis on multidimensional scaling.

Prereq: 608 or grad standing.

**617 Neural Network Models in Psychology U G 4**

Basic principles of neural network modeling and their applications in perception, memory, and language.

1 2-hr cl, 1 2-hr cptr lab. Prereq: 321 and 608, or grad standing or permission of instructor. Course requires knowledge of calculus and matrix algebra.

**619^ Visual Information Processing U G 5**

Rapid visual decisions: how the visual representation is formed, stored, and interpreted, enabling one to read, drive, and look for and compare visual objects.

Prereq: 100 and an additional 7 cr hrs of psych beyond the 300 level (310 or 312 or 500 recommended).

**620 Human Performance U G 5**

Research and theory on perceptual, cognitive, and motor processes that limit performance; topics include memory, attention, pattern discrimination, motor control.

Prereq: 100 or grad standing or permission of instructor (310 or 312 or 500 recommended).

**623 Biological Clocks and Behavior U G 4**

Biological rhythms of animals and humans, including ultradian, daily, lunar, tidal and annual cycles; role of nervous and endocrine systems in relation to behavioral rhythms.

Prereq: 313 or permission of instructor.

**624 Psychology of Monkeys and Apes U G 5**

Research about monkeys and apes with emphasis on their learning, arts, memory, curiosity, language, and neuropsychological problems.

2 1.5-hr cl, 2 1-hr rec. Prereq: 100 or grad standing or permission of instructor.

**625 Introduction to Auditory Perception U G 3**

Theory and research in auditory perception; traditional psychoacoustic and new ecological approaches.

Prereq: 100; and 219 or 220 or 320, or Stat 145 or 245; and 310 or grad standing or permission of instructor.

**630\* Psychology of Public Attitudes U G 3**

Attitude organization and change; study of the determinants of attitude.

Prereq: 219 or 220 or 320 or Stat 145 or 245; and 325 or 367.01 or grad standing.

**632 Sensory Evaluation U G 4**

Fundamentals of sensory evaluation and the perception of taste, smell, and flavor. Emphasis on statistical interpretation and industrial application.

3 cl, 1 2-hr lab. Prereq: Stat 135 or 145 or 245 or AED Econ 205 or H&CS 260 or Anim Sci 260 or Agr Educ 387 or Nat Res 222 or Psych 320 and familiarity with Excel. Not open to students with credit for FdSc&Te 632. Cross-listed in Food Science and Technology.

**644 Hormones and Behavior U G 4**

Exploration of the interactions among hormones, brain, and behavior through an integrative approach.

Prereq: 313 or grad standing or permission of instructor.

**646\* Psychology of Asian Americans: Children, Youth, and Families U G 5**

Explores the role of culture in development and adaptation through examination of psychological theories and research concerning Asian American children, youth, and families.

2 2-hr cl. Prereq: 100 or grad standing or permission of instructor. GEC social diversity course.

**650 Psychobiology of Stress U G 4**

Explores the effects of stress on physiological and behavioral systems and processes in humans and non-human animals.

Au Qtr. 2 2-hr cl. Prereq: 313 or permission of instructor.

**662 Psychology of Creativity U G 3**

A critical examination of conceptual, theoretical, and methodological problems related to the systematic study of creativity; special attention to background factors related to creative behavior.

Su Qtr. Prereq: 100 or grad standing or permission of instructor.

**681 Development and Psychopathology U G 5**

Examines theories and research on psychopathology (e.g., autism) during infancy, childhood, and adolescence from a developmental-contextual perspective; emphasis on description, prevalence, etiology, prognosis, and assessment.

3 cl, 1 hr diagnostic team meeting. Prereq: 100 and 550 or permission of instructor.

**684 Psychology of Delinquency U G 5**

Characterization, risk and protective factors, and treatment; emphasis on current theories and research.

Prereq: 551 or permission of instructor.

**693 Individual Studies**

Individual reading or research projects by special agreement between instructor and student.

Su, Au, Wi, Sp Qtrs. Prereq: 300, an additional 9 cr hrs of psych, and permission of instructor. Repeatable to a maximum of 30 cr hrs for undergrads and to a maximum of 45 cr hrs for grads in any combination of decimal subdivisions. Maximum 6 credit hours may be applied to the undergraduate major in psychology.

**693.01 Clinical Psychology U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.02 Counseling Psychology U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.03 Developmental Psychology U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.04 Human Experimental Psychology U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.05 Industrial Psychology U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.06 Quantitative Psychology U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.07 Social Psychology U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.08 Psychobiology U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.09 Mental Retardation and Developmental Disabilities U G 1-15**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**695 Seminars in Psychology**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor; either 219 or 220 or 320, or Stat 145 or 245; and 17 cr hrs of psych course work above the 200 level; or grad standing. No more than 6 cr hrs in any combination of decimal subdivisions may be counted toward the undergrad major.

**695.01 Clinical U G 2-5**

Repeatable.

**695.02 Counseling U G 2-5**

Repeatable.

**695.03 Developmental U G 2-5**

Repeatable.

**695.04 Human Experimental U G 2-5**

Repeatable.

**695.06 Quantitative U G 2-5**

Repeatable.

**695.07 Social U G 2-5**

Repeatable.

**695.08 Psychobiology U G 1-5**

Repeatable.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 100 and written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**699 Undergraduate Research in Psychology U 1-15**

Supervised, collaborative research in psychology.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 100 and permission of instructor. Repeatable to a maximum of 15 cr hrs. No more than 6 hrs (together with Psych 693.0x and Psych 489) may be counted toward psychology major requirements. This course is graded S/U.

**708 Psychology of Judgment and Decision Making G 5**

Introductory graduate course in the psychology of judgment and decision making including applications to health, law, economics, environmental issues, and social, cognitive, and clinical psychology.

Au Qtr. 2-2-hr cl. Prereq: Concurrent enrollment in or completion of graduate-level course in statistical methods.

**717 Nisonger Center Courses in Mental Retardation and Developmental Disabilities**

Focus on interdisciplinary topics in mental retardation and developmental disabilities.

Prereq: Permission of instructor. Cross-listed in Allied Medicine, Education: Physical Activity and Educational Services, Human Development and Family Science, Human Nutrition, Nursing, Social Work, and Speech and Hearing Science.

**717.01 Family Systems: An Interdisciplinary Approach to Families of Handicapped Children U G 3**

Qualitative and quantitative approaches for resource and problem identification with families of handicapped children, effective parenting skills, strategies to follow at-risk families, and family intervention models.

Not open to students with credit for 717.01 in any of the cross-listed areas.

**717.02 The Interdisciplinary Team: Clinical and Administrative Issues U G 3**

Investigation and critical examination of function of interdisciplinary clinical and administrative teams in mental retardation and developmental disabilities.

Not open to students with credit for 717.02 in any of the cross-listed areas.

**717.03 Developmental Disabilities U G 3**

Focus on the most pertinent scientific and societal issues of developmental disabilities.

Not open to students with credit for 717.03 in any of the cross-listed areas.

**726 Introduction to Behavioral Neuroscience U G 5**

Team-taught seminar on selected topics from contemporary research areas in the field of behavior neuroscience.

Su Qtr. 3 hrs wk (2 1.5-hr cl). Prereq: Permission of instructor. Cross-listed in Neuroscience Graduate Studies Program.

**737 Proseminar in Cognitive Science U G 3**

An in-depth examination of the interdisciplinary field of cognitive science; emphasizes fundamental issues of each discipline, provides illustrations of representative research being conducted at OSU.

Prereq: Grad standing or permission of instructor. Cross-listed in CS&E Industrial Systems Engineering, Linguistics, Philosophy, and Speech and Hearing Science. Repeatable to a maximum of 4 cr hrs.

**H783 Honors Research**

A program of readings, conferences, and reports selected to aid the student in completing a senior honors thesis.

Au, Wi, Sp Qtrs. Prereq: Candidate for degree with distinction.

**H783.01 Honors Research U 3**

Repeatable to a maximum of 9 cr hrs.

**H783.02 Honors Research U 3**

Repeatable to a maximum of 9 cr hrs.

**H783.03 Honors Research U 3**

Repeatable to a maximum of 9 cr hrs.

**788^\* Laboratory in Attitude Measurement U G 3**

1 cl, 4 lab hrs. Prereq: Written permission of instructor.

**789 Survey Research Practicum G 5**

Hands-on applications for students interested in the planning, implementation,

and analysis of a scientific sample survey.

Prereq: Admission to grad interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 789 in AED Econ, Agr Educ, Bus-Mktg, Econ, Educ P&L, Geog, J Com, Polit Sc, Pub Hlth, PubPol&M, Sociol, or Stat. Cross-listed in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Polit Sc, Pub Hlth, PubPol&M, Sociol, and Stat.

**794 Group Studies U G 1-5**

The topics vary from quarter to quarter and will be announced at least one month in advance.

Prereq: 15 cr hrs in psych at the 500 level or above and permission of instructor.

**800 Advanced Experimental Laboratory G 3-15**

Advanced training in the experimental and quantitative methods in the several areas of general experimental psychology and comparative psychology.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**804 Topics in Advanced Comparative Psychology G 3**

Contemporary literature in comparative psychology; topics vary every quarter.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs.

**806 Survey of Behavioral Neuroscience I G 3**

The first in a three quarter sequence surveying the field of behavioral neuroscience. Covers basic neuroscience, with emphasis on normal and dysfunctional behavior.

3 cl.

**807 Survey of Behavioral Neuroscience II G 3**

Behavioral neuroscience of motivation and emotion. Topics include reward, pain and aversion, hunger and food intake, stress and anxiety, psychophysiology, psychoneuroimmunology, and clinical syndromes.

3 cl. Prereq: 806.

**808 Survey of Behavioral Neuroscience III G 3**

Behavioral neuroscience of cognition, learning, memory, and language. Topics include cognitive neurosciences and neuropsychology, cortical functions, consequences of brain damage, and the dementias.

3 cl. Prereq: 807.

**809 History and Systems of Psychology G 3**

Development of psychology from the philosophical antecedents to its present status as a science and a profession; assignments in original sources as far as possible.

Prereq: 16 cr hrs in psych.

**811 Seminar in Experimental Psychology G 2**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**814\* Psychological Issues in Knowledge Representation G 3**

Psychological approaches to how knowledge is represented by humans, including empirical and architectural constraints, format differences, generalization abilities, and development of representations.

1 2-hr cl, 1 hr arr.

**815\* Decision Processes G 4**

Introductory course in the application of statistical decision theory as a normative model and analytic technique in the experimental study of cognitive processes.

Prereq: Grad standing in psych, undergrad inferential statistics strongly recommended.

**816\* Human Performance Theory G 4**

Research and theory on the discrete and on the continuous cases of human information processing; topics include input processes, central processing functions, and output processes.

Prereq: 620 or written permission of instructor.

**819 Seminars in Industrial and Organizational Psychology**

Prereq: Permission of instructor.

**819.04 Theoretical Developments and Issues G 3**

Repeatable to a maximum of 15 cr hrs.

**820 Fundamentals of Factor Analysis G 4**

Basic Common Factor Model and its application in psychology; model, communality estimation, factor extraction, orthogonal and oblique rotation, factor scores, confirmatory factor analysis use of computer programs.

Prereq: Permission of instructor.

**821 Fundamentals of Item Response Theory G 4**

This course will introduce the basic concepts underlying item response theory and provide an overview of more advanced topics.

1 2.5-hr cl. Prereq: 828 or permission of instructor.

**824 Seminars in Psychological Measurement****824.01 Models for Psychophysics G 2-4**

Repeatable to a maximum of 10 cr hrs.

**824.02 Models for Measurement and Scaling G 2-4**

Repeatable to a maximum of 10 cr hrs.

**824.03 Models for Interpersonal Analysis G 2-4**

Repeatable to a maximum of 10 cr hrs.

**826 Statistics in Psychology G 4**

Basic concepts of descriptive and inferential statistics; includes estimation, hypothesis testing, and introductory treatment of analysis of variance, correlation and regression, and non-parametric techniques.

2 1.5-hr cl, 2 lab hrs. Prereq: 320, or Stat 145, or equiv and grad standing in psych, or permission of instructor.

**827 Analysis of Variance G 4**

Statistical inference in analysis of variance designs; basic concepts and procedures in one-way designs; factorial, repeated measures, randomized blocks, mixed models designs; procedures for planned and post hoc comparisons.

2 1.5-hr cl, 2 lab hrs. Prereq: 826 or equiv.

**828 Correlational Analysis G 4**

Correlation and regression techniques for quantitative and qualitative data analysis; simple linear regression and correlation, multiple linear regression, nominal scales, interactions; other related multivariate methods; use of computer programs.

2 1.5-hr cl, 2 lab hrs. Prereq: 827 or equiv.

**830 Covariance Structure Models G 4**

Theory and methods of testing models of covariance structures; general mathematical model, identification, parameter estimation, goodness of fit, model modification, and the use of computer programs such as LISREL.

Prereq: 820 and 828, or permission of instructor.

**831 Seminars in Psychological Statistics**

Prereq: Permission of instructor.

**831.01 Analysis of Variance G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.02 Experimental Design G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.03 Factor Analysis G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.04 Mathematical Models and Theory G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.05 Non-Parametric Statistics G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.06 Quasi-Experimental Design G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.07 Advanced Multivariate Analysis G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.08 Current Practices and Trends G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.09 Computer Simulation Research G 1-5**

Repeatable to a maximum of 40 cr hrs.

**831.10 Special Topics G 1-5**

Repeatable to a maximum of 40 cr hrs.

**832 Sociomoral Development G 4**

Focus upon recent work stemming from Piagetian and Eriksonian approaches; relation of specific theoretical perspectives to current issues and findings emphasized.

**834 Psychology of Infancy G 3**

Psychological development during the first four years of life with particular reference to neonatal period and research methodology in studies involving infants.

**835 Child Development G 3**

Major developmental aspects of childhood; review of theory, methodology, research studies, and historical and contemporary writing about children; consideration of interdisciplinary approaches.

**836 Adolescence G 3**

Comprehensive view of adolescence as a stage in human development; theory, methodology, research and application to family, school and community; relation to other developmental stages.

Not open to students with credit for 836.01.

**837 Maturity and Aging G 3**

Psychology of adulthood and aging; social and intimate interactions; problems of coping; normative episodes; stress; cognitive functioning and influence of contexts.

Not open to students with credit for 836.02.

**840 Practicum in Developmental Psychology G 3-9**

Observation of children in a representative variety of clinical settings with particular reference to developmental phenomena of growth and behavior; application of research, diagnostic and intervention methodology.

1 cl, lab hrs. Prereq: 2nd yr grad standing in psych and permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**841 Current Issues in Developmental Psychology G 3**

An examination of current issues in developmental psychology, especially fundamental questions, controversies and application. Topics vary year-to-year.

1 3-hr cl. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**842 Seminar in Developmental Psychology**

Prereq: Permission of instructor. Selected topics.

**842.01 Current Theoretical Issues G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.02 Development of Dimensions of Cognitive Differences G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.03 Development of Social Cognition G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.04 Cultural Influences on Human Development: Ethnic Minority Children and Adolescence G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.05 Social Development During Adolescence G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.06 Development of Creative Behavior G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.07 Deviant Behavior in Childhood and Adolescence G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.08 Aging and Senescence G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.09 The Development of the Self Concept G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**842.11 Development of Language: Deafness and Communication Disorders G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**843 Theories of Human Development**

Comparative presentation of significant major historical and modern developmental theories with specific evaluation of their relevance in the formulation of a comprehensive psychological theory.

**843.02 Cognitive, Organic, and Structural Theories G 3**

Sp Qtr.

**844 Psychopathology of Childhood**

A study of psychopathological conditions of childhood, such as autism, schizophrenia, neurosis, acting out, and behavior problems from a developmental point of view.

Prereq: Permission of instructor.

**844.01 Concepts G 3****845 Cognitive Development G 3**

Intensive survey of theory and research in cognitive development, including development of perception, language, memory, concepts, reasoning, academic skills, and social cognition.

Sp Qtr. 1 3-hr cl.

**846 Current Issues in Cognitive Development G 3**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**847 Language Development G 3**

Survey of language acquisition, including phonemes, words, morphology, syntax. Considers universal grammar, linguistic input, social interaction, and statistical learning. Training in use of CHILDES database.

Wi Qtr. 1 3-hr cl. Prereq: Grad standing.

**849 Research Methods in Developmental Psychology G 3**

A critical survey and evaluation of concepts and techniques in study of developmental psychology.

3 cl. Not open to students with credit for 822.

**851 Seminar on the Teaching of Psychology G 3**

Designed for first-time teachers of psychology; theory, philosophy, ethics, research, course planning and delivery, and practical strategies to promote teaching excellence.

Prereq: Grad standing in psych.

**852 Practicum on the Teaching of Psychology G 4**

Lecture preparation, micro-teaching and other practice, assessment and feedback, organization of effective discussions and use of electronic media.

Prereq: Grad standing in psych.

**854 Issues in Adult Psychopathology G 4**

To survey the phenomena of psychopathology in adults and become familiar with the present diagnostic system used by the majority of mental health professionals.

Prereq: Permission of instructor.

**856 Child Behavior Assessment and Therapy G 3**

Assessment and treatment approaches for child behavior.

Prereq: Permission of instructor.

**859 Seminars in the Psychology of Exceptional Children and Adults G 3**

Advanced topics in research strategies and methodology; specialized topics on the growing edge of the psychology of exceptional children and adults.

Prereq: Written permission of instructor. Repeatable to a maximum of 12 cr hrs.

**860 Theories of Personality G 3**

A critical consideration of the theories of personality structure psychology.

Prereq: Advanced work in personality and social psych and permission of instructor.

**861 Research Design and Methods in Clinical Psychology G 3**

Introduction to the theory and use of clinical methods in psychology, designed for first-year graduate students in clinical psychology.

Prereq: Permission of instructor. Open only to clinical psych grad students. Repeatable to a maximum of 6 cr hrs.

**862 Positive Psychology G 3**

Introduction to the field of positive psychology. Topics include positive affect, subjective well-being, optimism, psychological strengths, emotional intelligence, compassion, humor, and spirituality.

Sp Qtr. 1 2.5-hr cl.

**864 Psychological Appraisal**

Concepts and procedures for appraising human behavior.

Prereq: Permission of instructor. Courses (except 864.01) ordinarily involve both classroom and practicum experiences.

**864.01 Lecture G 3**

Theories and methods of psychological appraisal; integration of different theories and approaches.

**864.06\* Special Topics G 1-4**

Repeatable to a maximum of 8 cr hrs.

**865 Introduction to Clinical Psychology G 3**

Overview of clinical interviewing skills, theory and application of a cognitive-behavioral orientation to psychotherapy and ethical issues in clinical psychology.

1 2.5-hr cl. Prereq: Admission to psychology's clinical doctoral program.

**866 Interventions with Individuals**

Concepts and practices of various interventions into the troubled behavior of individuals.

1-5 cl and/or 2-10 lab hrs. Prereq: Permission of instructor. Courses ordinarily involve both classroom and practicum experience.

**866.02 Behavior Modification G 1-5**

Repeatable to a maximum of 15 cr hrs.

**868 Systematic Theory in Social Psychology G 3**

Survey of major classic and contemporary theories in social psychology and discussion of the role of theory in scientific endeavor.

Prereq: Permission of instructor. Not open to students with credit for this topic under 873.

**870 Advanced Social Psychology G 3**

Survey of research and theory in experimental social psychology; covers attitudes, social cognition, group processes, and related topics.

Prereq: Grad standing.

**871 Survey of Social Psychology****871.01 Social Cognition G 3**

Introduction to the cognitive underpinnings of social behavior.

Prereq: Grad standing in psych or 870 or permission of instructor.

**871.02 Social Motivation G 3**

Survey of research on motivational underpinnings of social behavior.

Prereq: Grad standing in psych or 870 or permission of instructor.

**872 Social Psychology Laboratory G 3**

Advanced training in methods and data collection in the areas of social psychology, laboratory, and field experience.

2 cl, 1 lab hr. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs.

**873 Seminar in Social Psychology**

Prereq: 870 or 875 or permission of instructor. Most decimals offered every

other year.

**873.01 Contemporary Attitude Theory and Research G 3,5**

Repeatable to a maximum of 18 cr hrs.

**873.02 Social Behavior and Personality G 3,5**

Repeatable to a maximum of 18 cr hrs.

**873.03 Attribution Theory Research G 3,5**

Repeatable to a maximum of 18 cr hrs.

**873.04 Social Cognition G 3,5**

Repeatable to a maximum of 18 cr hrs.

**873.05 Current Research Trends G 3,5**

Repeatable to a maximum of 18 cr hrs.

**873.06 Group Processes G 3,5**

Repeatable to a maximum of 18 cr hrs.

**873.07 The Self G 3,5**

Repeatable to a maximum of 18 cr hrs.

**874 Brain and Cognition G 4**

Cognitive processes in perception, attention, memory, and language are examined from information processing and neuropsychological perspectives; emphasizes how cognition arises in the brain.

Prereq: 20 cr hrs in psych or permission of instructor.

**875 Practicum in Social Psychology**

Survey and supervised experience in using the technique and research designs of social psychology.

2 cl, 2 lab hrs. Prereq: Permission of instructor.

**875.01 Practicum in Social Psychology I G 3**

Au Qtr. Repeatable to a maximum of 18 cr hrs.

**875.02 Practicum in Social Psychology II G 3**

Wi Qtr. Repeatable to a maximum of 18 cr hrs.

**875.03 Practicum in Social Psychology III G 3**

Sp Qtr. Repeatable to a maximum of 18 cr hrs.

**876 Research Methods in Social Psychology**

Laboratory research, field research, research writing, and criticism.

Prereq: Permission of instructor.

**876.01\* Research Methods in Social Psychology I G 3**

Introduction to methods in experimental social psychology; focus on laboratory-based procedures and on problems and issues of scientific inference.

Prereq: 875 or permission of instructor.

**876.02\* Research Methods in Social Psychology II G 3**

Introduction to quasi-experimental methods; focus on problems and issues in conducting non-laboratory and field research.

**876.03 Research Methods in Social Psychology III G 3**

Introduction to research writing and critique; focus on preparation of reviews of theoretical and empirical papers.

**877 Human Learning I: Learning G 4**

Introductory survey of the theoretical and empirical issues in human learning; emphasis on the analysis of learning tasks and the conditions under which learning occurs.

**878 Human Learning II: Memory G 4**

Theoretical issues and experimental research on the topic of human memory.

**879 Human Learning III: Cognitive Processes G 4**

Theoretical and experimental research in several areas of cognition including concept learning, problem solving, and reasoning.

2 1.5-hr cl. At least 10 cr hrs of undergrad psych course work.

**887 Seminar in Counseling Psychology**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor.

**887.01 Counseling Older Adults G 3**

Repeatable to a maximum of 30 cr hrs.

**887.02 Tests and Assessment in Counseling G 3**

Repeatable to a maximum of 30 cr hrs.

**887.03 Ethics and Professional Issues G 3**

Repeatable to a maximum of 30 cr hrs.

**887.04 Cognitive Approaches to Counseling G 3**

Repeatable to a maximum of 30 cr hrs.

**887.05 Counseling Women G 3**

Repeatable to a maximum of 30 cr hrs.

**887.06 Psychological Assessment in a VA Hospital Setting G 3**

Repeatable to a maximum of 30 cr hrs.

**887.07 Existential and Phenomenological Approaches to Counseling G 3**

Repeatable to a maximum of 30 cr hrs.

**887.08 Foundations of Multicultural Counseling and Therapy G 5**

Repeatable to a maximum of 30 cr hrs.

**887.09 Counseling Supervision G 3**

Repeatable to a maximum of 30 cr hrs.

**887.10 Adult Career Development Problems G 3**

Repeatable to a maximum of 30 cr hrs.

**887.11 Special Topics G 3**

Repeatable to a maximum of 30 cr hrs.

**889 Practicum in Clinical Psychology G 1-30**

Supervised practice in psychological assessment and intervention in the department's psychoeducational clinic.

Su, Au, Wi, Sp Qtrs. 1-2 client contact hrs; 1-2 supervision hrs. Prereq: Permission of instructor. Open only to students in clinical psychology. Repeatable to a maximum of 30 cr hrs.

**892 Workshop G 1-15**

Intensive study of an area or problem in psychology.

Arr. Prereq: Vary with topic offered Repeatable to a maximum of 15 cr hrs.

A-- 4 wk Summer Institute in Political Psychology: Theory. 5 cr hrs. Not open to students with credit for this topic under Polit Sc 892. Cross-listed in Political Science.

B-- 4 wk Summer Institute In Political Psychology: Methods. 5 cr hrs. Not open to students with credit for this topic under Polit Sc 892. Cross-listed in Political Science.

**913 Cognitive Neuroscience G 3**

Neuronal mechanisms of information processing.

Prereq: 806 and 807, or permission of instructor.

**980 Supervised Field Experience in Psychology G 1-15**

Supervised experience, either research or operational, in any agency doing professional psychological work such as a school system, a psychological clinic, an industrial personnel department, or a counseling center.

Su, Au, Wi, Sp Qtrs. Prereq: Psych 2nd yr standing and approval of local staff of area in which student is specializing. Supervised by member of local staff and some member of the outside agency approved by the Dept of Psychology. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**989 Internship in Psychology G 0-15**

Full-time supervised training in an approved predoctoral internship agency; supervision and directed experiences coordinated by student's adviser, program training director, and internship training director.

Su, Au, Wi, Sp Qtrs. Arr. cl. Prereq: Limited to PhD candidates in counseling and clinical psych. Repeatable to a maximum of 60 cr hrs. This course is graded S/U.

**999 Research in Psychology G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Public Health

M-106 Starling-Loving Hall, 320 West 10th Avenue, 293-3907

**400 Introduction to Public Health U 4**

Introduction to the principles and practice of public health, including the history and organization of public health services; survey of fields of professional practice in public health.

Au Qtr. 2 2-hr cl.

**685 Field Experience in Public Health G 1-8**

Placement in a public health agency or related site for supervised practice experience.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in MPH program and permission of instructor. Repeatable to a maximum of 8 cr hrs. 30 hours of on-site time per credit hour, arranged with adviser. This course is graded S/U.

**741 Public Health Organization U G 4**

History and development of public health agencies; structure and functions of governmental, voluntary, and proprietary health organizations.

Sp Qtr. 2 2-hr cl. Prereq: Permission of instructor.

**789 Survey Research Practicum G 5**

Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.

Sp Qtr. 1 3-hr cl. Prereq: Admission to grad interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 789 in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Polit Sc, Psych, PubPol&M, Sociol, or Stat. Cross-listed in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Polit Sc, Psych, PubPol&M, Sociol, or Stat.

**793 Individual Studies in Public Health U G 1-6**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**794 Group Studies in Public Health U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs.

**814 Programs of Health Promotion and Disease Prevention P G 3**

Theory and practice of preventive programs in personal health and environmental health, national strategies of disease prevention, and prospects for the improvement of health in the United States.

Au Qtr. Prereq: Enrollment in MPH program or permission of instructor.

**850 Seminar in Public Health G 1-3**

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in pub hith or permission of instructor. Repeatable to a maximum of 8 cr hrs.

**999 Research in Public Health G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing in pub hith and permission of instructor. Repeatable. This course is graded S/U.

## Public Health: Biostatistics

M-006 Starling-Loving Hall, 320 West 10th Avenue, 293-3907

**601 Statistical Methods for Public Health Practice I G 4**

Introduction to biostatistical methods and their applications in epidemiologic studies and public health practice.

Wi Qtr. 10 hrs on 3 3-day wkends. Prereq: Enrollment in MPH Program for Experienced Professionals or permission of instructor. Not open to students with credit for 701 or Pub Hlth 752.

**602 Statistical Methods for Public Health Practice II G 4**

Continuation of 601, with emphasis on non-parametric methods, correlation, and regression analysis; critical reading of current articles in public health.

Sp Qtr. 10 hrs on 3 3-day weekends. Prereq: Enrollment in MPH Program for Experienced Professionals or permission of instructor. Not open to students with credit for 702 or Pub Hlth 753.

**605 Applied Survival Analysis U G 4**

Techniques for analyzing censored data including: life table and product limit estimator, k-sample tests, and proportional hazards regression.

Wi Qtr. 2 2-hr cl. Prereq: Stat 521 and 645 or PUBH-BIO 703; or permission of instructor. Not open to students with credit for Biostat 605. Cross-listed in Biostatistics.

**606 Applied Logistic Regression G 4**

Theoretical and practical training in statistical modeling of a categorical response variable; conditional and unconditional models, assessment of model performance, determination of scale.

Wi Qtr. 2 2-hr cl. Prereq: B- or above in 702 or permission of instructor.

**607 Practical Biostatistics for Biomedical Laboratory Researchers G 4**

Introduction to statistical principles and methods appropriate for experimental laboratory data with applications in biomedical sciences.

4 2-hr cl. Prereq: Enrollment in the Integrated Biomedical Science Graduate Program or permission of instructor.

**624 Applied Longitudinal Data Analysis G 4**

Statistical models and methods for the analysis of data arising from longitudinal studies with repeated measurements on subjects over time.

Au Qtr. 2 2-hr cl. Prereq: 703 or permission of instructor.

**625 Multi-dimensional Data Analysis with Applications from Current Health Sciences Research G 4**

Introduction to statistical models for analyzing multi-dimensional data in the health sciences, with emphasis on experience in use of statistical software.

Sp Qtr. 2 2-hr cl. Prereq: B- or above in 702 or permission of instructor.

**651 Survey Sampling Methods G 4**

Sampling from finite populations, simple random, stratified, systematic and cluster sampling designs, ratio and regression estimates; non-sampling errors.

Wi Qtr. 2 2-hr cl. Prereq: Stat 521 or permission of instructor. Not open to students with credit for Stat 651. Cross-listed in Statistics.

**685 Field Experience in Biostatistics G 1-8**

Placement in a public health agency or related site for supervised practice experience.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in MPH program and permission of instructor. Repeatable to a maximum of 8 cr hrs. 30 hours of on-site time per credit hour, arranged with adviser. This course is graded S/U.

**701 Design and Analysis of Studies in the Health Sciences I G 4**

Theory and application of basic statistical concepts for design of studies in health sciences, integrated with statistical software applications.

Au, Wi Qtrs. 2 2-hr cl. Prereq: Grad standing in pub hith or permission of instructor.



**702 Design and Analysis of Studies in the Health Sciences II G 4**

Review of the fundamental concepts of biostatistics, including more complex analysis of variance designs, integrated with application of computer statistical packages.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: B- or above in 701 or permission of instructor.

**703 A Problem-Oriented Approach to Biostatistics G 4**

The employment of actual health-related problems to illustrate the use of computers and applied statistical methods important to epidemiologists and other health professionals.

Sp Qtr. 2 2-hr cl. Prereq: B- or above in 702 or permission of instructor.

**706 Regression Modeling of Time-to-Event Data G 4**

Common parametric models for survival data; competing risks, cumulative incidence functions, life table methods, additive hazards regression models, regression diagnostics, multivariate survival analysis.

Sp Qtr. 2 2-hr cl. Prereq: 605 or Biostat 605 or permission of instructor.

**727^ Statistical Methods in Toxicological Risk Assessment G 4**

Statistical techniques for quantifying the risk of adverse health effects from exposure to harmful substances.

Au Qtr. 2 2-hr cl. Prereq: B- or above in 702 or permission of instructor.

**786 Biostatistics Consulting Laboratory G 3**

Participation in consultations offered to biomedical researchers, combined with individualized faculty guidance.

Sp Qtr. 1 3-hr lab and 2 1-hr conf. Prereq: 703 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**793 Individual Studies in Biostatistics G 1-6**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**794 Group Studies in Biostatistics U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs.

**Public Health: Environmental Health Sciences**

M-106 Starling-Loving Hall, 320 West 10th Avenue, 293-3907

**530 Current Issues in Environmental Health U 4**

Critical review and discussion of current issues in environmental health; occupational and environmental hazards and responses.

Wi Qtr. 2 2-hr cl.

**685 Field Experience in Environmental Health Sciences G 1-8**

Placement in a public health agency or related site for supervised practice experience.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in MPH program and permission of instructor. Repeatable to a maximum of 8 cr hrs. 30 hours of on-site time per credit hour, arranged with adviser. This course is graded S/U.

**731 Principles of Environmental Health G 4**

Survey of major environmental factors affecting human health, including air, water, and land pollution, occupational hazards, trace metals, chemical carcinogens, radiation, and noise.

Au Qtr. 2 2-hr cl.

**732 Basic Concepts in Toxicology G 4**

Fundamentals of dose-response, exposure, and the disposition and biotransformation of chemicals in mammalian systems; actions of toxicants in major organ systems.

Wi Qtr. 2 2-hr cl.

**733 Toxicology of Chemical Agents G 4**

Disruption of biological systems by chemical agents; discussion of classes of chemical toxins and the health effects they produce; experimental toxicology and epidemiology focused on human health.

Sp Qtr. 2 2-hr cl. Prereq: 732 or permission of instructor.

**735 Introduction to Water and Human Health Risk G 4**

Water-related pathogens and their pathways to humans; water supply, sanitation and hygiene development; assessing risk to individual and populations; infectious diseases and outbreak investigation.

2 2-hr cl. Prereq: 731 and PUBH-BIO 701 or permission of instructor.

**793 Individual Studies in Environmental Health Sciences G 1-6**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**794 Group Studies in Environmental Health Sciences U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs.

**830 Principles of Occupational Health G 4**

Principles and practice of occupational health and medicine.

Au Qtr. 2 2-hr cl.

**831 Principles of Risk Assessment G 4**

Introduction to the basic components of quantitative toxicological risk assessment.

Wi Qtr. 2 2-hr cl.

**835 Molecular Techniques for Environmental Health Sciences G 5**

Practical introduction to molecular techniques, as applied to research in environmental health sciences.

Sp Qtr. 2-hr cl, 6-hr lab. Prereq: Permission of instructor.

**Public Health: Epidemiology**

M-106 Starling-Loving Hall, 320 West 10th Avenue, 293-3907

**510 Introduction to Epidemiology U 4**

Introduction to the study of population health; history, methods, applications, and issues in epidemiology.

Au, Wi Qtrs. 2 2-hr cl. Prereq or concur: Stat 135 or 145 or equiv.

**610 Epidemiology for Public Health Practice I U G 3**

Introduction to concepts and measures in epidemiology; the history of epidemiology; the epidemiologic model; rates and risks; prevalence; and outbreak investigation.

Prereq: Permission of instructor based on required pretest. Not open to students with credit for 700 or 710.

**611 Epidemiology for Public Health Practice II U G 3**

Continuation of 610, with emphasis on study designs and analysis, measures of frequency and effect, factors influencing interpretation, bias and confounding.

Prereq: Permission of instructor based on required pretest. Not open to students with credit for 700 or 710.

**612 Epidemiology for Public Health Practice: Selected Topics U G 3**

Applications of epidemiology in selected areas of public health; use of software in epidemiological studies; critique of current literature; ethical issues in epidemiology.

Prereq: 611.

**685 Field Experience in Epidemiology G 1-8**

Placement in a public health agency or related site for supervised practice experience.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in MPH program and permission of instructor. Repeatable to a maximum of 8 cr hrs. 30 hours of on-site time per credit hour, arranged with adviser. This course is graded S/U.

**700 Epidemiology for Experienced Health Professionals G 4**

Epidemiologic concepts and methods useful for public health practice, with applications including understanding and control of infectious diseases, environmental health hazards, and accidents.

Au Qtr. 10 hrs on 3 3-day weekends. Prereq: Enrollment in MPH Program for Experienced Professionals or permission of instructor. Not open to students with credit for 710.

**705 Design and Implementation of Health Surveys G 4**

Introduction to health survey methods, with public health applications.

Wi Qtr. 2 2-hr cl and 1 1-hr conf. Prereq: 710 or permission of instructor.

**710 Principles of Epidemiology G 4**

Introduction to the nature and scope of epidemiology; survey of basic epidemiological methods and their application to selected acute and chronic health problems.

Au, Wi Qtrs. 2 2-hr cl. Prereq: Grad standing in public health or permission of instructor.

**711 Epidemiology I G 4**

Principles of epidemiology with special emphasis on methods employed in current epidemiologic studies.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 710 or permission of instructor.

**712 Epidemiology II G 4**

Design of epidemiologic studies of major health problems; review of key studies; application of epidemiologic data to public health programs and medical care delivery.

Sp Qtr. 2 2-hr cl. Prereq: 711 and PUBH-BIO 702 or permission of instructor.

**713 Epidemiology in Environmental Health G 4**

Principles and application of epidemiologic methods in the investigation and control of health problems stemming from environmental hazards.

Au Qtr. 2 2-hr cl. Prereq: 712 or permission of instructor.

**793 Individual Studies in Epidemiology G 1-6**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**794 Group Studies in Epidemiology U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs.

**803 Health Data: Sources and Uses G 4**

Study of compilation of health and health-related data and their utilization; local, state, regional, and national surveys; and life tables and community health indices.

Su Qtr. 2 2-hr cl. Prereq: PUBH-BIO 702 or permission of instructor.

**810 Epidemiologic Methods G 4**

Critique and justification for methods of designing, analyzing and interpreting epidemiological data; social, historical and philosophical foundations of epidemiologic methods.

Au Qtr. 2 2-hr cl. Prereq: 712 & PUBH-BIO 703 or permission of instructor.

**814 Chronic Disease Epidemiology G 4**

Survey of the epidemiology of chronic diseases, including cancer, heart disease, stroke, diabetes mellitus, chronic obstructive pulmonary disease, and neurodegenerative disease.

Wi Qtr. 2 2-hr cl. Prereq: 711 or permission of instructor.

**815 Infectious Disease Epidemiology G 4**

Introduction to the epidemiology of infectious diseases, with focus on basic methods for investigation, control and prevention of communicable disease.

Wi Qtr. 2 2-hr cl. Prereq: 710 or permission of instructor.

**816 Cancer Epidemiology G 4**

Epidemiology of cancer, including etiology, risk factors, neoplastic processes, screening, control; application of statistical methods; molecular genetic basis of carcinogenesis.

Sp Qtr. 2 2-hr cl. Prereq: 710 or permission of instructor.

**817^ Cardiovascular Disease Epidemiology G 4**

Introduction to the epidemiology of cardiovascular disease; risk factors, specific diseases, diagnostic procedures; review of classic and current studies.

Sp Qtr. 2 2-hr cl. Prereq: 711 or permission of instructor.

**818 Women's Health Issues G 3**

Overview of issues related to women's health from epidemiological and behavioral perspectives.

Wi Qtr. Prereq: 710 or permission of instructor. Taught in even years.

**819^ Epidemiology of Obesity G 4**

Prevalence, trends, risk factors, measurement, outcomes and issues related to obesity; critical reading and discussion of research on epidemiology of obesity.

2 2-hr cl. Prereq: 711 and Pubh-bio 701 or permission of instructor.

**821 Design and Analysis of Group-Randomized Trials G 4**

Models and methods for the design and analysis of group-randomized trials in public health research.

Wi Qtr. 2 2-hr cl. Prereq: 712 and PUBH-BIO 703, or permission of instructor.

## Public Health: Health Behavior and Health Promotion

M-106 Starling-Loving Hall, 320 West 10th Avenue, 293-3907

**520 The Role of Behavior in Public Health U 4**

Introduction to concepts of health behavior and its role in public health; social determinants of health; applications to selected community health problems and issues.

Sp Qtr. 2 2-hr cl.

**685 Field Experience in Health Behavior and Health Promotion G 1-8**

Placement in a public health agency or related site for supervised practice experience.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in MPH program and permission of instructor. Repeatable to a maximum of 8 cr hrs. 30 hours of on-site time per credit hour, arranged with adviser. This course is graded S/U.

**720 Preventing Disease and Promoting Health through Behavioral Science G 4**

Examination of behavioral and social science concepts as the basis for public health practice; topics include transferring knowledge, motivating and aiding behavior change efforts, and working with the community.

Au, Wi Qtrs. 2 2-hr cl. Not open to students with credit for 743.

**725 Behavioral Science Foundations for Health Care Managers G**

2

Conceptual frameworks and strategies for behavioral and social change efforts, with applications for health care management.

Sp Qtr. 1 2-hr cl. Prereq: Enrollment in MHA degree or permission of instructor.

**793 Individual Studies in Health Behavior and Health Promotion U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**794 Group Studies in Health Behavior and Health Promotion U G 2-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs.

**820 Foundations of Health Behavior and Health Promotion G 4**

Overview of the field of health behavior and health promotion; introduction to historical origins, philosophical underpinnings and scientific basis of the field.

Su, Au Qtrs. 2 2-hr cl. Prereq: 720 or permission of instructor.

**821 Community Health Assessment G 4**

Models of community health assessment; skills in identifying, analyzing and integrating information concerning community resources and needs.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing in Pub Hlth or permission of instructor.

**822 Settings and Special Populations G 4**

Critical characteristics of principal settings in which health promotion interventions occur and populations to which they apply, such as youth, elderly, racial and ethnic minorities.

Wi Qtr. 2 2-hr cl.

**823 Behavioral Factors in Disease Causation, Control and Prevention G 4**

Evidence linking behavioral and psychosocial factors to health and illness; development and implementation of interventions; ethical issues in planned behavioral and social change efforts.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing in pub hlth or permission of instructor.

**824 Program Evaluation in Public Health G 4**

Examination of evaluation models for public health programs; exploration of philosophical and scientific issues in evaluation; and skill-building in both qualitative and quantitative evaluation methods.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing in Pub Hlth or permission of instructor.

**825 Adolescent Health Issues G 4**

Overview of health issues affecting adolescents; current public health practices designed to respond to these issues.

Sp Qtr. 2 2-hr cl.

**826 Substance Abuse Prevention G 4**

History of substance abuse prevention efforts; theoretical foundations and elements of successful programs.

Su Qtr. 2 2-hr cl.

**827 Program Planning and Implementation G 4**

Planning and implementation of programs to address public health issues in defined populations; development of a health promotion program for a specific community partner.

Wi Qtr. 2 2-hr cl. Prereq: 820 or permission of instructor.

**828\* Cancer Behavioral Science G 3**

Overview of behavioral issues associated with cancer at the individual and community levels.

Wi Qtr. 1 3-hr cl. Prereq: 720 or permission of instructor. Taught every other year.

**850 Seminar in Health Behavior and Health Promotion G 2-4**

Seminar with varying topics related to concepts and issues in health behavior and health promotion.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

## Public Policy and Management

110 Page Hall, 1810 College Road, 292-8696

**522^ Introduction to Public Policy Analysis U 5**

Introduction to analytical techniques employed at policy formulation, implementation, and evaluation stages of public policy analysis process, strengths and weaknesses of techniques; research strategies development.

Su, Su Term 1 Qtr. 2 2-hr cl.

**594<sup>A</sup> Group Studies U 1-5**

Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered.

Repeatable to a maximum of 15 cr hrs.

**631<sup>A</sup> Federal Finance and Fiscal Policy U G 3**

The economics of government spending and taxation; analysis of the fiscal role and instruments and their effects on the economy.

1 2.5-hr cl. Prereq: Econ 530 or equiv. Not open to students with credit for 630 or Econ 631. Cross-listed in Economics.

**633<sup>A</sup> State and Local Government Finance U G 3**

Economic analysis of revenues and expenditures of state and local governments; vertical and horizontal relationships between agencies and units; specific problems in these areas.

1 2.5-hr cl. Prereq: Econ 530 or equiv. Not open to students with credit for Econ 633. Cross-listed in Economics.

**670 Rebuilding Failed and Weak States U G 5**

Tackles the question of how to design policies and programs to rebuild failed and weak states into functioning, if not vibrant democracies.

Sp Qtr. 2 2-hr cl. Prereq: Second yr standing or higher or permission of instructor. Not open to students with credit for Int Stds 670. Cross-listed in International Studies.

**730 Public Finance U G 5**

Comprehensive survey and analysis of the principle fiscal activities of contemporary governments; logic of public sector activity, taxation principles and practice, intergovernmental relations, and current fiscal problems.

Wi Qtr. 2 2-hr cl. Prereq: 830 or Econ 501A and grad standing, or permission of instructor. Not open to students with credit for Econ 530 or 730. Cross-listed in Economics.

**795<sup>A</sup> Public Policy: The Business-Government Relationship U G 4**

Business tools and strategy for influencing government; evolution and direction of public policy toward business.

2 2-hr cl. Prereq: Sr standing or permission of instructor.

**796<sup>A</sup> Managing in the Political Environment U 4**

Introduction to public policy process and stakeholder approaches to issue management; strategic options and policy tools (political action committees, advocacy, and image advertising), state policy incentives, and international relations.

2 2-hr cl. Prereq: Sr standing or permission of instructor.

**797<sup>A</sup> Interdepartmental Seminar U G 1-5**

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Repeatable by permission.

**H797<sup>A</sup> Public Policy: The Business-Government Relationship U G 4**

Business tools and strategy for influencing government; evolution and direction of public policy toward business.

2 2-hr cl. Prereq: Sr standing or permission of instructor.

**801 Public Policy Formulation and Implementation G 5**

Analysis of the operating environment of the public administrator; public policy processes, public organization behavior, and policy formulation in the U.S. federal system.

Au Qtr. 1 3-hr cl. Prereq: Polit Sc 300 or equiv.

**802 Legal Environment of Public Organizations G 4**

An examination and analysis of the constraints imposed upon public administrative processes by the legal environment including judicial policy-making and the evolving legal order.

Sp Qtr. 1 3-hr cl.

**803<sup>A</sup> Public Policy Implementation G 4**

Policy implementation process in a political setting emphasizing planned changes; organizational design, systems analytic program management and evaluation; conflict management within a public bureaucracy.

2 2-hr cl. Prereq: 801.

**804 Public and Non-Profit Program Evaluation G 4**

Provides an understanding of the conceptual, methodological, bureaucratic, political, and organizational issues surrounding evaluation research.

Wi Qtr. 1 2.5-hr cl. Prereq: 801.

**808 Policy Problem Seminar I G 4**

Multidisciplinary seminar integrated with field experience in the solution of actual public administrative and policy problems; organized around problem areas.

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: 730, 801, 802, 804, 810, 811, 820, 821, 822, 830, 834 or permission of instructor. This is a Progress course. 2-qr sequence with 809. Final grade assigned for both 808 and 809 at completion of 809.

**809 Policy Problem Seminar II G 4**

Continuation of 808.

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: 808. This is a Progress course. Offered in a series with 808.

**810 Managing Public Organizations G 4**

The conducting of a strategic assessment of an agency; identifying strengths, weaknesses, opportunities, and threats; and with development of accompanying management strategy.

Wi Qtr. 2 1.5-hr cl.

**811 Leadership and Human Resources in Public Organizations G 4**

Development of management skills essential for beginning and mid-level managers and supervisors in public sector agencies.

Sp Qtr. 1 3-hr cl.

**812 Strategy for Public Organizations G 4**

Provides a strategic perspective on the management and leadership of public sector organizations through the critical assessment of balanced scorecard, strategy maps, and logic models.

Au Qtr. 1 3-hr cl. Prereq: 810.

**820 Data Analysis for Public Policy and Management G 4**

Introduction to types of problems encountered in public policy and management; problem formulation and basic research methods tools required to tackle them.

Wi Qtr. 1 2.5-hr cl. Prereq: A course in statistics.

**821 Public Management Information Systems G 4**

Critical study of the administration and design of management information systems for public agencies; selected case studies.

Au Qtr. 1 1.5-hr cl.

**822 Multivariate Data Analysis for Public Policy and Management G 4**

Multivariate model building using theoretical and exploratory data analysis perspectives for use in public sector decision support systems; public sector case studies.

Sp Qtr. 2 1.5-hr cl. Prereq: 820.

**823<sup>A</sup> Systems Analysis for Public Policy Decisions G 3**

Studies in the application of systems analysis to administrative and policy problems in the public sector; selected case studies and problems.

2 2-hr cl.

**830 Economics of Public and Non-Profit Management G 4**

Economic analysis applied to problems of public policy selection and government management operations; efficiency criteria, market failure, and public choice applied to administrative decision-making.

Au Qtr. 1 3-hr cl. Prereq: Econ 200 or equiv.

**834 Public Budgeting G 4**

Budgeting as analysis of resource allocation, planning evaluation, and control; tools of analysis for program budgeting and measurement of program results; case studies.

Sp Qtr. 2 1.5-hr cl. Prereq: 830.

**835<sup>A</sup> Seminar in Fiscal Administration G 3**

Current professional practices and issues in public sector fiscal administration, including budget and expenditure administration, revenue administration, financial management, and borrowing and debt management.

1 2-hr cl. Prereq: 834.

**836<sup>A</sup> Financial Management G 3**

Exploration of capital programming and budgeting, debt management, and other aspects of major urban capital developments.

1 2.5-hr cl. Prereq: 730 or Econ 730.

**837<sup>A</sup> Grants Policy and Administration G 4**

Investigation of grant-related policy issues, the distributional impact of grant policy, and how federal grants may have influenced city-suburban hardship disparities.

1 3-hr cl. Prereq: 730 or Econ 730. Not open to students with credit for 880B02.

**850 The Political Economy of Administrative Regulation G 3**

Development of an understanding of the origin, intent, and technical elements of administrative regulation with special reference to economic and social regulation.

Au Qtr. 1 2-hr cl.

**851 Current Issues, Practices, and Concepts in Administrative Commission Regulation G 3**

Focus on the economic regulation of transport, power, and communications, and the social regulation of business in the form of environmental and safety standards.

Wi Qtr. 1 2-hr cl.

**852 Governmental and Non-Profit Accounting G 4**

The application of accounting principles to governments and other not-for-profit entities; problems relating to funds, appropriations, and budgetary controls.

Au Qtr. 2 1.5-hr cl. Prereq: Acct&MIS 310 or equiv or permission of instructor. Not open to students with credit for Acct&MIS 852. Cross-listed in Accounting and Management Information Systems.

**870<sup>A</sup> Urban Policy and Management I G 3**

Management processes affecting city growth or decline, and issues facing those involved in the administration of an urban area.

2 1.5-hr cl.

**871<sup>A</sup> Urban Policy and Management II G 3**

Introduction to the field of economic development, emphasizing the role of public management.

2 1.5-hr cl. Prereq: 870.

**880 Seminar on Advanced Problems in Public Policy and Management**

Special studies of selected problems which may include readings, case studies, internships, field investigations, simulation, system analysis, role playing, team teaching, and other experimental techniques.

Su, Au, Wi, Sp Qtrs.

**880.02 Fiscal Policy and Management G 1-6**

Repeatable.

**880.04 Human Resources Policy and Management G 1-6**

Repeatable.

**880.05 Management Information Systems' Administration G 1-6**

Repeatable.

**880.06 Public Policy and Management G 1-6**

Repeatable.

**880.07 Regulation Policy and Management G 1-6**

Repeatable.

**880.08 Urban Policy and Management G 1-6**

Repeatable.

**890 Research Methods in Public Administration G 3**

Logic of inquiry for public policy and management.

Wi Qtr.

**893 Individual Studies G 1-6**

Advanced individual studies in public policy and management.

Prereq: Grad standing in pub pol&mgmt and written permission of instructor.

Repeatable to a maximum of 15 cr hrs. including cr hrs in decimal subdivisions. This course is graded S/U.

**894 Group Studies G 1-6**

Advanced group studies in public policy and management.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in decimal subdivisions.

**899 Interdepartmental Seminar G 1-5**

Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced.

Au, Wi, Sp Qtrs. Arr. Repeatable. By written permission.

**998 Research in Public Administration: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**999 Research in Public Administration: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**Radiologic Sciences and Therapy**

School of Allied Medical Professions

340 Atwell Hall, 453 West 10th Avenue, 292-0571

**200 Careers in Radiologic Technology U 2**

Provides an orientation to rad tech and describes professional roles and responsibilities available within health care. Professional and career development opportunities described.

Au, Sp Qtrs. 1 cl. A direct field experience will provide the student with 10 hours of clinical experience in the Radiology Department of a clinical affiliate. E200 may be available for honors embedded experience.

**H210 Interdisciplinary Research: Osteoporosis Diagnosis, Prevention, and Treatment U 3**

An interdisciplinary team approach to research on the diagnosis, prevention, and treatment of osteoporosis is presented. Students will complete a pre-pilot

project of their own design.

Wi Qtr. 2-hr cl, 4 hrs clinical. Prereq: 2nd yr standing honors student. Not open to students with credit for Med Diet H210. Cross-listed in Medical Dietetics.

**310 Patient Care in Medical Imaging U 3**

Principles of patient care including analysis of ethical and legal issues pertaining to the delivery of medical imaging services.

Au Qtr. 2 1.5-hr cl. Prereq: Enrollment in Radiologic Sciences and Therapy Division.

**311 Patient Care, Ethics and Law in Radiation Therapy U 3**

An overview of patient care, ethics, legalities, and patient rights in radiation therapy, including consideration for the physical and psychological needs of the patient/family.

Wi Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: Enrollment in Radiation Therapy program.

**411 Radiographic Procedures I U 4**

Principles of radiography of the chest, bronchial tree, abdomen, urinary systems, alimentary tract, and appendicular skeleton, with application in the laboratory.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: Permission of instructor and enrollment in rad tech; concur: 440.

**412 Radiographic Procedures II U 4**

Principles of radiography of the vertebral column, spinal canal, bony thorax, cerebral and visceral cranium, mammary glands, and reproductive systems.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: 411.

**414 Radiation Therapy Techniques I U 3**

Introduction to the technical aspects of radiation therapy including terminology and technical parameters. Modalities of treatment and patient preparation considerations are discussed.

Au Qtr. 2 cl, 1 2-hr lab. Prereq: Enrollment in the Radiation Therapy Program.

**415 Radiation Therapy Techniques II U 3**

Focus on simulation and treatment machine components, QA and functions. The methods and importance of the precise beam alignment will be emphasized.

Wi Qtr. 2 1.5-hr cl. Prereq: 414.

**416 Radiation Therapy Simulation U 1**

Designed to introduce students to the simulation techniques used for each of the different body sites that are treated with radiation therapy.

Su Qtr. 1 2-hr lab. Prereq: Enrollment in Radiation Therapy program; concurrent with 550.42.

**420 Basic Elements of Sonography U 3**

An introduction to the medical sonography profession and ultrasound physics with an emphasis on abdominal and OB/GYN diagnostic medical sonography.

Au Qtr. 2 1.5-hr cl. Prereq: Enrollment in Diagnostic Medical Sonography program.

**425 Principles of Radiologic Imaging I U 3**

Investigation of the principles of radiation protection and radiologic imaging; including accessory equipment used in radiology departments.

Au Qtr. 3 cl. Prereq: Enrollment in rad tech.

**426 Principles of Radiologic Imaging II U 4**

Evaluation of image quality, including sensitometry, processor monitoring, and accessory devices.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 425.

**430 Obstetric and Gynecologic Sonography U 4**

Provides instruction in the care and imaging of patients for obstetric and gynecologic diagnostic medical sonography procedures.

Wi Qtr. 2 2-hr cl. Prereq: Enrollment in Diagnostic Medical Sonography program.

**431 Abdominal Sonography U 4**

Provides content information about the use of sonography to image anatomy and pathology associated with the abdominal organs.

Sp Qtr. 2 2-hr cl. Prereq: Enrollment in Diagnostic Medical Sonography program.

**432 Superficial Structures Sonography U 3**

Focuses on the use of medical sonography to image anatomy and pathology associated with the neck, breast, scrotum, and extremities.

Su Qtr. 2 1.5-hr cl. Prereq: Enrollment in Diagnostic Medical Sonography program.

**440 Applied Medical Imaging and Therapeutics I**

Clinical application of diagnostic imaging and therapeutic procedures performed in the radiation sciences.

16-24 clinical hours per week. Prereq: Enrollment in rad tech. A direct field experience will provide the student with 16-24 hours of clinical experience in imaging and radiation oncology departments of a clinical affiliate.

**440.01 Applied Medical Imaging and Therapeutics I - Radiography U 1-6**

Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology.

Au Qtr. Repeatable to a maximum of 8 cr hrs.

**440.02 Applied Medical Imaging and Therapeutics I - Radiography U 1-6**

Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology.

Wi Qtr. Repeatable to a maximum of 8 cr hrs.

**440.03 Applied Medical Imaging and Therapeutics I - Radiography U 1-6**

Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology.

Sp Qtr. Repeatable to a maximum of 8 cr hrs.

**441 Applied Radiation Therapy I**

Clinical application of planning and treatment procedures performed in Radiation Therapy.

4 hrs clinical per credit. Prereq: Enrollment in Radiation Therapy program.

**441.01 Applied Radiation Therapy I U 1-6**

Au Qtr. Repeatable to a maximum of 18 cr hrs.

**441.02 Applied Radiation Therapy I U 1-6**

Wi Qtr. Repeatable to a maximum of 18 cr hrs.

**441.03 Applied Radiation Therapy I U 1-6**

Sp Qtr. Repeatable to a maximum of 18 cr hrs.

**442 Applied Diagnostic Medical Sonography I**

Instruction and experience in the performance and interpretation of sonographic images.

4-24 hrs clinical education. Prereq: Enrollment in Diagnostic Medical Sonography program.

**442.01 Applied Diagnostic Medical Sonography I U 1-6**

Au Qtr. 4 hrs clinical per credit. Repeatable to a maximum of 18 cr hrs.

**442.02 Applied Diagnostic Medical Sonography I U 1-6**

Wi Qtr. 4 hrs clinical per credit. Repeatable to a maximum of 18 cr hrs.

**442.03 Applied Diagnostic Medical Sonography I U 1-6**

Sp Qtr. 4 hrs clinical per credit. Repeatable to a maximum of 18 cr hrs.

**471 Radiologic Physics I U 3**

The physical principles associated with the design and function of R/F imaging equipment and the theoretical basis for x-ray production and interaction with matter.

Wi Qtr. 3 cl. Prereq: Enrollment in rad tech.

**481 Radiation Therapy Physics I U 3**

An analysis of the production, decay, interaction and measurement of ionizing radiation. Discussion of the fundamentals of clinical radiation generators, beam quality, and absorbed dose.

Wi Qtr. 2 1.5-hr cl. Prereq: Enrollment in Radiation Therapy Program.

**482 Radiation Therapy Physics II U 3**

An analysis of interaction and measurement of ionizing radiation in radiation therapy. Concepts include beam quality, measurement of absorbed dose, dose distribution, and scatter analysis.

Sp Qtr. 2 1.5-hr cl. Prereq: 481.

**483 Dosimetry Calculations U 5**

Principles of dosimetric calculations, terms and calculation variables are emphasized according to specific beam energies. Common dosimetry problems occurring during patient treatments are discussed.

Au Qtr. 2 1.5-hr cl, 1 2-hr cl. Prereq: Enrollment in Radiation Therapy program, 482.

**485 Treatment Planning U 2**

Describes and compares methods of treatment plans utilizing new and established radiation therapy techniques. Optimal radiation treatment planning is emphasized.

Wi Qtr. 2 1-hr cl. Prereq: Enrollment in Radiation Therapy program.

**486 Ultrasound Physics I U 3**

A practical application of the physics of ultrasound production. Emphasis is placed on instrumentation used in medical sonography.

Wi Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: Enrollment in Diagnostic Medical Sonography program.

**487 Ultrasound Physics II U 3**

A continuation of Rad Sci 486 with emphasis on the physics of ultrasound with

practical application to obstetrics and gynecologic sonography.

Sp Qtr. 2 1.5-hr cl. Prereq: Enrollment in Diagnostic Medical Sonography program.

**488 Ultrasound Physics III U 3**

A continuation of Rad Sci 487 with emphasis on the physics of spectral Doppler, color Doppler, and total quality management with practical application to sonography.

Su Qtr. 2 1.5-hr cl. Prereq: Enrollment in Diagnostic Medical Sonography program.

**520 Vascular Sonography I U 3**

An introduction to venous imaging and noninvasive testing of the upper and lower extremities.

Au Qtr. 2 1.5-hr cl. Prereq: Enrollment in Radiologic Sciences and Therapy - Sonography.

**521 Vascular Sonography II U 3**

An introduction to arterial imaging and noninvasive testing of the upper and lower extremities.

Wi Qtr. 2 1.5-hr cl. Prereq: Enrollment in Radiologic Sciences and Therapy - Sonography, Rad Sci 520.

**522 Vascular Sonography III U 3**

An introduction to sonographic imaging and noninvasive testing of the vascular integration of the carotid arteries, bypass grafts, and transplanted organs.

Sp Qtr. 2 1.5-hr cl. Prereq: Enrollment of Radiologic Sciences and Therapy - Sonography, Rad Sci 520, 521.

**530 Quality Management in the Radiologic Sciences U 4**

Investigation of quality management principles and techniques specific to the imaging sciences including modality specific quality control testing and national/state requirements.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: 425.

**540 Applied Medical Imaging and Therapeutics II**

Clinical application of diagnostic imaging and therapeutic procedures performed in the radiation sciences.

16-24 clinical hours per week. Prereq: Enrollment in rad tech. A direct field experience will provide the student with 16-24 hours of clinical experience in imaging and radiation oncology departments of a clinical affiliate.

**540.01 Applied Medical Imaging and Therapeutics II - Radiography U 1-6**

Clinical application of diagnostic radiographic and fluoroscopic procedures performed in medical imaging.

Su Qtr. Repeatable to a maximum of 10 cr hrs.

**540.02 Applied Medical Imaging and Therapeutics II - Radiography U 1-6**

Clinical application of diagnostic radiographic and fluoroscopic procedures performed in medical imaging.

Su Qtr. Repeatable to a maximum of 10 cr hrs.

**540.03 Applied Medical Imaging and Therapeutics II - Radiography U 1-6**

Clinical application of diagnostic radiographic and fluoroscopic procedures performed in medical imaging.

Au Qtr. Repeatable to a maximum of 10 cr hrs.

**540.04 Applied Medical Imaging and Therapeutics II - Radiography U 1-6**

Clinical application of diagnostic radiographic and fluoroscopic procedures performed in medical imaging.

Wi Qtr. Repeatable to a maximum of 10 cr hrs.

**540.05 Applied Medical Imaging and Therapeutics II - Radiography U 1-6**

Clinical application of diagnostic radiographic and fluoroscopic procedures performed in medical imaging.

Sp Qtr. Repeatable to a maximum of 10 cr hrs.

**541 Applied Radiation Therapy II**

Continuation of Rad Sci 441 with clinical application of advanced planning and treatment procedures performed in radiation therapy.

4 hrs clinical per credit. Prereq: Enrollment in Radiation Therapy program.

**541.01 Applied Radiation Therapy II U 1-6**

Su Qtr. Repeatable to a maximum of 20 cr hrs.

**541.02 Applied Radiation Therapy II U 1-6**

Su Qtr. Repeatable to a maximum of 20 cr hrs.

**541.03 Applied Radiation Therapy II U 1-6**

Au Qtr. Repeatable to a maximum of 20 cr hrs.

**541.04 Applied Radiation Therapy II U 1-6**

Wi Qtr. Repeatable to a maximum of 20 cr hrs.

**541.05 Applied Radiation Therapy II U 1-6**

Sp Qtr. Repeatable to a maximum of 20 cr hrs.

**542 Applied Diagnostic Medical Sonography II**

A continuation of Rad Sci 442 emphasizing instruction and experience in the performance and interpretation of vascular, superficial, and small structure sonographic imaging.

4 hrs clinical per credit. Prereq: Enrollment in Diagnostic Medical Sonography program.

**542.01 Applied Diagnostic Medical Sonography II U 1-6**

Continuation of Rad Sci 442 emphasizing instruction and experience in the performance and interpretation of superficial and small structure sonographic imaging.

Su Qtr. Repeatable to a maximum of 18 cr hrs.

**542.02 Applied Diagnostic Medical Sonography II U 1-6**

Continuation of Rad Sci 442 emphasizing instruction and experience in the performance and interpretation of superficial and small structure sonographic imaging.

Su Qtr. Repeatable to a maximum of 18 cr hrs.

**542.03 Applied Diagnostic Medical Sonography II U 1-6**

Continuation of Rad Sci 442 emphasizing instruction and experience in the performance and interpretation of vascular sonographic imaging.

Au Qtr. Repeatable to a maximum of 18 cr hrs.

**542.04 Applied Diagnostic Medical Sonography II U 1-6**

Continuation of Rad Sci 442 emphasizing instruction and experience in the performance and interpretation of vascular sonographic imaging.

Wi Qtr. Repeatable to a maximum of 18 cr hrs.

**542.05 Applied Diagnostic Medical Sonography II U 1-6**

Continuation of Rad Sci 442 emphasizing instruction and experience in the performance and interpretation of vascular sonographic imaging.

Sp Qtr. Repeatable to a maximum of 18 cr hrs.

**550 Practica**

Theory and experience in selected radiology specialties.

Prereq: Enrollment in rad tech or permission of instructor. 6 cr hrs required of rad tech majors.

**550.41 Cardiovascular and Interventional Radiologic Procedures U 1-4**

Theory and clinical education in radiographic and therapeutic interventional procedures related to vascular structures and organ systems.

Su, Au, Wi, Sp Qtrs. 1 cl, 4-16 hrs clinical education. Repeatable to a maximum of 17 cr hrs.

**550.42 Computed Tomography U 1-4**

Theory and clinical education in computed tomographic procedures.

Su, Au, Wi, Sp Qtrs. 1 cl, 4-16 hrs clinical education. Repeatable to a maximum of 17 cr hrs.

**550.60 Magnetic Resonance Technology U 1-4**

Theory and clinical education in magnetic resonance procedures.

Su, Au, Wi, Sp Qtrs. 1 cl, 4-16 hrs clinical education. Repeatable to a maximum of 17 cr hrs.

**550.65 Mammography U 1-4**

Theory and clinical education in mammographic procedures.

Su, Au, Wi, Sp Qtrs. 1 cl, 4-16 hrs clinical education. Repeatable to a maximum of 17 cr hrs.

**550.75 Pediatric Imaging Procedures U 1-4**

Theory and clinical education in pediatric medical imaging.

Su, Au, Wi, Sp Qtrs. 1 cl, 4-16 hrs clinical education. Repeatable to a maximum of 17 cr hrs.

**550.80 Operation of a Medical Imaging Department U 1-4**

Methods of delivering radiological services including evaluation of equipment, personnel, budgeting, and the impact of federal equipment regulations.

Su, Au, Wi, Sp Qtrs. 1 cl, 4-16 hrs clinical education. Prereq: Alli Med 630 or Bus-MHR 400. Repeatable to a maximum of 17 cr hrs.

**550.81 Quality Control in Diagnostic Medical Imaging U 1-4**

Examination of quality control methods utilized for radiographic CT and MRI imaging including management, implementation, and evaluation aspects.

Su, Au, Wi, Sp Qtrs. 1 cl, 4-16 hrs clinical education. Concurrent with 530 or permission of instructor. Repeatable to a maximum of 17 cr hrs.

**550.82 Radiology Informatics U 1-4**

Theory and clinical education in radiology informatics operations and management.

Su, Au, Wi, Sp Qtrs. 1-hr cl, 4-16 hrs clinical. Prereq: 426, 560, and CS&E 100 or Alli Med 648 or 650 or equiv. Repeatable to a maximum of 17 cr hrs.

**550.90 Radiologic Technology Instruction U 1-4**

Planned professional teaching experience under supervision in a radiologic technology education program.

Su, Au, Wi, Sp Qtrs. 1 cl, 4-16 hrs clinical education. Repeatable to a maximum of 17 cr hrs.

**560 Medical Imaging Modalities U 3**

Investigation of the basic physical principles of medical imaging modalities and radiation oncology.

Sp Qtr. 3 cl. Prereq: Enrollment in rad tech.

**565 Administrative Aspects of Radiologic Technology U 2**

Analysis of radiology department management, evaluation of radiographic equipment, federal equipment specifications, accreditation, and licensure.

Sp Qtr. 2 cl. Prereq: Enrollment in rad tech.

**572 Applied Nuclear Medicine U 1-6**

Observation and participation in performing static and dynamic examinations requiring the use of radiopharmaceuticals.

Su, Au, Wi, Sp Qtrs. 4-24 hrs clinical education. Prereq: Enrollment in rad tech and permission of instructor. Not open to students with credit for 550.70. Repeatable to a maximum of 17 cr hrs.

**573 Applied Technical Oncology I U 2**

Introduction to neoplastic disease including incidence, mortality, epidemiology, etiology, detection, prevention, risk, stage and grading. Course emphasizes radiation oncology treatment considerations and modalities.

Wi Qtr. 2 cl. Prereq: Enrollment in radiation therapy program. No field experience.

**574 Applied Technical Oncology II U 5**

Provides the student with the cognitive skills necessary to assess the types of neoplasms and integrate this knowledge with the oncology treatment process.

Sp Qtr. 4 1-hr cl, 1 2-hr lab. Prereq: 573.

**590 Introduction to Angiography U 2**

Introduction to the basic techniques employed in vascular and interventional procedures; emphasis placed on anatomical structures demonstrated, the equipment, and contrast agents used.

Sp Qtr. 2 cl. Prereq: Enrollment in rad tech. Repeatable to a maximum of 9 cr hrs.

**595 Seminar U 1-3**

Conferences, group discussions, and presentations of selected topics.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Enrollment in rad tech. Repeatable to a maximum of 9 cr hrs.

**615 Radiographic Clinical Correlations U P G 3**

Correlations of clinical experience relative to patient's medical history and quality and appropriateness of diagnostic images.

Wi Qtr. 3 cl. Prereq: Enrollment in rad tech.

**616 Advanced Clinical Correlations U G 3**

Advanced fundamentals of radiographic diagnosis; emphasis on the correlations of the patient's medical history with the medical findings.

Sp Qtr. 2 1.5-hr cl. Prereq: 615 and sr standing in rad tech. Requires enrollment in a Rad Tech 550 series to facilitate the research paper topic being integrated with the specialty study.

**618 Clinical Radiation Oncology Practice U 2**

Principles of neoplasms of the human body emphasizing epidemiology, clinical presentation, detection and diagnosis, staging and treatment techniques of the neoplasm relevant to radiation oncology.

Sp Qtr. 2 1-hr cl. Prereq: Enrollment in Radiation Therapy program.

**630 Transitions to the Imaging Workplace****630.01 Transitions to the Imaging Workplace - Radiography U 1**

Provides the practical skills necessary to apply radiographic theory in clinical practice and prepares students for the transition from student to professional radiographer.

Sp Qtr. 1 cl. Prereq: Sr standing in rad sci - radiography. This course is available for EM credit.

**630.02 Transitions to the Imaging Workplace - Radiation Therapy U 1**

Provides the practical skills necessary to apply radiation therapy theory in clinical practice and prepares students for the transition from student to professional radiation therapist.

Sp Qtr. 1 cl. Prereq: Sr standing in rad sci - radiation therapy. This course is available for EM credit.

**630.03 Transitions to the Imaging Workplace - Diagnostic Sonography U 1**

Provides the practical skills necessary to apply diagnostic sonographic theory in clinical practice and prepares students for the transition from student to professional sonographer.

Sp Qtr. 1 cl. Prereq: Sr standing in rad sci - diagnostic medical sonography. This course is available for EM credit.

**670 Radiobiology for the Radiologic Technologist U 3**

Fundamentals of radiobiological principles and radioprotective procedures, including cellular and whole body as it relates to radiologic technology.

Wi Qtr. 3 cl. Prereq: Enrollment in rad tech.

**671 Radiobiology for Radiation Therapy U 3**

Principles of cellular biology and the reactions from types of ionizing radiation specific to radiation therapy. Emphasis is on the cellular effects from radiation exposure.

Wi Qtr. 2 1.5-hr cl. Prereq: Enrollment in Radiation Therapy program.

**672 Radiologic Sectional Anatomy U 3**

Identification of anatomic structures as seen in cadaver.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: Enrollment in rad tech or permission of instructor.

**Radiology**

630 Means Hall; 1654 Upham Drive, 293-8315

**670 Medical Radiation Physics U P G 2**

Ionizing radiations, their production, properties and interaction with materials of medical interest; physical principles of radiation therapy, radiation dosimetry, and radiation protection.

Au, Sp Qtrs. 2 cl. Prereq: Permission of instructor.

**680 Radiation Biology U P G 2**

Effect of ionizing radiation in biological systems at the molecular, cellular, organ, organism, and community levels with special emphasis on medical implications and radiation safety.

Au Qtr. 2 cl. Prereq: Permission of instructor.

**740 Clinical Radiology P G 5**

Analysis of various radiographic examinations and the opportunity to make presentations.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**750 Radiologic Anatomy G 2**

Anatomy of specific regions or areas as it applies to the interpretation and understanding of diagnostic images.

Sp Qtr. Prereq: Satisfactory completion of Med Coll 662, or Anatomy 712 or equiv and permission of instructor. Repeatable to a maximum of 8 cr hrs. Cross-listed with Cell Biology, Neurobiology and Anatomy 750.

**793 Individual Studies**

Prereq: Permission of instructor.

**813\* Magnetic Resonance Spectroscopy and Imaging I G 3**

Presentation of the basic principles of MRI/MRS, including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy.

Wi Qtr. 2 1.5-hr cl. Prereq: Chem 521 or equiv, Biochem 511 or equiv, grad standing, and permission of instructor. Cross-listed in Biomedical Engineering.

**814\* Magnetic Resonance Spectroscopy and Imaging II G 3**

Presentation of the basic principles of MRI/MRS including basic MR physics, pulse sequences, adiabatic excitation coil design, MR hardware, image formation, localized spectroscopy.

Sp Qtr. 2 1.5-hr cl. Prereq: 813, grad standing, permission of instructor. Cross-listed in Biomedical Engineering.

**830\* Molecular Basis of Mutagenesis and Carcinogenesis G 3**

Nature and mechanism of carcinogen-DNA interaction; cellular processing of genomic alterations and role of genotoxin-induced premutagenic/precarcinogenic lesions in neoplasia.

Sp Qtr. 2 cl. Prereq: Biochem 613, 614, 615 sequence or MBiochem 827 or Pharmacy 677 or permission of instructor, and grad standing.

**850 Seminar**

Su, Au, Wi, Sp Qtrs. 1 cl. Prereq: Permission of instructor.

**850.09 Radiation Oncology G 1**

Selected topics of particular current interests in both research and applications of ionizing radiation in the treatment of cancer.

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**850.10 Radiobiology G 1**

Introduction to state of the art developments and innovations resulting from research directed at the study of cellular-molecular-environmental interactions.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**850.20 Physics of Imaging G 1**

Selected topics of current interests in research, development, and technology in medical physics as applied to medical imaging.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**850.26 Physics of Radiation Therapy G 1**

Selected topics of interest in research and developments of the methodology and technology of radiation treatment, planning, dosimetry, and equipment.

Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.

Cross-listed in Biomedical Engineering, Biomedical Informatics, Biophysics,

Computer Science and Engineering, Electrical and Computer Engineering, Integrated Biomedical Science, Pathology, Statistics, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**999 Research in Radiology G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Respiratory Therapy**

School of Allied Medical Professions

431 Atwell Hall, 453 West 10th Avenue, 292-8445

**320 Components of Respiratory Health U 4**

Survey of normal respiratory mechanisms with specific consideration for the basis of respiratory therapeutics, the respirable environment and the role of the therapist.

Au Qtr. 2 2-hr cl. Prereq: Admission to the Resp Ther Division or permission of instructor.

**400 Basic Respiratory Care U 6**

Study of theories, procedures, and equipment utilized in delivering, monitoring, and evaluating basic respiratory therapeutics to patients with compromised respiratory function in the hospital setting.

Au Qtr. 2 2-hr cl, 2 3-hr labs. Prereq: Admission to Resp Ther Division.

**410 Introduction to Clinical Respiratory Care U 4**

An introduction to basic cardiopulmonary assessment and life support techniques, infection control, the medical record, and the clinical environment.

Au Qtr. 1 2-hr cl, 1 3-hr lab, 1 3-hr clinical. Prereq: Admission to Resp Ther Division.

**420 Pulmonary Rehabilitation and Continuing Care U 3**

Theories, procedures, equipment, standards, organizations, and legislation applicable to the delivery of respiratory therapeutics in non-hospital settings.

Wi, Sp Qtrs. 1 2-hr cl, 1 2-hr lab. Prereq 400.

**430 Pulmonary Function Testing U 3**

Study of theories, procedures, standards, and interpretations of pulmonary functions with consideration of mechanical and electronic principles of testing equipment.

Au Qtr. 1 2-hr cl, 1 3-hr lab. Prereq or concur: 320.

**450 Arterial Blood Gas Analysis U 3**

A study of the methods and procedures for obtaining arterial blood, the principles and standards of analysis, and application of the physiologic data.

Wi Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 320, 430.

**475 Mechanical Ventilation U 4**

Major emphasis is placed on all aspects of the management of the patient-ventilator system and artificial airways.

Wi Qtr. 2 2-hr cl. Prereq: 400, 410, 430; concur: 476.

**476 Mechanical Ventilators and Artificial Airways U 3**

Lectures, demonstrations, and laboratories on the various mechanical ventilators and artificial airways in use.

Wi Qtr. 1 2-hr cl, 1 3-hr lab. Prereq: 400, 410, 430; concur: 475

**480 Respiratory Disease U 2**

A study of the etiologies, manifestations, and treatment of respiratory diseases and their clinical courses.

Wi Qtr. 1 2-hr cl. Prereq: 320, 400, 430.

**489 Clinical Experience**

Su, Au, Wi, Sp Qtrs. 4 hr/wk for each credit hour. Prereq: Admission to the Resp Ther Division. Off-Campus field experience required.

**489.20 Clinical Experience: Phase I U 3**

Clinical application of basic respiratory therapeutics and non-invasive cardiopulmonary function testing.

Wi Qtr. 120 hrs. arr. Prereq: 320, 400, 410, 430. Not open to students with credit for 489.02 or 489.05.

**489.30 Clinical Experience: Phase II U 3**

Clinical application of intensive respiratory care, evaluation of pulmonary function with emphasis on arterial blood gas analysis.

Sp Qtr. 120 hrs. arr. Prereq: 450, 475, 476, 489.20. Not open to students with credit for 489.04 and 489.10.

**489.40 Clinical Experience: Phase III U 9**

Clinical application of adult, neonatal, and pediatric intensive respiratory care; home, continuing, and subacute respiratory care with emphasis on pulmonary rehabilitation.

Su Qtr. 360 hrs arr. Prereq: 489.30, 500, 515. Not open to students with credit for 489.06 or 489.07 or 489.08.

**489.50 Clinical Experience: Phase IV U 2**

Clinical application of patient evaluations, developing respiratory care plans and implementing clinical protocols, providing intensive respiratory care, multi-skilling practices, assisting physicians with special procedures.

Au Qtr. 80 hrs arr. Prereq: 489.40.

**500 Neonatal and Pediatric Respiratory Therapy U 5**

Neonatal and pediatric pulmonary pathophysiology with consideration of the necessary adaptations of equipment and therapeutics for application to the pediatric patient.

Sp Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 475 and 476.

**515 Intensive Respiratory Care U 5**

Etiology, manifestations, and treatment of respiratory failure, including principles, techniques, and equipment associated with advanced cardiopulmonary monitoring and cardiac life support.

Sp Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: 475, 476, and 480.

**520 Administration of Respiratory Therapy Services U 3**

An analysis of management processes utilized by respiratory therapy services including organization, communication, quality assurance, audit, budget and regulatory processes, personnel management, and educational functions.

Au, Wi Qtrs. Prereq or concur: Alli Med 630.

**525 Basic Teaching Skills for Respiratory Therapists U 3**

Principles and practice of teaching in respiratory therapy. Focuses on various teaching roles and strategies of respiratory therapists in academic and clinical settings.

Wi Qtr. 1 2-hr cl, 1 2-hr lab. Prereq: 489.50. Earning certification as a basic life support instructor is a requirement of this course.

**589 Advanced Clinical Practice U 1-5**

Supervised clinical education and experiences in respiratory therapy education, administration of respiratory services, and areas of advanced professional practice.

Su, Au, Wi, Sp Qtrs. 8 hrs/wk, 1 cr hr. Prereq: Written permission of instructor and satisfactory completion of all respiratory therapy professional courses. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**593 Individual Studies in Respiratory Therapy U 1-5**

Guided study of topics or pursuit of individual experiences in respiratory therapy.

Su, Au, Wi, Sp Qtrs. Prereq: Admission to the Respiratory Therapy Division or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**595 Seminar U 1-5**

Conferences, group discussions, and presentations of selected topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Admission to Respiratory Therapy or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**600 Fundamentals of Respiratory Care Research U G 3**

Survey of research problems, methods, and designs utilized in respiratory care, with emphasis on data presentation and analysis.

Au Qtr. 2 1.5-hr cl. Prereq: Psych 220, or Stat 135 or 145 or equiv, and 4th yr or grad standing.

**Romance Linguistics**

298 Hagerty Hall, 1775 College Road, 292-4958

Information concerning course frequency and quarters of offering, if not specified, may be available by contacting the department.

**692 The Romance Languages U G 5**

Examines the socio-historical factors and the linguistic processes that contributed to the Romance languages and to their divergences.

3 1.5-hr cl. Prereq: One year of a Romance language or permission of instructor. Not open to students with credit for French 692 or Italian 692. Cross-listed in French and Italian. Offered bi-annually. Taught in English. This course counts toward: the Italian major (as one of the two courses taught in English), the French major (as an elective for all the major tracks), the Linguistics major or minor, the Spanish major (as an elective and the one course taught in English permitted to count for the major).

**811\* Romance Linguistics I G 5**

A general survey of the development of the Romance languages and an introduction to the basic materials and techniques of investigation.

2 2-hr cl. Prereq: Permission of instructor.

**812\* Romance Linguistics II G 5**

Topics and problems, both synchronic and diachronic; special attention to the minor Romance languages.

2 2-hr cl. Prereq: 811 or permission of instructor.

**831\* Seminar in Romance Linguistics G 3-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor.

**893 Individual Studies G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies G 1-15**

Investigation of minor problems in the various fields of Romance linguistics.

Prereq: Written permission of instructor. Repeatable to a maximum of 30 cr hrs.

**999 Research in Romance Linguistics G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Romanian**

232 Cunz Hall, 1841 Neil Ave, 292-6733

**101 Elementary Romanian U 5**

Extensive practice in the basic language skills.

Au Qtr. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang course.

**102 Elementary Romanian U 5**

The elements of Romanian grammar with oral and written exercises; development of conversational skill; reading, vocabulary building, attention to Romanian idioms.

Wi Qtr. 5 cl. Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

**104 Intermediate Romanian U 5**

Reading, oral and written practice, grammar review; balanced use of the four basic skills (reading, oral comprehension, speaking, and writing).

Au Qtr. 5 cl. Prereq: 112 or equiv with permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

**111 Intensive Intermediate Romanian U 10**

An intensive course that combines the content of two quarters of Romanian to complete the presentation of the basic Romanian grammar and readings based on Romanian geography, history, and customs.

Prereq: 102. Equiv to the third and fourth courses of the foreign language sequence; successful completion of 101-102-111 fulfills the Arts and Sciences foreign language requirement. Not open to students with credit for 104; or to native speakers of this language through regular course enrollment or EM credit. Students with credit for 103 or equiv will enroll for 5 cr hrs. GEC for lang course.

**235 Introduction to Romanian Culture U 5**

Romanian literature in its cultural context, survey of the relationship of literature, art, cultural traditions from the beginnings to the present.

Taught in English. GEC arts and hums cultures and ideas course.

**293 Individual Studies U 1-5**

Individual studies in Romanian.

Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Group studies in Romanian language, literature, and culture.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept. Repeatable to a maximum of 15 cr hrs.

**405 Conversation and Composition I U 5**

Drill in everyday patterns of conversation and elementary practice in writing.

Prereq: 104 or 111 or permission of instructor.

**407 Conversation and Composition II U 5**

Review of Romanian grammar; written compositions; perfection of pronunciation, translation practice, and expansion of vocabulary.

Prereq: 405 or permission of instructor.



**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**Rural Sociology**

208 Agricultural Administration Building, 2120 Fyffe Rd, 292-6321

**105 Introduction to Rural Sociology U 5**

Principles of society, major social institutions, and social change; emphasizes social changes in rural life, rural organizations, population, and family living.

Su, Au, Wi, Sp Qtrs. 5 cl. Not open to students with credit for Sociol 101 or 201. BER/GEC/LAR course. SS Admis Cond course.

**378 Social Groups in Developing Societies U 5**

Discussion of different life experiences, statuses, and behavior of people in major social groupings in developing societies.

Sp Qtr. 2 2-hr cl. Prereq: 5 cr hrs in rural soc, sociol, or related social science; or permission of instructor. BER/GEC/LAR course.

**489 Internship in Rural Sociology U 3-5**

Supervised experience with an approved firm or organization; written comprehensive report required.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of major adviser. Open only to dept majors. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**542 Leadership and Community Development U 5**

The application of leadership principles and best practices to community development.

Sp Qtr. 5 cl. Prereq: Sociol 101 or Rurl Soc 105 or 5 cr hrs of related social sciences, or permission of instructor.

**622 Amish Society U G 5**

Analysis of the historical, social, religious, economic and cultural dimensions of the Amish.

Wi Qtr. 2 2-hr cl. Prereq: 10 cr hrs in Rurl Soc, Sociol, or related social sciences, or permission of instructor.

**662 Diffusion of Innovations U G 5**

Examines the sociological processes involved in the dissemination of new ideas and technologies in developing nations and U.S. Assesses the consequences of new technologies for farmers, peasants, communities, and public well-being.

Au Qtr. 2 120 minute classes. Prereq: 10 cr hrs in rurl soc, sociol, or related social science. Not open to students with credit for 562.

**666\* Rural Poverty U G 5**

Evaluation of the factors which create and maintain poverty and inequality, with focus on the rural U.S., developing nations, and the comparative analysis of spatial inequalities.

Sp Qtr. 2 2-hr cl. Prereq: 15 cr hrs in rur soc or related social science.

**678 Women in Rural Society U G 5**

Women's role in rural society from a comparative perspective, focusing on agriculture, the environment, informal sector, and household production, both in developing and developed countries.

Sp Qtr. 2 2-hr cl. Prereq: 15 cr hrs in rur soc, sociol, or related social science, or permission of instructor.

**693 Individual Studies**

Su, Au, Wi, Sp Qtrs. Prereq: 2.50 cumulative pt-hr ratio and written permission of instructor.

**693.01 Rural Social Problems Individual Studies U G 2-5**

Prereq: 2.5 cphr and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**693.02 Rural Formal Organizations Individual Studies U G 2-5**

Prereq: 2.5 cphr and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**693.03 Rural Sociology in Foreign Areas Individual Studies U G 2-5**

Prereq: 2.5 cphr and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**693.04 Research Methods in Rural Sociology Individual Studies U G 2-5**

Prereq: 2.5 cphr and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**693.05 Rural Community and Institutions Individual Studies U G 2-5**

Prereq: 2.5 cphr and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**693.06 Community Development Individual Studies U G 2-5**

Prereq: 2.5 cphr and permission of instructor. Repeatable to a maximum of

15 cr hrs. This course is graded S/U.

**693.07 Diffusion of Technology Individual Studies U G 2-5**

Prereq: 2.5 cphr and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**693.08 General Rural Sociology Individual Studies U G 2-5**

Prereq: 2.5 cphr and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

An intensive study of a selected area in rural sociology appropriate to the needs of the group not provided in other courses.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 25 cr hrs. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**733 Sociology of Agriculture and Food Systems G 5**

Overview of sociological theory and research related to agricultural change and food system development, focusing on individual, family, community and environmental impacts.

Sp Qtr. Prereq: 15 cr hrs in rurl soc or social or related social science.

**742\* Concepts and Theories in Rural Sociology U G 5**

Examines the sociological significance of "rurality" and the conceptual perspectives applied to major substantive areas in rural sociology, such as community, environment, and agriculture.

Sp Qtr. 2 2-hr cl. Prereq: 15 cr hrs in rur soc and/or sociol at the 300-level or higher. Not open to students with credit for 642.

**766 Environmental Sociology U G 5**

Sociological approaches to the study of environmental policy. Analysis of major issues relating to the use and abuse of natural resources.

Wi Qtr. 2 2-hr cl. Prereq: 15 cr hrs in rurl soc and/or sociol at 400 level or above.

**788\* Sociological Theory Applied to Domestic Development U G 5**

Application of general sociological theories and development research findings to the analysis of domestic rural development; emphasis upon consensus and conflict models.

Au Qtr. 1 3-hr cl. Prereq: 15 cr hrs in rur soc or social or related social science. Not open to students with credit for 796.06.

**789 Survey Research Practicum G 5**

Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.

Sp Qtr. 1 3-hr cl. Prereq: Admission to grad interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 789 in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, Sociol, or Stat. Cross-listed in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, Sociol, and Stat.

**888\* Social Action in Community Development G 5**

Analysis of the social action process and its application to rural community development.

Wi, Sp Qtrs. Arr.

**892\* Rural Sociology of Development and Social Change G 5**

Overview of sociological principles, theories, and practice applied to international development and social change in rural settings.

Wi Qtr. 2 2.5-hr cl. Prereq: Grad standing. Not open to students with credit for 792. Offered even numbered years.

**999 Research G 1-18**

Research for thesis and dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Russian**

400 Hagerty Hall, 1775 College Road, 292-6733

See also Slavic Languages and Literatures.

**101 Elementary Russian I**

Development of oral and written language skills.

Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

Au, Wi Qtrs. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**101.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Repeatable to a maximum of 5 cr hrs.

**102 Elementary Russian II**

Development of oral and written language skills.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

Prereq: 101.01 or 5 cr hrs of 101.51. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**102.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Grade of B- or above in 101.01 or 5 cr hrs of 101.51 or permission of instructor. Students may register for 101.51 and 102.51 concurrently with permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the quarter may proceed to 103.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Repeatable to a maximum of 5 cr hrs.

**103 Intermediate Russian I**

Readings, oral and written practice, grammar review.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**103.01 Classroom Track U 5**

Au, Sp Qtrs. 5 cl. Prereq: 101.01 or 5 cr hrs or 102.51. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**103.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: Grade of B- or above in 102.01 or 5 cr hrs of 102.51 or permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Not open to students with 5 cr hrs for 103.05. Repeatable to a maximum of 5 cr hrs.

**104 Intermediate Russian II**

Readings, oral and written practice, grammar review.

Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**104.01 Classroom Track U 5**

Balanced use of the four basic skills: reading, oral comprehension, speaking, and writing; emphasis on Russian literary texts.

Au, Wi Qtrs. Prereq: 103.01 or 5 cr hrs of 103.51. Not open to students with credit for 104. This course is available for EM credit.

**104.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Grade of B- or above in 103.01 or 5 cr hrs of 103.51 or permission of instructor. Students may register for 103.51 and 104.51 concurrently with permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Repeatable to a maximum of 5 cr hrs.

**110<sup>A</sup> Intensive Elementary Russian U 5,10**

An intensive course combining the content of 101.01 and 102.01.

Not open to students with credit for 102, 102 decimal subdivisions, or 112; or to native speakers of this language through regular course enrollment or EM credit. Students with credit for 101 or any cr hrs of 101 decimal subdivisions may not register for more than 5 cr hrs. Equiv of first and second courses of the foreign language sequence; successful completion of 110-103-104 or 110-111 fulfills the ASC foreign language requirement. GEC for lang course.

**111<sup>A</sup> Intensive Intermediate Russian U 5,10**

An intensive course combining the content of 103.01 and 104.01.

Prereq: 102. Not open to students with credit for 104 or 104 decimal subdivisions; or to native speakers of this language through regular course enrollment or EM credit. Equiv to third and fourth courses of the foreign language sequence; successful completion of 101-102-111 fulfills the Arts and Sciences foreign language requirement. Students with credit for 103 or any hours of 103 decimal subdivisions, or 112 may not register for more than 5 cr hrs. GEC for lang course.

**135 Introduction to Russian Culture U 5**

Russian literature in its cultural context, survey of the relationship of literature, art, music, and drama from the beginnings to the present.

Su, Au, Wi, Sp Qtrs. Taught in English. GEC arts and hums cultures and ideas course.

**235 Modern Russian Culture: Magnificence, Mayhem, and Mafia U 5**

Modern Russian culture (magnificence, mayhem, and mafia) through analysis of literature, film, and visual arts.

4 cl. Taught in English. GEC arts and hums cultures and ideas course.

**250 Masterpieces of 19th Century Russian Literature U 5**

Reading and analysis of great works of 19th century Russian literature by authors such as Alexander Pushkin, Ivan Turgenev, Fyodor Dostoevsky, Leo Tolstoy, and Anton Chekhov.

Su, Au, Wi, Sp Qtrs. H250: Au, Sp Qtrs. H250 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Taught in English. GEC arts and hums lit course.

**251 Masterpieces of 20th and 21st Century Russian Literature U G 5**

Reading and analysis of great works of 20th and 21st century Russian literature.

Au, Wi, Sp Qtrs. 2-2-hr cl. H251 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110, 110.01, 110.02, 110.03 or equiv. GEC arts and hums lit and global (non-western) div course.

**360 Russian Dreams and Nightmares: The Modern Russian Experience through Film U 5**

Exploration of some of the most revealing hopes and disappointments of Russian people presented in internationally acclaimed Russian films.

Wi Qtr. 4 cl. Taught in English. No knowledge of Russian necessary. GEC arts and hums VPA and non-western (global) course.

**405 Russian Conversation and Composition**

Drill in everyday patterns of conversation and elementary practice in writing.

**405.01 Classroom Track U 5**

Wi, Sp Qtrs. Prereq: 104 or permission of instructor. Not open to students with credit for 405; or to native speakers of this language through regular course enrollment or EM credit. Students must register for and complete 5 cr hrs during the qtr.

**405.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 104.01 or 104.51 or permission of instructor. Not open to students with credit for 405 or 405.01; or to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 5 cr hrs. Students may register for 104.51 and 405.51 concurrently with permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete five credit hours during the qtr may proceed to 407. Progress is sequential from one credit hour to the next, with proficiency at the level of 80% required for advancement.

**407 Intermediate Russian Conversation and Composition**

Review of Russian grammar; written compositions, perfection of pronunciation, translation practice, and expansion of vocabulary.

**407.01 Classroom Track U 5**

Prereq: 405.01 or 5 cr hrs of 405.51 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. Students must register for and complete 5 cr hrs during the qtr.

**407.51 Individualized Track U 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 405.01 or 5 cr hrs of 405.51 or permission of instructor. Not open to students with credit for 407 or 407.01; or to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one credit hour to the next, with proficiency at the level of 80% required for advancement. Not open to students with credit for 407 or 407.01. Students may register for 405.51 and 407.51 concurrently with permission of instructor.

**511 Language Maintenance Course U 2**

Intended for students desiring to maintain an active knowledge of Russian without enrolling in advanced courses in grammar, literature or linguistics. Intermediate level conversation and non-literary popular readings.

2 cl. Prereq: 407, 407.01 or 407.51 or permission of instructor. Repeatable to a maximum of 12 cr hrs. Credit does not count for the major or minor. This course is graded S/U.

**512 Practical Russian Conversation U G 3**

Contemporary Russian conversational patterns.

Sp Qtr. 3 cl. Prereq: 30 hrs of Russian or permission or instructor. Not open to students with credit for 695, 895 or 995.

**514<sup>A</sup> Camp Horizon (Lager' Gorizont) U G 1**

A weekend total immersion Russian language camp; Russian only spoken; lectures, discussions, films, singing, dancing.

Friday 6 pm-Sunday 2 pm. Prereq: 560 or equiv, or permission of instructor. Repeatable to a maximum of 4 cr hrs. Travel and subsistence costs will be borne by the student. This course is graded S/U.

**520 The Golden Age of Russian Literature U G 5**

Novels, stories, plays and poetry of the major early nineteenth-century Russian Writers, including Puskin, Lermontov and Gogol.

Taught in English.

**521 Russian Literature in the Age of Realism U 5**

Exploration of the Age of Realism in Russia through prose writings of authors such as Turgenev, Dostoevsky, Tolstoy, Chernyshevsky, and Chekhov.

Prereq: English 110 or equiv. Taught in English.

**522 Modernism and Revolution in Russian Literature U G 5**

Decadent, modernist and avant-garde currents in Russian literature and culture at the beginning of the 20th century.

Taught in English.

**523 Rise and Fall of Soviet Literature U G 5**

Literature of the Soviet and post-Soviet period representing some of the broad artistic and intellectual movements, such as socialist realism and postmodernism.

**560 Contemporary Russian in Cultural and Literary Contexts I U G 5**

An intermediate Russian language course designed to improve the student's ability to communicate accurately and effectively in spoken and written Russian.

Au Qtr. Prereq: 407 or permission of instructor.

**561 Contemporary Russian in Cultural and Literary Contexts II U G 5**

An intermediate Russian language course designed to improve the student's ability to communicate accurately and effectively in spoken and written Russian.

Wi Qtr. Prereq: 560 or permission of instructor.

**562 Current Events through Russian Media U G 5**

An introduction to the Russian mass media with an emphasis on current events; focuses on developing skills for approaching written and oral native Russian texts.

Sp Qtr. Prereq: 561 or permission of instructor.

**571 Basic Russian for Graduate Students G 5**

Basic elements of Russian grammar.

Prereq: Grad standing. Credit does not apply to the minimum hours required for the master's or doctoral degrees.

**572 Russian for Research I G 3**

Prereq: Grade of C or above in 571 or equiv. Credit does not apply to the minimum hours required for the master's or doctoral degrees. Repeatable to a maximum of 6 cr hrs. Satisfactory completion of this course (grade A or B) may be accepted by the student's dept as evidence of a dictionary reading knowledge in fulfillment of PhD language requirement. No audit.

**573 Russian for Research II G 3**

Reading of difficult material at a reasonable rate of speed and with only infrequent use of dictionaries.

Prereq: Grade of A or B in 572 or equiv preparation demonstrated by a placement test and permission of instructor. Open only to grad students. Repeatable to a maximum of 6 cr hrs. Completion of this course with a grade of A or B may be accepted by the student's dept as evidence of a thorough reading knowledge of Russian. Credit does not apply to minimum hrs required for the master's or PhD degree. No audit.

**580 Reading Russian I**

Readings from a variety of sources with special emphasis on contemporary materials.

Prereq: 407.01 or 5 cr hrs in 407.51 or 573.

**580.51 Individualized Track U G 1-5**

Strategies for reading Russian expository prose; skimming, scanning, reading for complete comprehension, and critical reading. Authentic texts from contemporary journalistic prose.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 5 cr hrs. Students may register for 407.51 and 580.51 concurrently. Students register for and complete from 1 to 3 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 581.51. Progress is sequential from one cr hr to the next, with a proficiency at the level of 80% required for advancement.

**581 Reading Russian II****581.51 Individualized Track U G 1-3**

Continuation of 580; further development of strategies for reading Russian expository prose; authentic texts from contemporary journalistic prose.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 580.01 or 5 cr hrs in 580.51 or permission of instructor. Repeatable to a maximum of 3 cr hrs. Students register for and complete from 1 to 3 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 580.51 and 581.51 concurrently with permission of instructor.

**582 Reading Russian III****582.51 Individualized Track U G 1-3**

Continuation of 581.51; further development of strategies for reading Russian expository prose; authentic texts from contemporary journalistic prose.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 3 cr hrs of 581.51 or permission of instructor. Repeatable to a maximum of 3 cr hrs. Students register for and complete from

1 to 3 cr hrs during the qtr. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement. Students may register for 581.51 and 582.51 concurrently with permission of instructor.

**609 Advanced Reading, Conversation, and Composition I U G 4**

Reading of contemporary prose and verse, presentation of oral and written reports, drill in intonation patterns, translation from English into Russian.

Prereq: 561 or permission of instructor.

**610 Advanced Reading, Conversation, and Composition II U G 4**

Prereq: 609 or permission of instructor.

**617\*\* Business Russian U G 5**

Simulated trade negotiations with the Russians providing sufficient terminology to facilitate bi-lingual trade negotiations.

Prereq: 30 hrs of Russian or permission of instructor.

**631 Introduction to Russian Linguistics U G 3**

An introduction to linguistic concepts useful in the study of Russian; survey of major figures in Russian historical and descriptive linguistics.

Prereq: 30 cr hrs in Russian.

**635 Practical Russian Pronunciation U G 5**

Lectures and practical exercises, use of phonetic symbols, corrective exercises, and problems of teaching pronunciation.

Prereq: 30 cr hrs in Russian.

**640 Introduction to the Structure of Russian U G 5**

Elements of Russian pronunciation and grammar with comparisons to English.

**644\* Russian Folklore U G 5**

From the beginning to present; proverbs, the oral epic, historical songs, folktales, the folk theatre; analysis of the folklore component in modern Russian literature.

Taught in English.

**650 Dostoevsky U G 5**

Critical analysis of the major novels and shorter works; intellectual and literary development of Dostoevsky.

Prereq: Permission of instructor required of undergrad non-majors. Given in English but undergrad majors in Slavic will do prescribed portions of the reading in the original; grad students in Slavic must read in the original items starred on the departmental MA reading list.

**651 Tolstoy U G 5**

Analysis of all major works including the novels, plays, stories, and important polemical works.

Prereq: Permission of instructor required of undergrad non-majors. Given in English but undergrad majors in Slavic will do prescribed portions of the reading in the original; grad students in Slavic must read in the original items starred on the departmental MA reading list.

**653\*\* Russian Drama U G 5**

Emphasis on the period from 1850 to present day; Ostrovsky, Chekhov, Gorky, Andreyev, Blok, and Soviet writers Leonov and Kataev.

Prereq: 10 cr hrs in Russian or other literature courses at the 200 level or above. Given in English but undergrad majors in Slavic will do prescribed portions of the reading in the original; grad students in Slavic must read in the original items starred on the departmental MA reading list.

**656 Russian Women Writers U G 5**

The contributions of women writers to Russian literature and culture in the 19th and 20th centuries; emphasis on the contesting and transformation of gender roles.

**657 Gender and National Identity in Russian Cinema U G 5**

Explores changes of Russian national and gender identities during the twentieth century as reflected in Russian cinema.

Sp Qtr. 2.2-hr cl. Prereq: 360 or English 263 or 378 or Film Std 270 or Wom Stds 317 or grad standing or permission of instructor. Cross-listed in Women's Studies. Taught in English. No prior knowledge of Russian language required.

**660 Basic Approaches to the Study of Russian Literature U G 3**

Historical overview of Russian literary criticism and theory; basic practical approaches to the study of literary texts.

Prereq: Grad standing in dept or 25 hrs of Russian literature, or permission of instructor.

**675 Writing Seminar on Topics of Russian Literature, Language, and Life U 5**

Junior-senior seminar explores issues of Russian language and literature, focusing on reading in Russian and on honing English oral and writing skills.

Prereq: GEC 2nd writing course; jr or sr standing; or permission of instructor. Not open to grad students in Slavic. Repeatable to a maximum of 15 cr hrs.

**693 Individual Studies**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept chairperson. Repeatable to a maximum of 30 cr hrs (including cr hrs in 693.01 through 693.08) in any combination of decimal subdivisions. These courses are graded S/U.

**693.20 Literature U G 2-10**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.30 Linguistics U G 2-10**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.40 Language U G 2-10**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**693.50 Unspecified U G 2-10**

Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-10**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept chairperson. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**711 Advanced Russian Linguistic Stylistics U G 5**

Advanced study of Russian morphological, syntactic and semantic features and their stylistic function in a literary text.

Prereq: 610 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**720 History of the Russian Language U G 5**

Survey of phonetic, morphological, and syntactic changes in Russian from prehistory to the present.

Not open to students with credit for 820.

**723 Topics in Russian Poetry U G 5**

Topics vary: the history of Russian poetry, versification theory; literary schools such as symbolism, formalism, or futurism; study of individual poets from any period.

Prereq: 610 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**750 Pushkin and his Time G 5**

Analysis of Eugene Onegin as poetry and an encyclopedia of the times; social, political, and cultural trends in the 1820s and 1830s; romantic poets.

Prereq: 10 hrs of Russian literature at the 200 level or above or permission of instructor.

**752 Turgenev, Chekhov, and Aspects of Russian Realism U G 5**

Study of Russian prose works outside of the satirical genre and others than the prose of Dostoevsky and Tolstoy.

Prereq: 10 hrs of Russian or other literature at the 200 level or above, or permission of instructor.

**754 Contemporary 20th-Century Russian Literature G 5**

Russian literature of the 1960s through the present.

Prereq: Grad standing and good reading ability in Russian; or permission of instructor.

**801 College Teaching of Russian I G 5**

Methods and techniques for teaching Russian at the college level, selection and preparation of teaching and testing materials, the language laboratory, and other aids.

Au Qtr. Prereq: 611 or equiv, or permission of instructor. Requires participation in intensive workshop in September.

**826 Topics in the Structure of Russian G 5**

Analysis and description of the structure of contemporary standard Russian.

Prereq: 640 or equiv with permission of instructor. Repeatable to a maximum of 15 cr hrs.

**827 Topics in the History of Russian G 5**

Development of Russian from Common Slavic to contemporary standard Russian with consideration of its place within East Slavic.

Prereq: 720 or equiv with permission of instructor. Repeatable to a maximum of 15 cr hrs.

**829 Old Russian Literature: 15th-17th Century G 5**

Study of literary works of various genres cultivated in this period.

**831 Russian Literature, 1650-1800 G 5**

The baroque period, classicism, and sentimentalism; emphasis on the classical period of the 18th century.

Prereq: 2nd yr grad standing or permission of instructor.

**851 Seminar in Russian Literature, 1820-1917 G 3-5**

Repeatable to a maximum of 15 cr hrs.

**852 Seminar in Russian Literature since 1917 G 3-5**

Repeatable to a maximum of 15 cr hrs.

**993 Individual Studies**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept chairperson. Repeatable to a maximum of 40 cr hrs in any combination of decimal subdivisions.

**993.20 Literature G 2-10**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**993.30 Linguistics G 2-10**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**993.40 Language G 2-10**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**993.50 Unspecified G 2-10**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**Sanskrit**

222 Oxley Hall, 1712 Neil Avenue, 292-4052

**621\* Elementary Sanskrit U G 5**

Introduction to Indo-European, Indic, and Sanskrit; reading of introductory texts.

Not open to students with credit for Linguist 621.

**622\* Classical Sanskrit U G 5**

Reading of classical Sanskrit texts.

Prereq: 621 or permission of instructor. Not open to students with credit for Linguist 622.

**Scandinavian**

498 Hagerty Hall, 1775 College Road, 292-6985

**222 Nordic Mythology and Medieval Culture U 5**

The myths and gods of northern Europe and the culture which produced them within a modern social and psychological context.

Taught in English. GEC arts and hums lit course.

**500 Masterpieces of Scandinavian Literature U G 5**

Selected masterpieces of Scandinavian literature in European cultural context.

Taught in English. GEC arts and hums lit course.

**513 The Icelandic Saga U 5**

Introduces students to the Icelandic sagas, the greatest vernacular literature of the European Middle Ages.

Wi Qtr. 2 2-hr cl. Taught in English. GEC arts and hums lit course.

**520 The Films of Ingmar Bergman U G 5**

Major works of Sweden's foremost director; stress on film as a creative expression of the development of modern aesthetic and philosophical concerns.

3 cl. Taught in English. GEC arts and hums VPA course.

**571 Reading the Scandinavian Languages U G 5**

Fundamentals of grammar of the Scandinavian languages for research purposes in the humanities, sciences, and social and behavioral sciences.

5 cl.

**693 Individual Studies U G 2-5**

Investigation of problems in the various fields of Scandinavian literature and philology.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of chairperson. Repeatable to a maximum of 25 cr hrs. This course is graded S/U.

**H783 Honors Research U 3-5**

A program of research for each student which includes individual conferences and which culminates in an honors thesis or oral defense.

Au, Wi, Sp Qtrs. Arr. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC Honors Committee approval of project, a minimum 3.50 pt-hr ratio in the field of distinction, sr standing, and cumulative pt-hr ratio commensurate with honors program membership. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

## Sensory Biophysics

105 Biological Sciences Building, 484 West 12th Avenue, 292-8772

### 601 Introduction to Sensory Biophysics U G 5

Anatomy and function of sensory systems; psychophysical research methods; mathematical descriptions of information transfer; biophysical models.

Wi Qtr. 5 cl. Prereq: Biology 101 or 113 or H115, Chem 122, Physics 112, and Math 117.

## Serbo-Croatian

400 Hagerty Hall, 1775 College Road, 292-6733

### 101 Elementary Serbo-Croatian I

Au Qtr. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang course. FL Admis Cond course.

#### 101.01 Classroom Track U 5

### 102 Elementary Serbo-Croatian II

Wi Qtr. Prereq: 101 or 101.01 or 5 cr hrs of 101.51 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

#### 102.01 Classroom Track U 5

### 103 Intermediate Serbo-Croatian I

Prereq: 102 or 102.01 or 5 cr hrs of 102.51 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

#### 103.01 Classroom Track U 5

### 104 Intermediate Serbo-Croatian II

Continuation of 103; development of the four skills.

Prereq: 103.01 or 5 cr hrs of 103.51 or equiv or permission of instructor. Not open to students with credit for 104 or 111; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

#### 104.01 Classroom Track U 5

### 405 Conversation and Composition I

#### 405.01 Classroom Track U 5

Reading texts of moderate difficulty, conversation, and simple compositions.

Prereq: 104.01 or 5 cr hrs of 104.51 or 111 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit.

#### 405.51^ Individualized Track U 1-5

Reading texts of moderate difficulty, conversations, and simple compositions.

Prereq: 104.01 or 5 cr hrs of 104.51 or 111 or permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Repeatable to a maximum of 5 cr hrs. Progress is sequential from one cr hr to the next, with proficiency at the level of 80 percent required for advancement. Students may register for 405.51 and 407.51 concurrently with permission of instructor.

### 407 Conversation and Composition II

#### 407.01 Classroom Track U 5

Reading from modern Serbo-Croatian literature, practice in writing and speaking.

#### 407.51 Individualized Track U 1-5

Reading from modern Serbo-Croatian literature; practice in writing and speaking.

Prereq: 405.01 or 5 cr hrs of 405.51 or permission of instructor. Students register for and complete from 1 to 5 cr hrs during the qtr. Repeatable to a maximum of 5 cr hrs. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 405.51 and 407.51 concurrently with permission of instructor.

### 580 Reading Serbo-Croatian I

#### 580.51 Individualized Track U G 1-5

Development of reading skills; short texts and headlines from contemporary popular journals and newspapers.

Arr. Prereq: 5 cr hrs of 407 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement. Students may register for 407.51 and 580.51 concurrently with permission of instructor.

### 581 Reading Serbo-Croatian II

#### 581.51 Individualized Track U G 1-5

Continuation of 580.51; reading of somewhat more difficult unedited texts from contemporary magazines and newspapers; reading for comprehension without a dictionary.

Arr. Prereq: 5 cr hrs of 580.51 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs

during the qtr. Progress is sequential from one cr hr to the next with proficiency at the level of 80% required for advancement. Students may register for 580.51 and 581.51 concurrently with permission of instructor.

## Shona

486 University Hall, 230 North Oval Mall, 292-3700

### 101^ Elementary Shona I U 5

Development of oral proficiency in elementary conversational Shona.

GEC for lang course.

### 102^ Elementary Shona II U 5

Continued development of oral proficiency in elementary conversational Shona.

Prereq: 101. GEC for lang course.

### 103^ Intermediate Shona I U 5

Development of oral proficiency in intermediate conversational Shona.

Prereq: 101. GEC for lang course.

### 104^ Intermediate Shona II U 5

Continued development of oral proficiency in intermediate conversational Shona.

Prereq: 103. GEC for lang course.

## Slavic and East European Studies

322 Oxley Hall, 1712 Neil Avenue, 292-9660

See also Slavic Languages and Literatures

### 694 Group Studies U G 1-5

Selected topics focusing on Slavs and East Europeans and the countries of Eastern Europe.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

## Slavic Languages and Literatures

400 Hagerty Hall, 1775 College Road, 292-6733

See also Bulgarian, Czech, East European Languages and Literatures, Hungarian, Polish, Romanian, Russian, Serbo-Croatian and Ukrainian.

### 130 Introduction to Slavic Culture: The Vampire in East European and American Culture U 5

Introduction to East European culture (including ethnic subgroupings and religions), focusing on beliefs about vampires and their influence on western literature, film, and popular culture.

Au Qtr. Taught in English. GEC arts and hums cultures and ideas course.

### 245 Introduction to Slavic Literature and Culture U 5

Selected Slavic or East European literature(s) in its/their cultural context; relationships between literature, film, drama; may include art and music.

Repeatable to a maximum of 15 cr hrs. Taught in English. GEC arts and hums lit course.

### 294 Group Studies U 1-5

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 10 cr hrs.

### 367 The East European Experience in America U 5

An intermediate course that extends and refines expository writing and analytic reading skills, with an emphasis on writings about issues presented through the diverse voices of Eastern European immigrants in the United States from the nineteenth century to the present day.

Prereq: English 110 or 111, or equiv with permission of instructor; and soph standing. GEC second writing and social diversity course.

### H583 Cinderella's Fantasy: Gender and Women in Western and Eastern Europe U 5

The complementary nature of feminists' notions in Western and Eastern European societies and cultures via literature and film.

Prereq: Enrollment in an honors program or by permission of department or instructor. Taught in English. Films have English subtitles.

### 671 Grammar of Selected Slavic Languages U G 5

Fundamentals of grammar required for reading; the language to be taught will change each year.

Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs. Individual languages not repeatable. Taught in English.

**672 Reading of Selected Slavic Languages U G 5**

Reading of elementary and intermediate texts and translation into English.  
Prereq: 671 (same language) or equiv. Repeatable to a maximum of 25 cr hrs.  
Individual languages not repeatable. Taught in English.

**693 Individual Studies**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of dept chairperson.

**693.20 Literature U G 2-10**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**693.30 Linguistics U G 2-10**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**693.40 Languages U G 2-10**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**693.50 Unspecified U G 2-10**

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-10**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 10 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**700 Introduction to Slavic and East European Studies G 5**

Central topics, current research, and research methodology in the Slavic and East European area studies.

Au Qtr. Prereq: Grad standing or permission of instructor.

**760 Survey of the Slavic Languages U G 5**

A general survey of all the Slavic languages and their common features.

Not open to students with credit for 860. Knowledge of a Slavic language is helpful but not required.

**770 Violence and Alterity in the Balkans U G 5**

A critical and comparative analysis of violence and its expressions in epic, novel, and film in the Balkans.

Au Qtr. 2-2 hr cl. Prereq: Grad standing or permission of instructor.

**H783 Honors Research U 3-5**

Au, Wi, Sp Qtrs. Prereq: 4th yr standing; a grade of A in at least half of the Slavic courses taken and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**810 Old Church Slavonic G 5**

Study of the earliest Slavic language; reading and linguistic interpretation of original documents.

**812 Readings in Church Slavonic Texts G 5**

Reading and analysis of Church Slavonic texts of the later period.

Prereq: 810 or permission of instructor.

**814\* Slavic Paleography G 5**

Fundamentals of Slavic paleography with special reference to the manuscripts on microfilm housed in the Hilandar Research Library.

Su Term 2 2 cl, 2 labs. Prereq: 810 and 812 or permission of instructor.

**821 Structure of Selected Slavic Languages G 5**

Structure of any of the following: Belorussian, Bulgarian, Czech, Sorbian, Macedonian, Polish, Serbo-Croatian, Slovak, Slovenian, or Ukrainian.

Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs. Individual languages not repeatable.

**834 Medieval Slavic Literatures 9th-14th Century G 5**

Emphasis on the Eastern and South Slavic literatures.

Prereq: Permission of instructor.

**861 History of the South Slavic Languages G 5**

Bulgarian, Macedonian, Serbo-Croatian, and Slovenian, with emphasis on Serbo-Croatian and its relation to the other South Slavic languages.

Prereq: Good command of Russian and acquaintance with a second Slavic language or permission of instructor.

**862 History of the West Slavic Languages G 5**

Polish, Czech, Slovak, Polabian, Kashubian, and Sorbian, with special emphasis on Polish and its relation to the other West Slavic languages.

Prereq: Good command of Russian, and acquaintance with a second Slavic language or permission of instructor.

**864 Comparative Slavic Grammar G 5**

Development of Indo-European phonology and morphology into Common Slavic and the development in contemporary Slavic languages.

Prereq: 760 or permission of instructor.

**870 Seminar in Slavic Philology G 3-5**

Historical and comparative studies in the Slavic languages and related language families, including Baltic and Finno-Ugric.

Repeatable to a maximum of 20 cr hrs.

**871 Seminar in Slavic Linguistics G 3-5**

Descriptive and transformational studies in Russian and other Slavic languages.

Repeatable to a maximum of 20 cr hrs.

**875\* Seminar in Slavic Literature G 3-5**

Selected topics from medieval and modern literature.

Au Qtr. 2 cl. Repeatable to a maximum of 15 cr hrs.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**993 Individual Studies**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of chairperson.

**993.20 Literature G 2-10**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**993.30 Linguistics G 2-10**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**993.50 Unspecified G 2-10**

Repeatable to a maximum of 40 cr hrs. This course is graded S/U.

**999 Research in Slavic G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Social and Behavioral Sciences, College of

1010 Derby Hall, 154 North Oval Mall, 292-8448

**100 Social and Behavioral Sciences Survey U 1**

Academic requirements, University procedures, grading system, resources; student rights and responsibilities; overview of Social and Behavioral Sciences areas of study, Arts and Sciences services.

Au Qtr. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for Agr Int 100, Arts Col 100.01 or 100.02, Arts&Sci 100 or 100.01 or 100.02, Bio Sci 100, Engineer 100, Hum Col 100, MPS Col 100, or any decimal subdivision of Univ Col 100. This course is graded S/U.

**294 Group Studies U 1-5**

Interdisciplinary studies in the social and behavioral areas.

Repeatable to a maximum of 15 cr hrs.

**591 Capstone Course in Public Policy U 5**

Integrative course based on social and behavioral science perspectives about public policy: methods, case studies, analyses, policy solutions.

Prereq: Polit Sc 305 and Econ 532 (or AED Econ 631) and two courses in a specialization area of the SBS Public Policy minor.

**694 Group Studies U G 1-5**

Interdisciplinary studies in the social and behavioral areas.

Repeatable to a maximum of 15 cr hrs.

## Social Work

300 Stillman Hall, 1947 College Road, 292-6288

**100 Social Work Survey U 1**

Introduction to university undergraduate community and strategies for a successful transition; exploration of the social work profession.

Su, Au, Wi, Sp Qtrs. 2 1-hr cl. Prereq: Enrollment in College of Social Work. Not open to students with credit for USAS 100.35.

**230 Individual Needs and Societal Responses U 5**

Introductory understanding of human needs, social values, ideologies, and institutional structures which have shaped the evaluation of social welfare programs in America.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab. Not open to students with credit for 220. BER/GEC/LAR course.

**300 Minority Perspectives: Race, Ethnicity, and Gender U 5**

Examination of the structure of human societies, cultures, and institutions, and the allocation of resources from the vantage point of oppressed minority populations.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 1 2-hr lab. Prereq: 10 cr hrs of course work in polit sc, psych, or sociol. Not open to students with credit for 600. GEC course.

**301 Needs and Social Conditions of Latino/as, Social Policies, and Human Services U 5**

Role of current social policies and human services in the lives of Latino/as, including public assistance health, education, immigration, border issues, and official language policy.

Sp Qtr. 2 2.5-hr cl. Prereq: 10 cr hrs of course work in polit sc, psych, or sociol. GEC social diversity course.

**494 Group Studies U 2-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered in social work.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 10 cr hrs.

**503 Juvenile Delinquency: Origins and Social Control U 5**

Examination of juvenile delinquency as a social problem with emphasis on its history, policy initiatives, and treatment.

Wi Qtr. 2 2.5-hr cl. Prereq: Jr standing; 15 cr in social sciences. GEC Capstone 1.

**520 Problems, Policies, and Programs in Social Welfare I U 3**

An introduction to historical backgrounds and the utilization of an analytical framework in the study of the American social welfare system.

Au Qtr. 1 3-hr cl. H520 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Soc work major; nonmajors with permission only.

**521 Problems, Policies, and Programs in Social Welfare II U 3**

Application of an analytical framework to the study of current issues and problems of policies, programs and social welfare services in the perspective of the American welfare system.

Wi Qtr. 1 3-hr cl. Prereq: 520.

**533 Determinants of Social Functioning I U 3**

Study of life cycle, growth, and development from birth through adolescence from bio-psycho-social perspective; selected theories of personality discussed in relationship to growth and development.

Au Qtr. 1 3-hr cl. H533 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Jr. standing in soc work.

**534 Determinants of Social Functioning II U 3**

Study of life cycle from young adulthood through old age including dying and death; discussion of influences on social functioning of group relationships, organizations, and institutions.

Wi Qtr. 1 3-hr cl. Prereq: 533.

**570 Quantitative Analyses of Social Data U 5**

Examination of social welfare data with a focus on data analysis; review of descriptive and inferential methods with a primary emphasis on interpretation and computer applications.

Wi Qtr. 2 2-hr cl, 1-hr lab arr. Prereq: 230 and Math 104 or equiv. GEC course.

**571 Introduction to Research Methods In Social Work U 4**

Science and society; research design; measuring variables; data collection, processing, and analysis.

Au Qtr. 2 2-hr cl. H571 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor.

**576 Critical Assessment of Social Research U 5**

Development of practical skills in critical and analytic writing in weighing competing ideas both in writing and oral forms.

Sp Qtr. 2 2.5-hr cl. Prereq: 571 or equiv, English 110 or 111, second writing course, and jr or sr standing. GEC/LAR course.

**593 Individual Studies U 1-5**

Individual study projects on problems and services in selected areas of social welfare; report required.

Su, Au, Wi, Sp Qtrs. Prereq: 10 cr hrs in soc work or related courses, approval of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**597 Adolescent Parenthood and Sexuality: International Perspectives U G 5**

Examination of origins of adolescent sexual problems in milieus that develop different value systems; public policies and social programs designed to control adolescent sexuality and parenthood.

Su Qtr. 2 2.5-hr cl. Prereq: Sr standing; and 15 cr hrs of course work in social science in individual development, adolescence, the family, culture, and social change. Not open to MSW students. GEC/LAR course.

**644 Social Work Practice Lab U 3**

Introduction to practice-relevant communication, interactional group skills; extensive use of discussion-participation, role-play, and demonstration with help of audio-visual media.

Sp Qtr. 1 3-hr cl. Concur: 645. Open only to social work majors.

**645 Social Work Practice I U 4**

Foundation professional values, practice knowledge and change-oriented action within a generalist ecological perspective for working with people at various levels of human systems.

Sp Qtr. 2 2-hr cl. Prereq: Jr standing and concur 644.

**646 Social Work Practice II U 3**

Values, knowledge, and skills of generalist social work practice with individuals and families by using an ecological problem-solving model.

Au Qtr. 1 3-hr cl. Prereq: 644 and 645; soc work majors only.

**647 Social Work Practice III U 3**

Generalist-ecological framework with professional values, knowledge, and skills essential to effective intervention with small groups and community groups.

Wi Qtr. 1 3-hr cl. Prereq: 646. Open only to soc work majors.

**689 Field Practice U 1-18**

Placement in a social welfare organization used by the college as a teaching center; student expected to assume a service provision role in a progressively responsible manner.

Au, Wi, Sp Qtrs. Social agency assignments. Prereq: 644, 645, and proof of liability insurance. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**690 Ethical Issues in the Human Services U G 3**

Historical, philosophical and legal foundations giving rise to ethical principles which underlie social work practice.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Sr standing. Satisfies 3 credits for the LSW license renewal.

**691 Case Management and Social Work Practice U G 4**

Social work competencies in the provision of services to address client problems and populations. Emphasis on client/family strengths and social networks.

Su, Sp Qtrs. 1 3-hr cl, 1 hr lab arr. Prereq: Sr standing. Satisfies 4 credits of LSW license renewal.

**694 Group Studies U G 1-5**

Selected topics.

Su, Au, Wi, Sp Qtrs. Arr.

**695 Integrative Seminars**

Examines the various fields of social work practice; focuses on developing the ability to set practice goals, decide methods of intervention, implement, and evaluate consequences.

Su, Au, Wi, Sp Qtrs.

**695.09 Alcoholism U G 3**

1 3-hr cl.

**695.11 Intensive, In-Home, Family-Based Treatment U G 3**

Holistic approach to home-based family services; includes advocacy, didactic instruction and resource networking.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. May fill social work elective credits.

**695.12 Child and Family Services U G 3**

1 3-hr cl. May be taken to fulfill social work elective cr hrs.

**695.13 Corrections U G 3**

1 3-hr cl. May be taken to fulfill social work elective cr hrs.

**695.14 Aging U G 3**

1 3-hr cl. May be taken to fulfill social work elective cr hrs.

**695.15 Mental Retardation and Developmental Disabilities U G 3**

1 3-hr cl. May be taken to fulfill social work elective cr hrs.

**695.16 Physical Health Care U G 3**

1 3-hr cl. May be taken to fulfill social work elective cr hrs.

**695.17 AIDS: Facts and Issues U G 3**

Au Qtr. 1 3-hr cl. Certificate upon completion of 695.17, 695.18, 695.19.

**695.18 AIDS: Psychosocial Aspects U G 3**

Wi Qtr. 1 3-hr cl. Prereq: 695.17. Certificate upon completion of 695.17, 695.18, 695.19.

**695.19 AIDS: Community Response U G 3**

Sp Qtr. 1 3-hr cl. Prereq: 695.18. Certificate upon completion of 695.17, 695.18, 695.19.

**695.20 Sexualities, Diversity, and Social Work U G 3**

Ecological and social systems perspectives on sexual diversity for social workers and human services professionals. Content consistent with social work ethics and values, especially advocacy for the marginalized and oppressed.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Sr standing or permission of instructor.

**695.21 Child Welfare I: Protecting Children by Strengthening, Supporting and Empowering Families U G 3**

Provides knowledge, concepts and tools needed for beginning practice in public and private child welfare including family issues and social policies.

Au Qtr. 1 3-hr cl.

**695.22 Child Welfare II: Addressing Children's Developmental and Permanency Needs U G 3**

Addresses developmental needs of children in child welfare system including effects of maltreatment, separation, placement issues, and adoption.

Wi Qtr. 1 3-hr cl. Prereq: 695.21.

**695.23 Social Work and the Law U G 3**

How legal concepts and principles shape policy and practice; how social research is used by the legal system and how social activism influences the legal system.

Su, Au, Wi, Sp Qtrs. 1 3-hr cl. Prereq: Sr standing. May be taken to fulfill social work elective credits.

**695.24 Caregiving Across the Life Span: Contemporary Issues, Programs and Policies U G 3**

Needs of individuals providing care for a chronically ill or disabled family member or friend are addressed including issues faced by diverse and oppressed populations.

1 3-hr cl. Prereq: Sr ranking. May be taken to fulfill Undergraduate and Graduate Interdisciplinary Specializations in Aging elective.

**695.25 Women and Aging: International Perspectives U G 3**

Introduction to the diversity of aging experiences for women throughout the world; explore current and historical, social, economic, and health realities of older women.

Wi Qtr. 1 3-hr cl. Fulfills elective credit in Undergraduate and Graduate Interdisciplinary Specializations in Aging.

**H696 Thesis Seminar U G 3**

Direction will be provided to facilitate honors students and MSW students at designing a thesis proposal.

Au Qtr. 1 2.5-hr cl. Prereq: 576 or MSW major. Not open to students with credit for H694. Open only to soc work majors.

**697 Study at a Foreign Institution**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**697.01 Social Work in the Context of Social Development: Comparative Policy and Practice in India U G 5**

Emphasizes comparative social work practice and policy within a social development framework; addresses a variety of fields of practice: health, child welfare, and others.

Su Qtr. Arr. Prereq: Permission of instructor; concurrent enrollment required in International Studies 697 (Indian History, Society, and Culture). This is a Progress course. Course taught on location in South India (mostly Madras) as part of an International Education offering.

**697.02 Social Welfare in Eastern Europe: The Polish Experience U G 9**

Focus on social welfare policy and practice in Poland through lectures and visits to social service agencies in Cracow, Poland.

Su, Au Qtrs. Arr. Repeatable to a maximum of 18 cr hrs. This is a Progress course. Preference given to social work majors. Cross-listed with International Studies 697.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**H699 Honors Research U 3-12**

Research for Honors Thesis purpose only.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 4th yr standing with a grade of A in at least half of the soc work courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Social Work Honors committee. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**700 Interprofessional Education**

Focus on ethical issues, changing professional/consumer rights, and

interprofessional cooperation.

3-hr cl. Limited to students in allied medical professions, education, law, medicine, nursing, social work, and theology.

**700.01 Seminar on Interprofessional Care U G 3**

Treatment of the whole person through the analysis of the interrelated problems of actual patients/clients.

Wi, Sp Qtrs. Repeatable to a maximum of 9 cr hrs.

**700.03 Ethical Issues U G 3**

Ethical issues of concern to the professions and arising out of the advanced technology: euthanasia, mind control, malpractice, and social responsibility of the professions.

Au Qtr. Repeatable to a maximum of 9 cr hrs.

**710 Women's Issues in Social Work P G 3**

Examination of relevant issues in the professional practice of social work.

Su, Au, Wi Qtrs. 1 2.5-hr cl. Prereq: Grad standing.

**711 Race and Ethnicity in Social Work Practice P G 3**

An analytical approach to problems, needs, and intervention for effective social work practice with the oppressed target populations of Appalachians and Blacks.

Su, Au, Wi Qtrs. 1 2.5-hr cl. Prereq: Grad standing.

**712 Social Welfare and the Jewish Community P G 3**

A study of the historical, cultural, and religious antecedents for the development of the current organization of Jewish Communal Services in the United States.

Sp Qtr. 1 2.5-hr cl. Prereq: Grad standing.

**713 Social Work Practice in the Schools G 3**

Examination of major issues in American schools, theoretical framework for social work services, delivery of services, models of school social work intervention, and intervention strategies.

Sp Qtr. 1 2.5-hr cl. Prereq: 746 or 747.

**717 Nisonger Center Courses in Mental Retardation and Developmental Disabilities**

Focus on interdisciplinary topics in mental retardation and developmental disabilities.

Prereq: Permission of instructor. Cross-listed in Allied Medicine, Education: Physical Activity and Educational Services, Human Development and Family Science, Human Nutrition, Nursing, Psychology, and Speech and Hearing Science.

**717.01 Family Systems: An Interdisciplinary Approach to Families of Handicapped Children U G 3**

Qualitative and quantitative approaches for resource and problem identification with families of handicapped children, effective parenting skills, strategies to follow at-risk families, and family intervention models.

Wi Qtr. 1 3-hr cl. Not open to students with credit in 717.01 in any cross-listed areas.

**717.02 Interdisciplinary Perspectives on Autism Spectrum Disorders U G 3**

Critical examination of the latest information on biomedical, psycho-social, educational, communication and language, family and sensory issues of autism spectrum disorders.

Su Qtr. 1 3-hr cl. Not open to students with credit in 717.02 in any cross-listed areas.

**717.03 Developmental Disabilities U G 3**

Focus on the most pertinent scientific and societal issues of developmental disabilities.

Au Qtr. 1 3-hr cl. Not open to students with credit for 717.03 in any of the cross-listed areas.

**720 Social Welfare Policies and Programs I P G 3**

Historical and comparative analysis of social welfare systems; their relationship to change in the basic social institutions: family, church, government, and economic institutions.

Au Qtr. 1 2.5-hr cl. Prereq: Soc work grad standing or permission of instructor.

**721 Social Welfare Policies and Programs II P G 3**

The development and application of a conceptual model for social welfare policy and program analysis.

Wi Qtr. 1 2.5-hr cl. Prereq: 720.

**730 Seminars in Social Functioning**

Critical examination of personality, interactional, small group, organizational and community concepts and approaches used in social work analysis of social dysfunction.

Su, Sp Qtrs. 1 2.5-hr cl. Prereq: Soc work grad standing.

**730.01 Institutional and Organizational Behavior P G 3****730.02 Psychopathology and Deviance P G 3**



**733 Human Behavior and the Social Environment I P G 3**

Social work theories and concepts related to individuals and families as they develop over the life span; systems model provides a unifying framework.  
Au Qtr. 1 2.5-hr cl. Prereq: Soc work grad standing or permission of instructor.

**734 Human Behavior and the Social Environment II P G 3**

Continues applying the social work systems and life span frameworks to extra-familial environments (i.e., groups, communities and cultures) that affect individual development and social functioning.  
Wi Qtr. 1 2.5-hr cl. Prereq: 733.

**741 Clinical Practice**

Theory and methods of clinical social work practice with individuals, families, and groups; social work philosophy and values in the study of assessment, evaluation, and methods of intervention.

**741.02 Individuals P G 3**

Su, Au Qtrs. 1 2.5-hr cl. Prereq: 746 or 747.

**741.03 Couple and Family Therapy P G 3**

Wi Qtr. 1 2.5-hr cl. Prereq: 746 or 747.

**741.04 Crisis Intervention P G 3**

Sp Qtr. 1 2.5-hr cl Prereq: 746 or 747.

**741.05 Groups P G 3**

Au Qtr. 1 2.5-hr cl. Prereq: 746 or 747.

**741.09 Special Topics P G 2-5**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 746 or 747. Repeatable to a maximum of 20 cr hrs.

**742 Administrative Aspects of Practice in Human Services Organizations**

Examines generic functions and processes of administration in relation to a conceptual framework for the management of human services professionals, based in a social work value orientation; application to public and voluntary social welfare/human services organizations.

**742.02 Staffing P G 3**

Au Qtr. 1 2.5-hr cl. Prereq: 746 or 747.

**742.04 Program Design and Management P G 3**

Au Qtr. 1 2.5-hr cl. Prereq: 746 or 747.

**742.05 Financial Management P G 3**

Wi Qtr. 1 2.5-hr cl. Prereq: 742.04.

**742.06 Management Information Systems P G 3**

Wi Qtr. 1 2.5-hr cl. Prereq: 742.04.

**742.07 Resource Acquisition for Human Service Organizations G 3**

Learn rationale and methods for acquiring resources for both public and private human service organizations with emphasis on grant writing, fund raising and related topics.

Sp Qtr. 1 2.5-hr cl. Prereq: 746 or 747.

**742.09 Special Topics P G 2-5**

Su Qtr. Arr. Prereq: 746 or 747. Repeatable to a maximum of 20 cr hrs.

**743 Social Planning Aspects of Practice**

Concepts and strategies involved in the design, planning, implementation, monitoring, and evaluation of social delivery.

**743.03 Advanced Community Practice P G 3**

Sp Qtr. 1 2.5-hr cl. Prereq: 746 or 747.

**744 Social Work Practice Lab P G 3**

Didactic and experiential learning of generalist practice skills.

Au Qtr. 1 3-hr cl. Open only to social work major only of grad standing. This course is graded S/U.

**745 Practice and Profession I P G 3**

Assessment, planning and contracting with various levels of client systems within the context of the profession's commitment to an ecosystem perspective.

Wi Qtr. 1 2.5-hr cl. Prereq: 744.

**746 Practice and Profession II P G 3**

Intervention, evaluation and termination with various sized client systems within the context of the profession's commitment to an ecosystem perspective.

Sp Qtr. 1 2.5-hr cl. Prereq: 745. Open only to SWK majors.

**747 Graduate Integrative Practice Seminar P G 4**

Integrate knowledge from undergraduate practice foundation into a more advanced generalist practice framework using micro and macro case-based practice applications with attention given to populations-at-risk.

Su Qtr. 2 2-hr cl. Prereq: ASAP standing. Not open to students with credit for 744, 745 or 746.

**750 Social Welfare Policies and Programs**

Unique and specific aspects of social welfare policies and programs in selected fields of Social Work which augment Clinical and Social Planning/Administration concentrations.

Su, Au, Wi, Sp Qtrs. 1 2.5-hr cl. Prereq: 721 and 746 or 747. Students may not register for more than a total of 9 cr hrs under this number; subdivisions

not repeatable.

**750.01 Child and Family Services P G 3**

Understanding and application of the analytic model of social welfare policies and programs with special emphasis on the disadvantaged as applied to child and family social work practice.

**750.02 Aging P G 3**

Examination of social welfare policies affecting the elderly; identification of current and future issues and comparison of international, federal, state, and local programs.

**750.03 Health P G 3**

Analysis of social and economic policies and political forces which influence the delivery of health services and the role of social workers in health care.

**750.04 Mental Health P G 3**

Utilizing a social policy analytic framework; introduces social welfare policy issues and program organization.

**751 Social Work Practice**

Unique and specific aspects of social work practice in related fields and social work which augment clinical and social planning/administration concentrations.

Au, Wi, Sp Qtrs. 1 2.5-hr cl. Prereq: 746 or 747. Students may not register for more than a total of 9 cr hrs under this number; subdivisions are not repeatable.

**751.01 Child and Family Services P G 3**

Develops advanced skills in dealing with problems of children and their families to assure protection and permanency through direct and indirect social work intervention.

**751.02 Aging P G 3**

Theoretical perspectives relevant to the aging process are examined; review of special concerns and treatment modalities unique to adults in middle and later years.

**751.03 Health P G 3**

Knowledge and skills for specialized social work practice in health; clinical, planning, and administrative roles in several subspecialties are addressed.

**751.04 Mental Health P G 3**

Provides knowledge and skills in clinical, and planning/administrative modes of practice in a range of mental health settings with selected target populations.

**770 Research Methods in Social Work P G 3**

Basic research methodology; the role of research in social work.

Su, Au Qtrs. 1 2.5-hr cl. Prereq: Soc work grad standing or permission of instructor.

**771 Data Analysis Designs P G 3**

Interpretation of social work data; quantitative techniques; designs of data analysis.

Su, Wi Qtrs. 1 2.5-hr cl. Prereq: Soc work grad standing or permission of instructor.

**772 Evaluation of Social Work Practice P G 3**

Utilization and selection of methodological techniques and applications for evaluating practice design and program effectiveness.

Su, Sp Qtrs. 1 2.5-hr cl. Prereq: 770 and 771. Not open to students with credit for 875.01 or 875.03.

**789 Field Practicum I**

Integration of field practice with social work practice theory.

Prereq: 744. Open only to SW majors. Proof of liability insurance. Placement in assigned human service organization 2 days wkly. Normally scheduled Wi and Sp Qtrs.

**789.01 Field Practicum I: Columbus P G 1-8**

Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**789.02 Field Practicum I: Lima P G 1-8**

Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**789.03 Field Practicum I: Mansfield P G 1-8**

Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**789.04 Field Practicum I: Newark P G 1-8**

Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**789.05 Field Practicum I: Wright State P G 1-8**

Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**789.06 Field Practicum I: Franklin County Children's Services P G 1-8**

Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

**790 Introduction to Gerontology P G 3**

Introduction to impact of physiological, psychological, and socio-economic conditions associated with aging to provide foundation in gerontology.

Au Qtr. 1 3-hr cl. Not open to students with credit for Dent 792.17. Open to sr level students with permission of instructor. Cross-listed in Allied Medicine. Core course required for Graduate Specialization in Aging.

**793 Individual Studies P G 1-5**

Directed readings and tutorials related to specific problems.  
Su, Au, Wi, Sp Qtrs. Prereq: Soc work grad standing, permission of instructor.  
Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**794 Group Studies P G 1-4**

Group seminars in specialized areas of curriculum.  
Su, Au, Wi, Sp Qtrs. Prereq: Soc work grad standing, permission of instructor.  
Repeatable to a maximum of 15 cr hrs.

**797 Interdepartmental Seminars: Research Issues in Gerontology G 5**

Explores the interface between research and practice issues in gerontology and geriatrics.  
Sp Qtr. 1 3-hr cl. Prereq: Grad standing; one course in research design or statistics is recommended. Not open to students with credit for Anthro 820.18. Cross-listed with Anthro 820.18.

**889 Field Practicum II**

Designed to permit students to achieve greater autonomy and to maximize skill development in the integration of social work theory and practice.  
Prereq: 789 or 747. Open only to SW majors. Proof of liability insurance. Placement 3 days wkly Au, Wi, Sp Qtrs in human service organization in accordance with student's primary mode of intervention.

**889.01 Field Practicum II: Columbus P G 1-15**

Repeatable to a maximum of 21 cr hrs. This course is graded S/U.

**889.02 Field Practicum II: Lima P G 1-15**

Repeatable to a maximum of 21 cr hrs. This course is graded S/U.

**889.03 Field Practicum II: Mansfield P G 1-15**

Repeatable to a maximum of 21 cr hrs. This course is graded S/U.

**889.04 Field Practicum II: Newark P G 1-15**

Repeatable to a maximum of 21 cr hrs. This course is graded S/U.

**889.05 Field Practicum II: Wright State P G 1-15**

Repeatable to a maximum of 21 cr hrs. This course is graded S/U.

**889.06 Field Practicum II: Franklin County Children's Services P G 1-15**

Repeatable to a maximum of 21 cr hrs. This course is graded S/U.

**894 Group Studies**

Su, Au, Wi, Sp Qtrs. Prereq: MSW or equiv with written permission of instructor. Not more than 10 hours shall be repeated in any of the decimal areas.

**894.01 Social Work Practice G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.02 Social Welfare Policy G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.03 Dynamics of Social Functioning G 1-5**

Repeatable to a maximum of 20 cr hrs.

**894.04 Other G 1-5**

Repeatable to a maximum of 20 cr hrs.

**900 Theory Building**

Theory construction, elements of theory, knowledge-building, and general epistemological issues related to social work and social science theory on micro and macro levels.

Au, Wi Qtrs.

**900.01 Knowledge-Building in Social Science and Social Work Theory G 3**

Au Qtr. 1 3-hr cl. Prereq: PhD standing.

**900.02 Micro Theory: Theories of Individual Functioning G 3**

Wi Qtr. 1 3-hr cl. Prereq: 900.01.

**900.03 Macro Theory: Social Theory and Social Welfare G 3**

Wi Qtr. 1 3-hr cl. Prereq: 900.01.

**901 Social Work Research**

Quantitatively-oriented research methods, qualitatively-oriented research methods, computer literacy, and data processing skills.

Prereq: PhD standing; completion of research proficiency requirements; and written permission of the Director of the PhD Program.

**901.01 Quantitative Research Methods in Social Work G 3**

Au Qtr. 1 3-hr cl.

**901.02 Qualitative Research in Social Work G 3**

Au Qtr. 1 3-hr cl.

**901.03 Computer Literacy in Social Work G 3**

Sp Qtr. 1 3-hr cl. Prereq: 901.01; grad level stat course.

**902 Social Work Practice Theory**

Advanced courses in social work practice such as clinical practice administration and policy courses on social change, international social welfare, and social work education.

Au, Sp Qtrs. Prereq: PhD standing.

**902.01 Advanced Practice in Clinical Social Work G 5**

Au, Sp Qtrs. 1 5-hr cl. Repeatable to a maximum of 25 cr hrs.

**902.02 Advanced Practice in Social Work Policy and Administration G 5**

Au, Sp Qtrs. 1 5-hr cl. Repeatable to a maximum of 25 cr hrs.

**902.03 Current Issues in Social Work Education G 5**

Sp Qtr. 1 5-hr cl. Repeatable to a maximum of 25 cr hrs.

**902.04\* International Issues in Social Work Practice and Social Development G 5**

Sp Qtr. 1 5-hr cl. Prereq: PhD standing or permission of instructor. Repeatable to a maximum of 25 cr hrs. Alternates with 902.03 every other year.

**903 Proposal Development G 3**

Designed to help develop the dissertation proposal; present ideas, receive feedback, and defend proposal to students and faculty in an open forum.

Wi Qtr. 1 3-hr cl. Prereq: 2nd yr PhD standing.

**910 Introduction to Doctoral Studies G 1**

This course provides a foundation for successful doctoral study through interactions between students and faculty, defining standards for scholarly achievements, and fostering peer social support.

1 3-hr cl. Prereq: Doctoral standing. Enrollment limited to 1st yr PhD students in Social Work. This course is graded S/U.

**993 Individual Studies**

Directed readings and tutorials related to specific problems and issues in following decimal areas.

Su, Au, Wi, Sp Qtrs. Prereq: MSW or permission of instructor.

**993.01 Social Work Practice G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.02 Social Welfare Policy G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.03 Dynamics of Social Functioning G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.04 Social Work Research G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.05 Social Work Education G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**993.06 Other G 1-5**

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**998 Research in Social Work: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Social Work: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Sociology**

300 Bricker Hall, 190 North Oval Mall, 292-6681

General Prerequisites for Courses Numbered 700

Unless otherwise indicated, the prerequisites for 700-level courses are grad standing or permission of instructor.

General Prerequisites for Courses Numbered 800

Unless otherwise indicated, the prerequisites for 800-level courses are 30 qtr hrs in the same discipline at the 600 level or higher, of which 15 hrs must be at the 700 level.

**101 Introductory Sociology U 5**

Fundamental concepts of sociology and introduction to the analysis of social problems and social interactions, (e.g. wealth, gender, race inequality, family, crime) using sociological theories.

Su, Au, Wi, Sp Qtrs. H101 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for Rurl Soc 105 or equiv. GEC soc sci organizations and politics, and social diversity course. SS Admis Cond course.

**202 Social Problems U 5**

Analysis of contemporary social problems.

SS Admis Cond course.

**209 Introduction to Criminal Justice U 5**

Examination of the development and administration of criminal law and agencies (police, prosecutors, courts); emphasis on criminal proceedings and their justification.

**210 Sociological Aspects of Deviance U 5**

Study of the definition, identification, treatment, and control of types of legal, moral and status deviance, such as crime, mental illness, alcoholism and other individual pathologies.

Au, Wi, Sp Qtrs. GEC soc sci individuals and groups course. SS Admis Cond

course.

### 290 Sociology of Death and Dying U 5

Provides a sociological overview of death and dying, including the demographics of death, social epidemiology, social meanings of death and dying.

### 294 Group Studies U 3-5

Topics vary each quarter offered.

Prereq: 101. Repeatable to a maximum of 10 cr hrs.

### 298 Study Tour

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

#### 298.01 Domestic U 1-15

Repeatable.

#### 298.02 Foreign U 1-15

Repeatable.

### 302 Technology and Global Society U 5

Social aspects of technology, social change, and technological development; underdevelopment and the global economy.

### 306 Sociology of Poverty U 5

A study of low-income peoples, especially concerning the effect of poverty on them, and their consequent social participation.

GEC social diversity course. SS Admis Cond course.

### 309 Introduction to Law and Society U 5

Introduction to the law as a social institution, including the origins of law and its relationship to other social institutions, social control, and social change.

### 310 Sociology of Gangs U 5

Broad range of topics related to gang activity with a focus on why individuals join gangs, societal consequences of gangs, and social policy.

### 315 Sociology of Terrorism U 5

Provides a broad review of the definitions, histories, types, and theories of terrorism from a sociological perspective.

Au Qtr.

### 320 Sociology of Education U 5

Current social trends as they affect education; backgrounds of school children, social status of teachers, role of power and bureaucracy.

SS Admis Cond course.

### 330 Marriage and Society U 5

The impact of modern society and social policies on marriage forms emphasizing mate selection, cohabitation, marriage alternatives and interactional patterns within the family.

### 340 Sex and Love in Modern Society U 5

How behavior and meanings relating to sex and love have changed in recent decades, what explains these changes, and consequences of these changes.

Au Qtr. 2 2-hr cl. Prereq: 101 or 5 cr hrs in sociol.

### 345 Contemporary American Society U 5

An exposition of the structural patterns of American society, using sociological theories and data but integrating them into a general view.

H345 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC soc sci organizations and politics course.

### 367 Second Writing Course

GEC second writing courses.

#### H367.01 Politics and American Society U 5

Sociological analysis of American politics and society, emphasizing political elites and interest groups, and the changing role of the state in the economy.

Prereq: English 110 or 111 or equiv, 5 cr hrs of course work in polit sc or sociol, and soph standing or above.

#### 367.02 Cities and Urban Life U 5

The place of the city in social organization; the emergence, nature, and problems of modern urbanism; projects based on census and field data.

Prereq: English 110 or 111 or equiv, 5 cr hrs in sociol, and soph standing or above.

#### H367.03 Work and Family in the United States U 5

Sociological examination of linkages between occupational and economic arrangements and marital and parental experiences in the United States.

Prereq: H100 or 101, English H110 or 111 or H111, honors eligibility, and soph standing or above.

### 370 Social Factors in Personality U 5

Analysis of relationships between social structure and personality; language; its

consequences for social behavior; socialization: learning of motives and social roles; personality: development, organization, and disorganization.

GEC soc sci individuals and groups course.

### 380 Race in Society U 5

Historical and contemporary study of race and ethnicity in the US with a focus on relations within and between groups.

GEC soc sci individuals and groups course. SS Admis Cond course.

### 382^ Sociology of Asian American Life U 5

Introduction to Asian American life with attention to this group's social history, present status, and racial-ethnic relations.

GEC social diversity course.

### 389 Career Exploration in Sociology and Criminology U 3

Designed for sociology and criminology majors to explore career paths of interest, facilitate vocational development and acquire career search skills.

Prereq: 101 and an additional 5 cr hrs in sociol, min rank 2. Sociol and criminol majors only. Credit does not apply to hours in the social or criminol majors. This course is graded S/U.

### 391 The Community U 5

Development of the modern community; approaches to the study of communities; significance of processes and value systems for community organization and disorganization.

### 407^ Social Change U 5

Recent social changes, especially in Western civilization and the United States; types of societies in historical perspective; requirements of a good society.

### 410 Criminology U 5

The nature and causes of crime and delinquency, criminal liability, criminal careers, and organized racketeering.

H410 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor.

### 430 Sociology of the Family U 5

Analysis of relationships between the family and the larger society including mate selection, status of women, and patterns of husband-wife and parent-child relationships.

### 434 The Child and Society U 5

A study of the ways in which society socializes children; current breakdown in the socializing processes and implications for the school and other educational agencies.

### 435 Sociology of Women U 5

Analysis of sex-roles and social structure with emphasis on modern social movements concerned with redefining sex-role relationships.

GEC social diversity course.

### 450 Illness and Social Behavior U 5

Study of cultural, social, psychological, and sociological factors in disease processes, distribution of disease, definition of illness, organization of health professions and facilities.

### 460 Environmental Sociology U 5

Examines environmental issues from a sociological perspective, especially human causes of environmental change such as technology, population and consumption and social reactions.

### 463 Social Stratification: Race, Class, and Gender U 5

The study of social inequality with a focus on inequalities by class and status, race and ethnicity, and gender.

H463 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for H463: Honors standing. GEC soc sci human, natural, and economic resources course.

### 464 Work, Employment, and Society U 5

Analysis of work organization; control and authority relationships in the workplace; comparative studies of work and labor movements; industrial decline; automation.

### 467 Sociology of Religion U 5

The social role of religious institutions and beliefs, with particular reference to the United States; the relation between religion and other aspects of society.

GEC social diversity course.

### 487 Types of Sociological Inquiry U 5

Introduction to sociological research techniques, methodological approaches, and relevant quantitative procedures.

Au, Wi, Sp Qtrs. 2 1.5-hr cl, 2 1-hr labs. H487 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Criminol or fm&hu dv or int stds or social major, or social or criminol minor and jr standing; or permission of instructor.

**488 Introduction to Sociological Theory U 5**

Introductory statement of the nature of sociological theory, its basic problems, assumptions, major types and orientations, and principal contributions to the discipline.

Su, Au, Wi, Sp Qtrs. Prereq: 5 cr hrs in sociol.

**489 Internship Program in Sociology and Criminology U 0-5**

An opportunity for work experience and on-the-job learning in sociology and criminology related employment.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of the sociology department. Registration with department internship coordinator; minimum cumulative point-hour ratio of 2.5, sophomore standing or above, and completion of internship learning agreement with department internship coordinator, under whose supervision work is to be completed. Repeatable to a maximum of 15 cr hrs. Employment or experience through the Internship Program conducted under the supervision of the Soc/Crim Internship Coordinator. Journals required. This course is graded S/U.

**498 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**498.01 Domestic U 1-15**

Repeatable.

**498.02 Foreign U 1-15**

Repeatable.

**507 The Criminal Justice System U 5**

The role and operation of the criminal justice system: police, the courts and the legal system.

Prereq: 487 and 488, or grad standing.

**509 Sociology of Law U 5**

The relationship between law and social order emphasizing the structure of law, social origins of law and law as a source of social change.

2 2-hr cl. Prereq: 487 and 488, or grad standing.

**510 Women, Crime, and the Criminal Justice System U 5**

Analysis of females as participants in and victims of crime, the treatment of women in the criminal justice system, women as workers in criminal justice fields.

Prereq: 487 and 488.

**511 Sociology of Youth and Crime U G 5**

A sociological perspective on youth and crime; special attention to the magnitude of youth crime, theories, juvenile justice systems, and prevention and control efforts.

Prereq: 487 and 488, or grad standing.

**549 Quantitative Research Methods in Sociology U G 5**

An introduction to the application and interpretation of quantitative analysis in sociological research; emphasis on the description of social variables and hypothesis testing.

Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl and 2 1-hr labs. H549 offered Au Qtr. H549 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq for 549: 487. Prereq for H549: 487, Math 116 or equiv, and jr standing; or permission of instructor. GEC data analysis course.

**589 Field Work in Sociology****589.01 Sociology U 5**

Practicum in the collection of sociological data through field work; identification of research problem; development of data collection methods; data processing and analysis.

Prereq: 10 cr hrs in social and permission of instructor.

**589.02 Criminology and Criminal Justice U 5**

Practicum in criminology and/or the criminal justice system.

Prereq: 10 cr hrs in social or criminol and permission of instructor. This course is graded S/U.

**597 Issues of the Contemporary World**

Prereq: Jr or sr standing. GEC courses.

**597.01 Contemporary World Societies: Social Institutions and Social Change U 5**

Sociological analysis of contemporary world societies-non-industrialized, industrializing, and industrialized-with special attention to major social institutions and patterns of social change.

**597.02 World Population Problems U 5**

General introduction to population studies, emphasizing how population growth and structure have caused or aggravated social problems in various countries.

Prereq: 5 cr hrs of social science course work, GEC data analysis requirement.

**H599^ Research Seminar U 5**

Advanced research skills for honors sociology majors and honors criminology

majors.

Sp Qtr. 2 2-hr cl. Prereq: 487, 488, and 549.

**601 Comparative Family Organization U G 5**

Analysis of family organizations in various societies, emphasizing the impact of changing world conditions on family and kinship structures.

Prereq: 487 and 488, or grad standing.

**605 Sociology of Sexuality U G 5**

A social and institutional approach to the study of sexuality with a focus on sexual identities, practices, institutions, communities, and sexuality movements.

Prereq: Jr standing or above.

**606 Social Movements and Collective Behavior U G 5**

An examination of theories and research on non-traditional group efforts to change social systems and institutions; emphasis on contemporary societies and movements.

Prereq: 487 and 488, or grad standing.

**608 Gender, Race, and Class in Mass Communications U G 5**

Sociological aspects of mass communications; emphasis on relationships among media, audience and social structure; examination of media culture and depiction of race, class, and gender.

Prereq: 487 and 488, or grad standing. GEC social diversity course.

**609 Neighborhoods and Crime U G 5**

Exploration of the social distribution of crime, with attention to the patterns and sources of neighborhood crime, and the impact of crime on fear of crime and on neighborhood decline.

Prereq: 487 and 488, or grad standing.

**610 Sociology of Deviant Behavior U G 5**

An examination of the nature, types, and societal reactions to deviant behavior; special emphasis on the process of stigmatization and the emergence of deviant subcultures.

Prereq: 487 and 488, or grad standing.

**611 Penology U G 5**

The treatment of adult offenders in detention and incarcerations; short and long term institutions.

Prereq: 487 and 488, or grad standing.

**615 Control and Prevention of Crime and Delinquency U G 5**

Analysis of the operational effectiveness of special measures and programs pointed toward the control and prevention of crime and delinquency.

Prereq: 487 and 488, or grad standing.

**618 Sociology of Police and Policing U G 5**

Sociological understanding of the origins of routine police conduct and misconduct; representative topics include police-citizen encounters and police abuse of discretion.

Prereq: 487 and 488, or grad standing.

**623 Advanced Sociology of Education U G 5**

Comparisons of the structures and functions of educational systems, elementary through university; recruitment and allocation of personnel and resources, power, conflict, and boundary maintenance.

Prereq: 487 and 488, or grad standing.

**629 Sociology of Health: Mental and Physical Dimensions U G 5**

Analysis of sociological and social psychological aspects of mental and physical disorders, and types of illness behavior associated with mental and physical illness.

Prereq: 487 and 488, or grad standing.

**630 Medical Sociology U G 5**

Sociological analysis of the distribution of disease, and the nature of health care institutions, health professions and the delivery of health care services.

Prereq: 487 and 488, or grad standing.

**635 Men in Society U G 5**

The social psychology of males, their relationships with females, other males, and society; emphasis on socialization, social roles, sexuality, etc.

Prereq: 487 and 488, or grad standing.

**640 Sociology of Everyday Life U G 5**

A basic course in ethnomethodology; a survey of the basic literature; study of the taken-for-granted, verbal and non-verbal features of social interaction; involves making observations and descriptions.

Prereq: 487 and 488, or grad standing.

**648 Introduction to Quantitative Research U G 5**

An introduction to statistical methods in sociological research.

Au Qtr.

**649 Principles of Multiple Regression U G 5**

Assumptions, principles, and applications of the multiple regression model in sociological practice; basic model, dummy variables, and special functional forms.

Wi Qtr. Prereq: 549 or 650 or equiv.

**651 Approaches to Sociological Inquiry U G 5**

Theory and practice in essentials of the research process; comparison of alternative approaches and design models; questionnaire construction, interview techniques, and related problems.

Sp Qtr. Prereq: 649 or equiv, or permission of instructor.

**652 Sociological Survey Research Methods I U G 5**

Design of sociological survey research: question format, questionnaire design, alternative modes of administration, etc.; hands-on practice in Computer Assisted Telephone Interviewing (CATI).

Prereq: 10 cr hrs in social or grad standing.

**653 Sociological Survey Research Methods II U G 5**

Administration and analysis of sociological surveys; emphasis on development, administration, and analysis of survey data.

Prereq: 652 or written permission of instructor.

**655 Sociology of Sport U G 5**

Sport from a sociological perspective: relationship of sport to social institutions; socialization into sport; stratification within sports; sport and small group analysis.

Prereq: 487 and 488, or grad standing.

**666 Political Sociology U G 5**

Examination of structures, continuities, and processes of change; of models and building blocks; and of social contexts of power and dynamic forces altering political systems.

Prereq: 487 and 488, or grad standing.

**670 Topics in Sociology U G 5**

Examination of selected current topics of interest to sociologists; topics vary by section and instructor.

Au Qtr. 2 2-hr cl. Prereq: 487 and 488, or grad standing. Repeatable to a maximum of 15 cr hrs.

**671 Population Studies I: Theory, Substance, and Techniques U G 5**

Survey of population studies covering sources of demographic data, mortality, and fertility.

Prereq: 487 and 488, or grad standing.

**672 Population Studies II: Theory, Substance, and Techniques U G 5**

Continuation of survey of population studies covering models of population growth, population theories, migration, population estimations and projections, population problems, and policy decisions.

Prereq: 671 and Math 152 or equiv recommended.

**673 Topics in Criminology U G 5**

Examination of selected current topics of interest in crime and justice; topics vary by section and instructor.

2 2-hr cl. Prereq: 487 and 488, or grad standing. Repeatable to a maximum of 15 cr hrs.

A-- Classification and Prediction in Criminology and Corrections

B-- Social Aspects of Capital Punishment

**680 Sociology of Changing Life Styles U G 5**

An in-depth look at some emerging life style patterns, such as dual-career marriages, childless marriages, single-parent families, blended families, singlehood, cohabitation, etc.

Prereq: 487 and 488, or grad standing.

**693 Individual Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: 20 cr hrs in social, or grad standing and permission of instructor. Repeatable. This course is graded S/U.

**694 Group Studies**

Au, Wi, Sp Qtrs. Prereq: 487 and 488, or grad standing. Each decimal subdivision repeatable to a maximum of 15 cr hrs. Topics vary each qtr offered.

**694.01 Sociological Theory U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.02 Social Organization U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.03 Medical Sociology U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.04 Criminology and Criminal Justice U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.05 Sociology of Education U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.06 Race/Ethnic/Minority Relations U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.07 Social Psychology U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.08 The Family U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.09 Research Methodology U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.10 Urban/Community/Ecology U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.11 Labor Markets/Economy and Society U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.12 Political Sociology U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.13 Population/Demography U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.14 Gender U G 3-5**

Repeatable to a maximum of 15 cr hrs.

**694.15 Unclassified U G 3-5****697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Research in Sociology U 1-15**

Undergraduate research or creative activities in variable topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**703 Advanced Single Equation Techniques G 5**

Techniques of analysis for examining nominally measured dependent variables, and treatment of error structures that are heteroskedastic or correlated across cases.

Prereq: 649, grad standing, or permission of instructor.

**704 Qualitative Methods in Sociology G 5**

A survey of qualitative approaches to social research, including participant observation, intensive interviewing, and archival/documentary analysis.

Prereq: Grad standing.

**705\* Construction and Verification of Theory G 5**

The actual practice of theory construction and its underlying logic.

Prereq: 487 or equiv, or grad standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**707 Multi-Equation Quantitative Models G 5**

A survey of advanced problems in the multivariate analysis of sociological data.

Prereq: 649. Repeatable to a maximum of 10 cr hrs.

**708 Problems in Qualitative Analysis G 5**

Problems and techniques of non-quantitative data analysis including case studies, participant observation, field diary, autobiography, and historical records.

Prereq: 648 or 704.

**709 Historical Sociology G 5**

Assessment of major studies in historical sociology by focusing on their internal logic, the supporting evidence, and the subsequent research.

Prereq: 648 or 704.

**710 Design and Analysis of Quantitative Sociological Research G 5**

Problem formulation, hypothesis testing, argumentation from data, and writing for professional audiences; research practicum leading to a research project.

Sp Qtr. Prereq: 651.

**711 Seminar on Sociology of Work G 5**

A survey of selected topics in sociology of workplace relations; control, administration, leadership, and occupations; theoretical approaches to the study of workplace relations.

**712 Social Networks G 5**

The theory, substance, and methods for understanding patterns, causes, and consequences of relationships among populations of actors.  
No prereq; however, 649 and 782 recommended.

**718 Advanced Criminology G 5**

A critical study of the most important aspects of criminology.  
Prereq: Grad standing or permission of instructor.

**720 Family, Work, and Inequality G 5**

Examination of recent research and theory in sociology of the family, with emphasis on the linkages among family, work, and inequality.  
Prereq: Grad standing or permission of instructor.

**721 Macrosociological Perspectives and Research on Crime G 5**

Examination of structural crime theory and research focusing on the logic of macro-level inquiry, analysis of major theoretical frameworks and review of contemporary research.  
2 2-hr cl. Prereq: Grad standing or permission of instructor.

**722 Microsociological Perspectives and Research on Crime G 5**

Examination of microsociological perspectives on the etiology of crime and delinquency providing a survey of the major theories and empirical research on the theories.  
2 2-hr cl. Prereq: Grad standing or permission of instructor.

**723 The Sociology of Crime Control and Punishment G 5**

Theoretical survey of reactions to crime including arrest, charge, and sentencing.  
Prereq: Grad standing.

**735 Sociology of Gender G 5**

An examination of current theory and research on the sociology of gender through extensive readings.  
Prereq: Grad standing or permission of instructor.

**747 Theories of Social Change G 5**

Analysis of theoretical traditions in the study of social change, and methods of constructing synthetic theories of change.  
Prereq: 682 or 782 or equiv.

**748 Comparative Methods in Sociology G 5**

Basic review of methods of comparative analysis as used in the study of social change.  
Prereq: 651.

**752 Principles and Techniques of Scale Construction G 5**

Approaches and techniques in the development and testing of social measurement instruments.  
Prereq: 549 or equiv or Soc Work 540.

**754 Demographic Analysis U G 5**

An exposition of census data and vital statistics, demographic rates, life tables, cohort analysis, and similar elementary techniques and data sources in demography.  
5 cl. Prereq: 1 course in general statistics.

**755 The Social Context of Human Fertility G 5**

A critical and methodological analysis of fertility, with special emphasis on the social context of reproductive behavior in American society.

**756 Migration and Social Mobility G 5**

Theories and models of population mobility; determinants and consequences of the migration process; policy implications of rural-urban migration.

**757 Seminar on the Life Course G 5**

Introduction to the life course as a theoretical orientation, methodology, and field of study within sociology.  
Prereq: Grad standing or permission of instructor.

**758 Population, Health, and Life Course G 5**

Social and demographic forces that affect well being, health, and survival.  
2 2-hr cl. Prereq: Grad standing or permission of instructor.

**760 Sociology of Conflict and Violence G 5**

Comparative analysis of the sources and impact of conflict and violence.  
Prereq: 10 cr hrs in social or grad standing.

**761 Social Stratification G 5**

A survey of major theories, issues, and empirical literature on societal stratification and inequality with particular focus on the United States.

**762\*\* Comparative Social Inequality G 5**

Using historical and cross-national approaches, two aspects of social inequality are examined: class relations and the distribution of goods.

**770 Individual in Society G 5**

Analysis and synthesis of the major theories and findings of social psychology.

**771 Symbolic Interaction G 5**

Analysis of the relationship between the individual and the social structure; particular reference paid to the symbolic interaction orientation.

**780 Racial and Ethnic Differentiation G 5**

An analysis of the origin, persistence, adaptation and change of systems and racial and ethnic differentiation.

**782 Earlier Developments in Sociological Theory G 5**

Analysis of classical systems and their representatives, e.g., positivistic social evolutionism (Comte, Spencer, Durkheim), historical materialism (Marx-Engels), and humanistic idealistic reactions (Toennies, Simmel, M. Weber).  
Prereq: Grad standing.

**H783 Honors Research**

A conference-thesis course; subject matter will vary depending upon the student's topic.

Su, Au, Wi, Sp Qtrs. Arr.

**H783.01 Sociology U 1-5**

Prereq: 4th yr standing with a grade of A in at least half of the social courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in H783. At least 2 qtrs are required of candidates for the degree BA with distinction in sociol. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**H783.02 Criminology and Criminal Justice U 1-5**

Prereq: 4th yr standing with a grade of A in at least half of the criminol and/or social courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 10 cr hrs. including cr hrs earned in Criminol H783. At least 2 qtrs are required of candidates for the degree BA with distinction in criminol. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**790 Social Organization of the Community G 5**

An examination of the nature, structures, processes, and trends of social organization of modern communities.

**791 Sociological Methods of Community Analysis U G 5**

Methods, techniques, sources of data, and objectives of community analysis.

**792 Structural Sociology G 5**

Key concepts, issues, recent trends in the study of social structure with special emphasis on formal social organizations, social stratification, comparative social systems, groups and research methods.  
5 cl. Prereq: Grad standing in sociol.

**800 Proseminar in Sociology G 2**

Each week an area of specialization within sociology will be discussed by a professor whose major interest is in that area; provides an overview of special topics and current issues.

Repeatable to a maximum of 6 cr hrs. Open only to 1st year grad students in sociol. This course is graded S/U.

**801 PhD Proseminar G 2**

Orientation for new PhD students in sociology.

Prereq: PhD standing in sociol. This course is graded S/U.

**802 Teaching Sociology G 3**

Designed to prepare sociology graduate students to teach independent sections of basic sociology classes.

1 3-hr cl. Prereq: Grad standing in sociol or permission of instructor. This course is graded S/U.

**806 Social Movements G 5**

Explores how and why social movements arise and their impact on society.

Prereq: Grad standing or permission of instructor.

**820\*\* Seminar in the Sociology of Education G 5**

Special problems will be considered in different quarters, including urban education, student movements, bureaucratic-professional problems, school-community relations, and innovation.

Repeatable to a maximum of 10 cr hrs.

**830 Seminar in Medical Sociology: Problems in the Sociology of Health Organization G 5**

Analysis of theory and research bearing upon the role of medicine in society and the health organizations on national, community, and institutional levels.

**837 Seminar in Political Sociology G 5**

Selected topics in political sociology.

Prereq: Grad standing or permission of instructor.

**841 Sociology of Urban Sub-Communities G 5**

Examination of society and culture of sub-communities such as ethnic and racial ghettos, suburbia; generalization about the patterns of integration with larger systems.

**848\*\* Seminar in the Sociology of Religion G 5**

An analysis of selected contemporary problems in the sociology of religion; religious organization and involvement.

**850 Seminar in Sociological Research Methods G 1-5**

Special topic seminars in research methodology.

Repeatable to a maximum of 30 cr hrs.

**851 Hierarchical Linear Models G 5**

Introduction to hierarchical linear and nonlinear models; review of three level, latent growth curve, cross-classified, and latent variable models for hierarchical data.

Prereq: Grad standing or permission of instructor.

**859 Practicum in Sociological Research G 1-15**

Supervised practical experience in the independent execution of sociological research, the application of appropriate analytical techniques, and preparation of research reports.

Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**862\*\* Seminar in Complex Organizations G 5**

Analysis of bureaucratization, structure, boundary problems, resource allocation, organizational change and conflict.

**864\* Seminar: Organizational Environments G 5**

Theory and analysis of organization-environment relations, inter-organizational relations, and the structure of social environments.

Prereq: 663 or equiv.

**880 Issues in Contemporary Theory: Theories of Social Action G 5**

A critical examination of contemporary theory in sociology with an emphasis on individual action in the social context.

Prereq: 782 or 784 or permission of instructor.

**884 Seminars in Sociology**

Su, Au, Wi, Sp Qtrs.

**884.01 Sociological Theory G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.03 Medical Sociology G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.04 Criminology and Criminal Justice G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.06 Race/Ethnic/Minority Relations G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.08 The Family G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.09 Research Methodology G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.10 Urban/Community G 5**

Seminar on current topics in the sociological study of social and structural aspects of community and urban life.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**884.11 Labor Markets/Economy and Society G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.12 Political Sociology G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.13 Population/Demography G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.14 Gender G 1-5**

Repeatable to a maximum of 15 cr hrs.

**884.15 Unclassified G 1-15**

Repeatable to a maximum of 15 cr hrs.

**888\* Seminar in the American Family G 1-5**

An examination of relevant issues, trends, and problems with emphasis on theoretical orientations and research findings.

Repeatable to a maximum of 5 cr hrs.

**998 Research in Sociology: Thesis G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**999 Research in Sociology: Dissertation**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs.

**999.15 Unclassified G 1-18**

Repeatable. This course is graded S/U.

**Somali**

486 University Hall, 230 North Oval Mall, 292-3700

**101 Elementary Somali I U 5**

Development of oral proficiency through basic listening, speaking and reading skills using a competency-based curriculum.

Au Qtr. 5 1-hr cl. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. This course is available for EM credit.

**102 Elementary Somali II U 5**

Continuation of 101; further work on developing oral proficiency through basic listening, speaking and reading skills using a competency-based curriculum.

Wi Qtr. 5 1-hr cl. Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. This course is available for EM credit.

**103 Intermediate Somali I U 5**

Further development of listening, reading, speaking and writing skills; readings based on Somali culture and literature.

Sp Qtr. 5 1-hr cl. Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. This course is available for EM credit.

**104 Intermediate Somali II U 5**

Balanced use of basic language skills; emphasis on speaking and aural comprehension; further exposure to Somali culture through community interaction and current readings.

Sp Qtr. 5 1-hr cl. Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. This course is available for EM credit.

**Spanish**

298 Hagerty, 1775 College Road, 292-4958

Students studying foreign languages at the elementary and intermediate levels typically take the sequence of courses numbered 101-102-103-104 (including the decimal subdivisions such as 102.01, etc.) and then move on to more advanced courses. Students who need to satisfy the Arts and Sciences foreign language requirement must demonstrate competence at the 104 level.

As a prerequisite to entry into the major, as well as to all undergraduate courses at the 400-level and above, students must pass the Spanish Listening and Reading Proficiency Exam (SLRPE). This test is administered once a quarter.

Spanish 102-104 and 250 are offered through The Ohio State University Elementary/Intermediate Spanish Language Program every Au, Wi, and Sp Qtrs in Cuernavaca, Morelos, Mexico; and every Su and Wi Qtr in Quito, Ecuador.

Information concerning frequency and quarter(s) of offering and prerequisites may be obtained by contacting the department or meetings with an academic advisor.

**100 Spanish for Communication U 3**

Designed for students who wish to refresh or recover oral Spanish skills, or for highly-motivated students who have never studied Spanish and wish to develop basic survival Spanish skills.

Su, Au, Wi, Sp Qtrs. 2 72-min cl. Not open to Spanish majors and minors or students with credit for Spanish 101 or above, except for Spanish 150 and 151.

**101 Elementary Spanish I**

Introduction to Spanish; development of listening, reading, speaking, and writing skills.

Su, Au, Wi, Sp Qtrs. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Admis Cond courses.

**101.01 Classroom Track U 5**

Students must register for and complete 5 cr hrs during the qtr.

This course is available for EM credit.

**102 Elementary Spanish II**

Continued study of Spanish; development of listening, reading, speaking and writing skills.

Su, Au, Wi, Sp Qtrs. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Admis Cond courses.

**102.01 Classroom Track U 5**

Prereq: 101.01. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**102.66 Intensive Spanish for Review I U 5**

Intensive review of basic vocabulary, structures, and skills needed for entry into 103.01.

Prereq: 2 or more years of high school Spanish and placement at 101 level. Not open to native speakers of Spanish through regular course enrollment or EM credit, or to students with credit for 101.01 or 102.01.

**103 Intermediate Spanish I**

Continued study of Spanish; development of listening, reading, speaking, and writing skills; readings based on Spanish culture and literature.

Su, Au, Wi, Sp Qtrs. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses.

**103.01 Classroom Track U 5**

Prereq: 102.01. Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**103.66 Intensive Spanish for Review II U 5**

Prereq: 101.01 or 5 cr hrs of 101.51, or 3 or more yrs of high school Spanish and placement into 102 by placement exam. Not open to native speakers of Spanish through regular course enrollment or EM credit, or to students with credit for 102.01, 102.66, or 103.01.

**104 Intermediate Spanish II U 5**

Reading of Spanish short stories, plays, and media with attention to literary appreciation; development of basic language skills.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 103.01 or 103.66 or equiv. Not open to native speakers of this language through regular course enrollment or EM credit; or to students with credit for 104. This course is available for EM credit. GEC for lang courses.

**H104 Honors Intermediate Spanish II U 5**

Intensive, intermediate Spanish for potential Spanish majors, minors, and highly-motivated students in other areas of study; emphasis on development of proficiency in speaking and writing Spanish and knowledge of Hispanic cultures.

Au, Sp Qtrs. 5 cl. Prereq: 103.01 or 103.66 or equiv, and GPA 3.4 or higher Not open to native speakers of this language through regular course enrollment or to students with credit for 104. Upon successful completion of H104 and SLRPE, students may enroll in 401. GEC for lang course.

**111 Intensive Intermediate Spanish U 5,10**

An intensive course that combines the content of 103 and 104; continuing study of Spanish grammar vocabulary, listening, speaking, reading, and writing.

Su, Au, Wi, Sp Qtrs. 5 2-hr cl. Prereq: 102.01 or 102.66, or equiv with written permission of instructor. A "C" average in previous spanish course work strongly recommended. Not open to students with credit for 104 or 104 decimal subdivisions; or to native speakers of Spanish through regular course enrollment or EM credit.

**150 Culture and Literature of Spain U 5**

Introduction to the principal developments of the culture of Spain through literature, art, music, film, and folklore.

2 2-hr cl, 1 1-hr rec. Taught in English. GEC arts and hums cultures and ideas course.

**151 Introduction to Latin American Culture and Literature U 5**

Introduction to the culture of Spanish America and Brazil through literature, art, music, film, and folklore.

2 2-hr cl, 1 1-hr rec. Taught in English. GEC arts and hums cultures and ideas course.

**240 Comprehension: A Listening Course in Spanish U 3**

Listening strategies and practice for development of literal, evaluative, and critical listening skills in Spanish; a variety of comprehension strategies and their application to authentic audio and video texts.

4 cl or 2 1.5-hr cl. Prereq: 104, 111, or equiv.

**250 Fact and Fiction: A Reading Course in Spanish U 4**

Reading strategies and reading practice based on authentic Spanish texts, both journalistic and literary.

2 2-hr cl. Prereq: 104 or 111. Upon successful completion of the SLRPE, students may register for 400-level courses.

**293 Individual Studies U 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of dept. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**294 Group Studies U 1-15**

Prereq: Written permission of dept. Repeatable to a maximum of 30 cr hrs.

**320 Don Quixote in Translation U 5**

Introductory critical reading of Don Quixote in English.

2 2-hr cl. Credit does not count toward a major or minor in Spanish. Taught in English. GEC arts and hums lit course.

**321 The Spanish Don Juan Theme in the Theatre U 5**

Introduction to the Don Juan theme from its origins in Renaissance Spain, through different versions, to the 20th century.

2 2-hr cl. Credit does not count toward a major or minor in Spanish. Taught in English. GEC arts and hums lit course.

**322 Spanish Society and the Arts U 5**

Introduction to Spanish art and its relationship to society, from Goya to Toral: a visual approach to culture.

2 2-hr cl. Credit does not count toward a major or minor in Spanish. Taught in English. GEC arts and hums VPA course.

**330 Reinventing America U 5**

Introduction to visual and verbal representation of Latin American multi-ethnic cultures through literature and visual arts; emphasis on construction of American identities and nations.

2 2-hr cl. Credit does not count toward a major in Spanish. Taught in English. GEC arts and hums VPA course.

**331 Caribbean Cultures U 5**

The analysis of Caribbean societies and cultures; analysis of texts to unravel the cultural processes of creolite, negritude, cannibalism.

2 2-hr cl. Credit does not count toward a major or minor in Spanish. Taught in English. GEC arts and Hum cultures and Ideas course.

**367 The U.S. Experience: Hispanics, Language, and Literacy U 5**

A GEC second writing (social diversity) course focusing on generating ideas, drafting, revising writing projects set within context of literacy and related issues among U.S. Hispanics.

Prereq: 250; English 110, 110.01, 110.02 or 110.03. Taught in Spanish. GEC 2nd writing course.

**380 Introduction to Latin American Film U 5**

Introduction to Latin American film traditions; analysis of genres, filmmakers, and alternate aesthetics; focus on relation of film to social, political, and economic processes.

3 2-hr cl. Prereq: English 110 or 2nd yr standing. Credit does not apply toward a major or minor in Spanish. Taught in English. GEC arts and hums VPA course.

**395 Topics in Foreign Study U 1-15**

Credit from study abroad for courses not offered by department.

Arr. Used only to convert 697 credit to more appropriate content level. Repeatable to a maximum of 15 cr hrs. Not applicable to Spanish major or minor. Arranged only with permission of departmental study abroad adviser. Class may be taught in Spanish or English.

**401 Advanced Grammar U 4**

In-depth examination of difficult points of Spanish grammar; emphasis on comprehension of key grammatical concepts in the language.

Su Term 1, Au, Wi, Sp Qtrs. 2 2-hr cl. H401 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: H104, 250. H401 gpa 3.4 or higher. Not open to students with credit for Spanish 601. This course is available for EM credit.

**403 Intermediate Spanish Composition U 4**

Spanish prose forms and practice in writing descriptive, narrative, and expository compositions.

Au, Wi, Sp Qtrs. 2 2-hr cl. H403 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: H104 or 250, 401. H403 gpa 3.4 or higher. Not open to students with credit for Spanish 603 or to native speakers of Spanish through regular course enrollment or EM credit. May be taken concurrently with 401.

**404 Spanish Pronunciation U 3**

Practice with corrective exercises; some attention to problems of teaching pronunciation.

2 2-hr cl. Prereq: H104 or 250. Not open to students with credit for Spanish 604.

**406 Intermediate Business Spanish U 5**

An introduction to business Spanish with emphasis on business terminology, commercial transactions, and international procedures.

2 2-hr cl. Prereq: 403. Taught in Spanish.

**430 Introduction to Spanish Linguistics U 5**

Introduction to the analysis of Spanish from the perspective of modern linguistic theory.

2 2-hr cl. Prereq: 401 and 404.



**450 Introduction to the Study of Literature and Culture in Spanish: Reading Texts U 4**

Strategies for reading literary and cultural texts from Spain and Spanish America.

2 2-hr cl. H450 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 401 and 403. H450 gpa 3.4 or higher. H450 required of Spanish honors majors and minors.

**506 Latin American Culture in a Business Context U G 5**

Examination of cultural differences and similarities between the U.S. and Latin America and repercussions of conducting business with competent understanding.

2 2-hr cl. Credit does not apply to a major or traditional minor in Spanish. May be applied to a Spanish Minor for Business. Taught in English.

**510 Mexican Studies U 3**

Interdisciplinary study of different issues and processes in Mexican culture, history, and society.

1 2-hr cl. Priority given to students enrolled in the scholars program. Taught in English. Credit does not count toward the Spanish major or minor.

**520 Latin American Literature (in Translation): Fictions and Realities U G 5**

Critical examination of modern Latin American literature (in English translation) paying close attention to its own literary and cultural traditions.

2 2-hr cl. Credit does not apply toward a major or minor in Spanish. GEC arts and hums lit course.

**H530 Honors Introduction to Spanish Linguistics U G 5**

Introduces concepts and techniques for the analysis of sentence structure (syntax), sounds (phonology and phonetics) and word formation (morphology) in Spanish.

2 2-hr cl. Prereq: 401 and 404. Not open to students with credit for 430.

**536 Language Change in Spanish U G 5**

Historical development of the Spanish language, including details of phonological, morphosyntactic, and semantic changes; external history; and changes currently in progress.

2 2-hr cl. Prereq: 430.

**537 Spanish Psycholinguistics U G 5**

Overview of child language acquisition, second language acquisition and child and adult language disorders in Spanish-speaking populations.

2 2-hr cl. Prereq: 430.

**538 Language Variation in Spanish U G 5**

Survey of linguistic variation across the Spanish-speaking world, including geographical and social factors.

2 2-hr cl. Prereq: 430.

**551 Spanish Golden Age Literature U G 5**

Introductory critical study of major literary works from the 16th and 17th centuries in Spain.

2 2-hr cl. Prereq: 450. E551 may be available for honors embedded experience.

**552 Modern Spanish Literature U G 5**

Introductory critical study of major literary works from the 19th and 20th centuries in Spain.

2 2-hr cl. H552 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 450. H552 gpa 3.4 or higher.

**555 Indigenous and Colonial Literatures of Spanish America U G 5**

Introductory critical study of issues and processes in the formation of indigenous and colonial expression through 19th century regional discourses.

2 2-hr cl. Prereq: 450. E555 may be available for honors embedded experience.

**556 Modern Spanish American Literature U G 5**

Introductory critical study of issues and processes in Spanish American writing from Modernism through the 20th century.

2 2-hr cl. Prereq: 450.

**557 Survey of Latino/a Literature in the U.S. U 5**

Introductory critical study of authors, topics, and movements in Latino/a literature from the late 19th century to the present.

2 2-hr cl. Prereq: 450.

**560 Introduction to Spanish American Culture U G 5**

Major elements in the culture of the peoples of Spanish America.

2 2-hr cl. H560 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 450. H560 gpa 3.4 or higher. H560 required of Spanish honors majors.

**561 Introduction to the Culture of Spain U G 5**

Major developments in the culture of Spain.

2 2-hr cl. H561 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 450. H561 gpa 3.4 or higher. H561 required of Spanish honors majors.

**H565 Latin American Indigenous Literatures and Cultures U 5**

Introduction to continuities and transformations that link Latin American colonial indigenous texts with contemporary cultural expression.

2 2-hr cl. Prereq: H450. Limited to Spanish and honors majors with 3.3 gpa and above.

**567 Spanish Mosaic: Catalonia, Basque Country, Galicia and Andalusia U G 5**

Explores the fragmentation and renegotiation of Spanish cultural and political identity in tension with its peripheral "nations": Catalonia, Basque Country, Galicia, Andalusia.

2 2-hr cl. Prereq: 450 or H450. Taught in Spanish.

**580 Latin American Film U G 5**

Study of Latin American film; special attention is paid to the relationship between film and the society in which it is produced.

3 2-hr cl. Prereq: 450.

**581 Spanish Film U G 5**

Study of Spanish film; special attention is paid to the relationship between film and the society in which it is produced.

2 2-hr cl. Prereq: 450.

**589 Latino Ohio: A Culture Course in English for Educators and Other Professionals U G 5**

A close-up look at Hispanic life in Ohio with attention to cultural, linguistic, and professional issues especially important to those working with Spanish-speaking populations.

Sp Qtr. 6 8-hr cl. Not open to students with credit for 689. Not available for credit in Spanish major or minor. Taught in English. Students will pay travel costs, if required.

**H590 Interdisciplinary Protocols: Identity and National Formation in Latin America: Perspectives from Literature, Culture and History U G 5**

Examines the intersections between history and literature, and exposes students to core discussions in contemporary historical and cultural scholarship.

Prereq: 450/H450. Open only to Spanish and Honors majors with 3.4 GPA and above. Cross-listed with History 598.02 (specific topics only). Taught in English.

**595 Special Topics in Foreign Study U 1-15**

Credit from study abroad for courses not offered by department but eligible for Spanish major core.

Arr. Used only to convert 697 credit to more appropriate content level. Repeatable to a maximum of 15 cr hrs. Arranged only with permission of departmental study abroad adviser.

**601 Modern Spanish Syntax U G 5**

Study of modern Spanish grammar; modern tendencies in syntactic analysis.

2 2-hr cl. Prereq: 430.

**603 Advanced Spanish Composition U G 5**

Analysis of different prose styles and practice in writing fluent Spanish compositions.

2 2-hr cl. Prereq: 450 and jr or sr standing. GEC third writing course.

**604 Spanish Phonetics U G 5**

Analysis of the phonological structure of Spanish and a comparison with English; practical problems of teaching pronunciation.

2 2-hr cl. Prereq: 430. E604 may be available for honors embedded experience.

**606 Advanced Business Spanish U G 5**

An in-depth study of the Hispanic economic, social, and cultural environment as it relates to business.

2 2-hr cl. Prereq: 403 or permission of instructor.

**610 Contrastive Structures of Spanish and English U G 5**

Phonetics, phonemics, morphology, and syntax of Spanish contrasted with English.

2 2-hr cl. Prereq: 430.

**613 Advanced Spanish Composition for Native Speakers U G 5**

Development of the ability to organize and express ideas in written Spanish; cultural component.

2 2-hr cl. Prereq: Several courses in Spanish grammar in the U.S. or in a Spanish-speaking country. Not open to students studying Spanish as a second ("foreign") language. Designed for students of Hispanic culture or heritage who have no serious problems with spoken Spanish but who need further practice writing.

**630 Senior Seminar in Spanish Linguistics U G 5**

Intensive study of a major topic in Hispanic linguistics; topic varies, for example: the Spanish pronominal system, American Spanish dialectology, Spanish orthography.

2 2-hr cl. Prereq: Any two of 536, 538, 601, 604, 610. Repeatable to a maximum of 15 cr hrs.

**640 Globalization and Latin America: Multi-Disciplinary Approaches U G 5**

Explores current debates on globalization in Latin America and recent and interrelated transformations in the economies, politics, and cultures of the region.

2 2-hr cl. Prereq: Jr standing or higher. Not open to students with credit for Int Stds 640. Taught in English. Cross-listed in International Studies.

**650 Senior Seminar in Spanish or Spanish American Literature U G 5**

Intensive study of a major author, literary work, or theme; topic varies, for example: Cervantes, Spanish literature of the Civil War, novels of the Mexican Revolution.

2 2-hr cl. Prereq: One of 551, 552, 555, 556, 557; one of 560, 561; and 603. Repeatable to a maximum of 15 cr hrs. Required for Spanish majors.

**660 Senior Seminar in Hispanic Culture U G 5**

Intensive study of a major theme or problem in Hispanic culture; topic varies, for example: Post-Franco Spain, Latin American Revolutionary thought.

2 2-hr cl. Prereq: One of 551, 552, 555, 556, 557; one of 560, 561; and 603. Repeatable to a maximum of 15 cr hrs.

**H680 Honors Seminar U 5**

Intensive study of major topics in Hispanic literature, culture or linguistics, with emphasis on developing research skills; topic varies.

2 2-hr cl. Prereq: One of 551, 552, 555, 556, 557; one of 560, 561; and 603; honors major in Spanish. Repeatable to a maximum of 15 cr hrs. Required for Honors majors in Spanish.

**689 Spanish in Ohio: An Experiential Course for Selected Majors U G 5**

Interaction with Hispanic communities in Ohio; intensive and extensive practice with Spanish as spoken by native speakers from the U.S. and abroad.

This course requires 100 field contact hours outside class. Prereq: 560 or 561 and permission of instructor. Not open to native Spanish speakers unless their secondary education was completed in the United States. Students will pay travel costs, if required.

**693 Individual Studies U G 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-15**

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

**702 Introduction to Literary Analysis U G 5**

Literary criticism and methods of discourse analysis; emphasis on application of critical concepts.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Intended for beginning grad students; may be taken by advanced undergraduates with permission of instructor.

**732 Spanish Syntax and Semantics G 5**

Introduction to structural and semantic characteristics of Spanish in the light of recent theoretical frameworks in linguistics.

2 2-hr cl. Prereq: 730 or permission of instructor.

**734 Spanish Phonology and Morphology G 5**

Introduction to phonological and morphological characteristics of Spanish in the light of recent theoretical frameworks in linguistics.

2 2-hr cl. Prereq: 730 or permission of instructor.

**736 History of the Spanish Language U G 5**

Basic concepts of historical linguistics: the major factors of change in the history of the Spanish language from Latin to the present.

2 2-hr cl. Prereq: 730 or permission of instructor.

**738 Spanish Sociolinguistics G 5**

Introduction to the analysis of linguistic and social factors which contribute to variation in modern Spanish.

2 2-hr cl. Prereq: 730 or permission of instructor.

**739 Introduction to Medieval Spanish U G 2**

Introduction to Medieval Spanish sounds, forms, constructions, and vocabulary, based on reading and linguistic comment of representative texts.

1 2-hr cl. Prereq: 404 and 601, or permission of instructor.

**751 Studies in Medieval Spanish Literature U G 5**

In-depth study of a major topic or problem in Medieval Spanish literature.

2 2-hr cl. Prereq: 650 or grad standing. Repeatable to a maximum of 20 cr hrs.

**752 Studies in Spanish Golden Age Literature U G 5**

In-depth study of a major topic or problem in Spanish Golden Age literature.

2 2-hr cl. Prereq: 650 or grad standing. Repeatable to a maximum of 20 cr hrs.

**753 Studies in Spanish Literature of the 18th and 19th Centuries U G 5**

In-depth study of a major topic or problem in 18th or 19th century Spanish literature.

2 2-hr cl. Prereq: 650 or grad standing. Repeatable to a maximum of 20 cr hrs.

**754 Studies in 20th Century Spanish Literature U G 5**

In-depth study of a major topic or problem in 20th century Spanish literature.

2 2-hr cl. Prereq: 650 or grad standing. Repeatable to a maximum of 20 cr hrs.

**755 Studies in Indigenous and Colonial Spanish American Literature U G 5**

In-depth study of a major topic or problem in indigenous and colonial Spanish American literature.

2 2-hr cl. Prereq: 650 or grad standing. Repeatable to a maximum of 20 cr hrs.

**756 Studies in Independence and 19th Century Spanish American Literature U G 5**

In-depth study of a major topic or problem in Spanish American literature of the independence period and the 19th century.

2 2-hr cl. Prereq: 650 or grad standing. Repeatable to a maximum of 20 cr hrs.

**757 Studies in Modern Spanish American Literature U G 5**

In-depth study of a major topic or problem in Spanish American literature of the modern period from approximately 1880 to 1950.

2 2-hr cl. Prereq: 650 or grad standing; permission of instructor required of undergrads. Repeatable to a maximum of 20 cr hrs.

**758 Studies in Contemporary Spanish American Literature U G 5**

In-depth study of a major topic or problem in contemporary Spanish American literature.

2 2-hr cl. Prereq: 650 or grad standing; permission of instructor required of undergrads. Repeatable to a maximum of 20 cr hrs.

**759 Comparative Topics in Iberian and Latin American Literature U G 5**

In-depth study of a major topic comparing Spanish, Spanish American and/or Luso-Brazilian literature.

2 2-hr cl. Prereq: 650 or grad standing; permission of instructor required of undergrads. Repeatable to a maximum of 20 cr hrs.

**760 Topics in Spanish American Culture and Civilization U G 5**

Analysis of Spanish American culture through the study of selected topics in literature, film, and the arts; topics vary.

2 2-hr cl. Prereq: 560 or permission of instructor. Repeatable to a maximum of 15 cr hrs. Open only to grad students and to srs majoring in Spanish by permission of instructor.

**761 Topics in Spanish Culture and Civilization U G 5**

Analysis of Spanish culture through the study of selected topics in literature, film, and the arts; topic varies.

2 2-hr cl. Prereq: 561 and grad standing, or sr standing in Spanish with permission of instructor; or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**780 Latin American Film G 5**

Overview of Latin American film focusing on historical periods, dominant genres, distinguished directors, and relation of film to larger social, cultural and political dynamics.

Taught in Spanish.

**H783 Honors Research U 3-5**

This course offers undergraduates with special aptitudes a greater opportunity to do independent study than is possible in ordinary courses.

Su, Au, Wi, Sp Qtrs. Conference, library or phonetics laboratory arr. Prereq: 4th yr standing with a record of A in at least half of the Spanish courses and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**790 Foundations of Contemporary Critical Theory U G 5**

Interdisciplinary survey of the theoretical bases of the major contemporary approaches to the study of literature; readings in Marx, Freud, Derrida, Cixous, and others.

Wi Qtr. 2 2-hr or 5 cl. Prereq: Jr or sr or grad standing.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments present colloquia on subjects of mutual interest; topics to be announced.

Prereq: Grad standing or permission of instructor(s). Repeatable to a maximum of 15 cr hrs.

**801 Teaching Spanish at the College Level G 5**

Methods and techniques for teaching Spanish language at the college level.

Au Qtr. Three-wk intensive workshop previous to beginning of qtr followed by a 2-hr seminar every second week during qtr. Prereq: Teaching associate in the Dept of Spanish and Portuguese or permission of instructor. Not open to students with credit for Educ:T&L 801.03. For students enrolled in this course, the minimum number of cr hrs required for graduation is increased by 5 hrs. Cross-listed in Education: Teaching and Learning as 801.03.

**803 Research Methods and Design G 5**

Introduction to research methods and design in Hispanic literatures and cultures.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing. Not open to students with credit for 703. Required course for Hispanic Literature PhD programs.

**830 Hispanic Linguistics Colloquium G 2**

Forum for presentation of research in Hispanic linguistics; introduction to professional issues in workshop format.

Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**832 Studies in Synchronic Spanish Syntax, Semantics, and Pragmatics G 5**

Investigation of theoretical concepts in syntax, semantics, and pragmatics and how they have been applied to the analysis of the Spanish language.

2 2-hr cl. Prereq: 732 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**833 Studies in Spanish Synchronic Linguistics G 5**

Investigation of selected topics in synchronic Spanish linguistics (formal problems in Spanish phonology, morphology, syntax, semantics, and lexicology).

Prereq: 732 or 734 (depending on topic), and permission of instructor. Repeatable to a maximum of 20 cr hrs. Individual topics not repeatable.

**834 Studies in Synchronic Spanish Phonetics, Phonology, and Morphology G 5**

Investigation of theoretical concepts in phonetics, phonology, and morphology and how they have been applied to the analysis of the Spanish language.

2 2-hr cl. Prereq: 734. Repeatable to a maximum of 20 cr hrs.

**836 Studies in Spanish Historical Linguistics G 5**

Study of selected problems of Old Spanish linguistic description and diachronic evolution of Spanish.

Prereq: 736 or permission of instructor. Repeatable to a maximum of 20 cr hrs. including cr hrs earned in 812; individual topics not repeatable.

**838 Studies in Spanish Sociolinguistics G 5**

Study of selected topics in Spanish sociolinguistics, for example: syntactic variation, discourse analysis.

Prereq: 738 or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**839 Seminar in Spanish Linguistics G 5**

Collaborative investigation of specific problems in Spanish linguistics (synchronic and historical, formal, and applied topics).

Prereq: 833 or 836 or permission of instructor. Repeatable to a maximum of 20 cr hrs. Individual topics not repeatable.

**840 Hispanic Literatures and Cultures Colloquium G 2**

Forum for presentation of research in Hispanic literatures and cultures; introduction to professional issues in workshop format.

Au, Wi, Sp Qtrs. 1 2-hr cl. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**851 Seminar in Medieval Spanish Literature G 5**

Detailed exploration of advanced issues in Medieval Spanish literature.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**852 Seminar in Spanish Golden Age Literature G 5**

Detailed exploration of advanced issues in Spanish Golden Age literature.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**853 Seminar in Spanish Literature of the 18th and 19th Centuries G 5**

Detailed exploration of advanced issues in Spanish literature of the 18th and 19th centuries.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**854 Seminar in 20th Century Spanish Literature G 5**

Detailed exploration of advanced issues in 20th century Spanish literature.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**855 Seminar in Indigenous and Colonial Spanish American Literature G 5**

Detailed exploration of advanced issues in indigenous and colonial Spanish American literature.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**856 Seminar in Independence and 19th Century Spanish American Literature G 5**

Detailed exploration of advanced issues in Spanish American literature of the independence period and the 19th century.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**857 Seminar in Modern Spanish American Literature G 5**

Detailed exploration of advanced issues in Spanish American literature of the modern period from approximately 1880 to 1950.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**858 Seminar in Contemporary Spanish American Literature G 5**

Detailed exploration of advanced issues in contemporary Spanish American literature.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**859 Seminar in Comparative Iberian and Latin American Literature G 5**

Detailed exploration of advanced issues comparing Spanish, Spanish American and/or Luso-Brazilian literatures.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs.

**865 Seminar in Latin American Cultures G 5**

Intensive exploration of a cultural period, topic, or problem; topic varies.

Prereq: 760 or equiv. Repeatable to a maximum of 20 cr hrs.

**866 Seminar in Spanish Culture G 5**

Intensive exploration of a cultural period, topic or problem; topic varies.

Prereq: 761 or equiv. Repeatable to a maximum of 20 cr hrs.

**880 Foundations of Modern Literary Theory G 5**

Survey of the various historical sources of modern literary theory, from Aristotle to Stylistics and Prestructuralism; special attention to questions relevant to Hispanic literatures.

Prereq: Grad standing.

**881 Literary Theory since Formalism G 5**

Panoramic view of twentieth-century literary theory since formalism, with emphasis on structuralism and post-structuralism; special attention to issues relevant to Hispanic literatures.

Prereq: Grad standing. Repeatable to a maximum of 10 cr hrs.

**882 Seminar in Literary Theory G 5**

Intensive study of special topics in literary theory with attention to their relationship to Hispanic literature; possible topics: reception theory; deconstruction; sociology of literature.

Prereq: One graduate level course in literary theory. Repeatable to a maximum of 20 cr hrs.

**893 Individual Studies G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**894 Group Studies G 1-15**

Investigation of minor problems in the various fields of Spanish literature and language.

Prereq: Written permission of instructor. Repeatable to a maximum of 30 cr hrs.

**899 Interdepartmental Seminar G 3-5**

Two or more departments present seminars on subjects of mutual interest; topics to be announced.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**999 Research in Spanish Language or Literature G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Speech and Hearing Science**

110 Pressey Hall, 1070 Carmack Road, 292-8207

Information concerning frequency and quarter(s) of offering may be obtained by contacting the department.

General Prerequisites for Courses Numbered 600-700

A general foundation in undergrad courses in normal and disordered communication and related sciences is assumed in addition to listed specific prerequisites. Two exceptions are 714 and 716; other exceptions at the discretion of instructor.

**100 Speech Patterns and Pronunciation: Practical Introduction to Standard American English U 5**

This course informs students about the sound system of a so-called "standard" version of American English and provides them with opportunities to practice pronunciation patterns.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl.

**103 American Sign Language III U 5**

Developing language and communication skills necessary for competent interaction in various professional settings related to education, health care, law, social services.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: English 102 or equiv. Not open to students with credit for Edu T&L 113 or English 103. GEC for lang course.

**104 American Sign Language IV U 5**

Expand students' ability to produce and comprehend ASL in educational, medical, legal and social services; introduction to a variety of sign language systems in various professional settings.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 103 or Edu T&L 113 or English 103. Not open to students with credit for Edu T&L 114 or English 104. GEC for lang course.

**230 Introduction to Communication and Its Disorders U 5**

Survey of the topics, methodologies, and applications of speech and hearing science in normal and aberrant communication; lectures and readings.

**250 Brain and Language U 5**

Exploration of the neurological basis of language in humans and other species; examination of language deficits caused by brain damage.

Wi Qtr.

**286 Analyzing the Sounds of Language U 5**

The sounds that languages use are examined. Quantitative analytical tools used in phonetic science are introduced. Small experiments are conducted to introduce students to research.

Au Qtr. 2 2-hr cl. H286 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Math Placement level R or Math 075 or equiv; H286 requires Math 148 or 150. Not open to students with credit for Linguist 286. Cross-listed in Linguistics. GEC data analysis course.

**294 Group Studies U 1-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.

Repeatable to a maximum of 10 cr hrs.

**310 Improving Intercultural Speech-Language Skills U 5**

Examination of cultural variation in speech-language use found in the United States; exploration of how individuals can improve their intercultural speech-language skills.

Au, Sp Qtrs. GEC social diversity course.

**320 Principles of Phonetics U 5**

Provides articulatory and acoustic descriptions of speech sounds and a comparative study of phonetic transcription systems.

4 cl, 1 rec.

**330 Language Acquisition U 5**

Introduction to language acquisition in normal children.

2 2-hr cl. H330 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 430 or H330. GEC social science, individual and groups course.

**340 Bio-acoustics for Speech and Hearing Science U 5**

Basic principles of bio-acoustics; generation, transmission and reception of sound; neuroanatomy and neurophysiology as applied to speech production and perception.

Prereq: Math 148 or higher. Designed for students with little previous experience in biological or physical science.

**350 Speech-Language Communication across the Life Span: Issues and Problems in Our Communities U 5**

Exploration of the development of communication skills throughout the life span and the consequences of communication disorders for individuals, their families, and their communities.

Au, Sp Qtrs. 2 2-hr cl. Taught in English. GEC soc sci individuals and groups course.

**360 Observation in Speech-Language Pathology and Audiology U 5**

Observation in appraisal and treatment of communication disorders.

Prereq: 230. This course is graded S/U.

**420 Introduction to Speech Science U 5**

Anatomy and physiology of the structures involved in speech production and the acoustic characteristics of speech sounds.

Prereq: 320, or equiv, and 340, or equiv and one course from Biology 101, 102, 113, 114, H115, or H116.

**440 Introduction to Hearing Science U 5**

The anatomical properties and physiological processes of the system of hearing and balance in man and the stimulus processing capabilities of the normal auditory system.

Prereq: 340, or equiv; and one course from Biology 101, 102, 113, 114, H115, or H116; or Anatomy 199 or 200; or permission of instructor.

**510 Disability Studies in Context U 5**

The history, nature, meaning, and consequences of disability from the differing viewpoints of a range of academic disciplines and professions.

Sp Qtr.

**520 Introduction to Speech-Language Pathology U G 5**

Etiology, appraisal, and management of disorders of speech and language in children and adults.

Prereq: 320 or equiv, 360 or equiv; 420 or equiv, and 330 or 430, or permission of instructor.

**540 Introduction to Audiology U G 5**

The nature, causes, identification, and rehabilitative treatment of persons with hearing disorders.

Prereq: 360 or equiv, and 440 or equiv.

**605 Multicultural Aspects of Communication and its Disorders U G 5**

Examination of normal communicative behavior, including development, and the assessment and management of speech-language-hearing disorders of culturally and linguistically diverse populations.

Prereq: Grad standing or one of the following: 230 or 330 or 430, or Linguist 201, 202, 261, or 265; or equiv.

**643 Professional Issues in Audiology**

Professional issues and "hot topics" in audiology are discussed, including future career options/opportunities. Students also observe in local audiology clinics. 1 2-hr cl, 1 4-hr clinic. Prereq: Requires acceptance in AuD program. First year AuD students only.

**643.01 Scope of Practice and Professional Organizations G 3**

Consideration is given to the audiology scope of practice, health privacy issues and the role of professional organizations.

Au Qtr. This course is graded S/U.

**643.02 Ethical Practice and Licensure G 3**

Discussion centers on ethical practices and licensure issues in audiology.

Wi Qtr. This course is graded S/U.

**643.03 Certification and Legislative Involvement G 3**

Issues related to counseling, voluntary credentials and professional advocacy are considered.

Sp Qtr. This course is graded S/U.

**670 Speech, Hearing, and Language Problems in the School U G 3**

First course in the certification curriculum for school speech pathology; emphasis on program administration, interdisciplinary evaluation, and intervention.

Prereq: Sr or grad standing in sph/hrng.

**692 Workshops U G 1-8**

Intensive study of a clinical area newly expanded within the field; geared for practicing clinicians to update information and increase skill levels.

Prereq: Written permission of workshop director. Repeatable to a maximum of 12 cr hrs.

**693 Individual Studies U G 1-5**

Conference, library, and laboratory work.

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01^ Domestic U G 1-15**

Repeatable.

**698.02^ Foreign U G 1-15**

Repeatable.

**705 Audiologic Assessment I U G 5**

Detailed treatment of the theoretical and practical aspects of standard audiologic assessment.

2 2-hr cl, 1-hr lab. Prereq: 540.

**706 Audiologic Assessment II U G 5**

Detailed treatment of the theoretical and practical aspects of the physiologic evaluation of the auditory system using immittance and otoacoustic emissions.

2 2-hr cl, 1-hr lab. Prereq: 705 or equiv.

**707 Audiologic Assessment III U G 5**

Detailed treatment of the theoretical and practical aspects of electrophysiologic measures, including electrocochleography, auditory brainstem responses, middle latency responses, and cognitive potentials.

2 2-hr cl, 1-hr lab. Prereq: 706.

**710 Phonological Processes and Disorders U G 5**

Approaches to understanding the nature and clinical management of phonological disability in children and youth.

Prereq: 430 and 520, or equivs, grad standing in speech and hearing science, or permission of instructor.

**714 Introduction to Sign Language Systems U G 5**

Introductory course in manual sign language systems.

**716 Intermediate Sign Language Systems U G 5**

Continuation course in manual sign language with an emphasis on increasing vocabulary and fluency.

Prereq: 714. Repeatable.

**717 Nisonger Center Courses in Mental Retardation and Developmental Disabilities**

Focus on interdisciplinary topics in mental retardation and developmental disabilities.

Prereq: Permission of instructor. Cross-listed in Allied Medicine, Education: Physical Activity and Educational Services, Human Development and Family Science, Human Nutrition, Nursing, Psychology, and Social Work.

**717.01 Family Systems: An Interdisciplinary Approach to Families of Handicapped Children U G 3**

Qualitative and quantitative approaches for resource and problem identification with families of handicapped children, effective parenting skills, strategies to follow at-risk families, and family intervention models.

Not open to students with credit for 717.01 in any of the cross-listed areas.

**717.02 Interdisciplinary Perspectives on Autism Spectrum Disorders U G 3**

Critical examination of the latest information on biomedical, psycho-social, educational, communication and language, family and sensory issues of autism spectrum disorders.

1 3-hr cl. Not open to students with credit for 717.02 in any of the cross-listed areas.

**717.03 Developmental Disabilities U G 3**

Focus on the most pertinent scientific and societal issues of developmental disabilities.

1 3-hr cl. Not open to students with credit for 717.03 in any of the cross-listed areas.

**718 Advanced Sign Language Systems U G 5**

Advanced course in manual sign language with an emphasis on achieving fluency in conversation.

2 2-hr cl, 1 1-hr lab. Prereq: 714 and 716. Repeatable to a maximum of 10 or hrs.

**719 Early Intervention Interdisciplinary Team Dynamics G 3**

Interdisciplinary team-taught course with a focus on early intervention/early childhood education services for children birth to three and their families.

Au Qtr. 2.5-hr cl. Prereq: Permission of instructor. Not open to students with credit for Alli Med 719, Edu PAES 719, HDFS 719, or Nursing 719. Cross-listed in Education: Physical Activity and Educational Services, Human Development and Family Science, and Nursing.

**725 Language Acquisition U G 5**

Development of language in children with an emphasis on the interaction between the development of language and cognition.

Prereq: Grad standing or permission of instructor.

**726 Child Language Disorders: Assessment U G 5**

Assessment of language disorders in preschool and elementary school-aged children; both norm-referenced and criterion-referenced.

Prereq: 725 and grad standing or permission of instructor.

**727 Child Language Disorders: Remediation U G 5**

Remediation of language disorders in preschool and elementary school-aged children; the relationship of language skills to reading disabilities is also covered.

Prereq: 726 and grad standing, or permission of instructor.

**732 Audiologic Rehabilitation in Children G 3**

The impact of hearing loss on a child's speech and language development is considered. Educational models and treatment options for children with hearing loss are discussed.

Su Qtr. 2 2-hr cl.

**733 Audiologic Rehabilitation in Adults G 5**

The impact of hearing loss on social, vocational and psychological well-being is considered. Treatment options and measures of treatment outcome are evaluated.

Wi Qtr. 2 2-hr cl.

**734 Introduction to Aural Rehabilitation I U G 5**

Assessment and management of communication disorders associated with hearing loss.

Prereq: 540 or permission of instructor.

**735 Hearing Aids I U G 5**

The physical and electroacoustic characteristics of hearing aids, including electroacoustic analysis, acoustics of amplification system, signal processing strategies, and devices used in specialized fittings.

2 2-hr cl, 1-hr lab. Prereq: 705, 766.

**737 Proseminar in Cognitive Science U G 2**

An in-depth examination of the interdisciplinary field of cognitive science; emphasizes fundamental issues of each discipline, provides illustrations of representative research being conducted at OSU.

Prereq: Cptr/Inf 612, Linguist 612; Psych 612, or Philos 612; or permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in Computer and Information Science, Industrial and Systems Engineering, Linguistics, Philosophy, and Psychology.

**740 Fluency: Theory and Treatment U G 5**

Theories, principles, and procedures for the appraisal and treatment of persons with dysfluencies in speech.

Prereq: Grad standing in speech and hearing science or permission of instructor.

**741 Voice Disorders U G 5**

The role of the speech-language pathologist in the evaluation and interdisciplinary management of voice disorders and related pathologies.

Prereq: Grad standing in speech and hearing science or permission of instructor.

**742 Low Incidence Voice and Resonance Disorders U G 5**

Etiology, evaluation, and treatment of low incidence speech and voice disorders of the head and neck.

Prereq: 765 or equiv, and grad standing in speech and hearing science or permission of instructor.

**743 Clinical Seminar in Hearing Disorders**

Readings and discussion of topics pertinent to the assessment and treatment of hearing disorders. Each subdivision repeatable to maximum of 3 credit hours.

Prereq: Grad Standing in speech and hearing science or permission of instructor.

**743.00 Contemporary Issues G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**743.01 Screening in Speech-Language-Hearing G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**743.02 Counseling and Report Writing G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**743.03 Hearing Aid Applications G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**743.04 Ethics G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**743.05 Evidence-Based Practice G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**743.06 Resumes and Interviewing G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**743.07 Clinical Grand Rounds G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**744 Clinical Seminar in Speech and Language Disorders**

Readings and discussion of topics pertinent to the assessment and treatment of speech and language disorders. Each decimal subdivision repeatable to a maximum of 3 cr hrs.

Prereq: Grad standing in speech and hearing science or permission of instructor.

**744.00 Contemporary Issues G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**744.01 Introduction to SLP Clinic G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**744.02 Articulation and Phonology: Assessment and Intervention G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**744.03 Language: Assessment and Intervention G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**744.04 Neurogenics: Assessment and Intervention G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**744.05 Special Issues G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**744.06 Professional Issues G 1**

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**750 Assessment of Vestibular Function G 5**

Study of the techniques involved in the administration and interpretation of electronystagmography, rotation, and posturography assessments.

**760 Aphasia and Related Adult Language Disorders U G 5**

Language disorders resulting from brain injury in adults.

Prereq: 765 or equiv, and grad standing; or permission of instructor. Must have grade of B- or higher in 765.

**761 Neurologic Motor Speech Disorder U G 5**

The nature, treatment and assessment of neurologically based motor speech disorders in an interdisciplinary context.

Prereq: 765 or equiv, and grad standing; or permission of instructor.

**762 Traumatic Brain Injury in Children and Adults U G 5**

The mechanism of traumatic brain injury, its impact on communication, and the methods of assessment and intervention.

Prereq: 765 or equiv, and grad standing; or permission of instructor.

**763 Evaluation and Treatment of Dysphagia in Adults and Children U G 5**

The role of the speech-language pathologist in assessment and treatment of swallowing disorders in children and adults.

Prereq: 765 and grad standing or permission of instructor.

**765 Neurology of the Speech and Hearing Mechanism U G 5**

Structure and function of the central and peripheral nervous systems as they relate to speech and hearing.

Prereq: Grad standing in speech and hearing science or permission of instructor.

**766 Acoustics and Instrumentation G 5**

Principles underlying the use of electro-acoustic instrumentation in the speech and hearing sciences.

Prereq: College-level algebra.

**770 Clinical and Educational Methods in the Schools G 3**

Models, strategies, methodologies, and curriculum involved in planning, implementing, and evaluating team-based instruction for students with communication, language, and learning disabilities.

Prereq or concur: 670; or permission of instructor.

**775 Anatomy and Physiology of the Auditory System G 5**

The structure and function of the ear and the stimulus processing capacities of the ear as they relate to performance on tests of auditory function in normal and impaired listeners.

2-2-hr cl. Prereq or concur: 765.

**776 Advanced Speech Science U G 5**

Graduate introduction to speech instrumentation and speech acoustics; topics in spectrographic analysis and speech synthesis.

Prereq: 420 or equiv.

**H783 Honors Research U 3-15**

A program of independent study for the student with special aptitudes; individual conferences and reports.

Prereq: 4th yr standing with a grade of A in at least half of the sph/hrng courses and an average of B in the remainder; permission of the instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**785 Research Methods I G 5**

Introduction to research design and data analysis for the hearing and speech sciences.

Prereq: Grad standing.

**786 Research Methods II G 5**

Introduction to descriptive and inferential statistics as they are utilized in speech and hearing science.

Prereq: 785 or permission of instructor.

**794 Group Studies U G 3**

Prereq: Permission of instructor.

Repeatable to a maximum of 20 cr hrs.

**805 Pediatric Audiology I G 5**

Etiology and assessment of hearing loss in children.

Su, Su Term 1, Su Term 2 Qtr. 2-2-hr cl. Prereq: 707.

**806 Adult Hearing Disorders G 5**

The nature, diagnosis, and treatment recommendations of adult hearing disorders.

Prereq: 705, 706, and 707; or equivs.

**807 Pediatric Audiology II G 5**

The aural rehabilitation process in children, educational policy for children with hearing loss, and assessment and treatment of children with central auditory processing disorders.

Wi Qtr. 2-2-hr cl. Prereq: 735, 805, 835.

**815 Clinical Assessment and Training Methods for the Singing Voice G 3**

An interdisciplinary course in vocal pedagogy and speech-language pathology which explores methods within each discipline for assessing and training the singing voice.

2 cl, 2 lab hrs. Prereq: Grad standing in sph/hrng (with credit for 741) or music; or permission of instructor. Not open to students with credit for Music 815. Cross-listed in Music.

**820 Acoustic Phonetics G 5**

An introduction to the acoustic characteristics of human speech sounds, the acoustic theory of speech production, and spectrographic analysis.

Prereq: 320 and Linguist 601, or equivs. Not open to students with credit for this topic under 940 or 950.

**832 Experimental Phonetics G 5**

Experimental investigations of acoustic, physiological, and psychological aspects of speech.

**835 Hearing Aids II G 5**

The selection and fitting of amplification devices and the verification of patient outcomes.

2-2-hr cl. Prereq: 735.

**843 Practicum in Audiology G 1-5**

Students are placed in local audiology clinics to put into practice skills learned in the classroom.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Successful completion of AuD qualifying examination. Repeatable to a maximum of 60 cr hrs. This course is graded S/U.

**844 Practicum in Communication Disorders G 1-5**

Practicum with children and adults having speech, language, or hearing problems.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

**845 Clinical Internship: Speech, Language, and Hearing G 12**

Full-time experience in approved clinical setting to partially fulfill requirements for Plan B nonthesis option.

Prereq: Completion of 45 grad cr hrs and 40 hrs of clinical practicum. Prior approval of grad committee required. This course is graded S/U.

**846 Field Experience in the Schools G 6,12**

Major practicum experience for students pursuing certification to practice speech/language pathology in schools.

Prereq: 670 or equiv, grad standing in sph/hrng, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**858 Psychoacoustics G 5**

Theoretical concepts and psychophysical data relative to hearing and related laboratory experiments.

**870 School Internship Seminar G 3**

Special topics, management concerns, and other planned experiences relative to the school internship in speech-language pathology.

Prereq: 670 and 770, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**893 Directed Doctoral Studies G 3-10**

Directed, individualized areas of study for doctoral students in either the laboratory or clinical research tracks; conference, library, clinic and/or laboratory involvement.

Prereq: Doctoral standing in sph/hrng or permission of instructor. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**900 Doctoral Proseminar in Speech and Hearing Science G 1**

Advanced studies in speech and hearing science to acquaint doctoral students with departmental research, to pose possible dissertation topics, and to improve research/design skills.

Prereq: Doctoral standing in sph/hrng or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**930 Advanced Topics in Audiology**

Advanced topics in audiology provide students with knowledge in specialized areas of research and practice.

**930.01 Cochlear Implants G 3**

Cochlear implant components and functions are explored. Students gain knowledge related to patient candidacy, implant programming and rehabilitation procedures.

Wi Qtr. 1 3-hr cl.

**930.02 Audiology Practice Management G 3**

Students will gain knowledge of the many decisions and issues involved in the management of an audiology department or practice.

Su Qtr. 1 4-hr cl.

**930.03 Tinnitus and Hyperacusis G 3**

Students explore the potential physiologic causes of tinnitus and hyperacusis and consider options for assessment and treatment of the disorders.

Sp Qtr. 1 3-hr cl.

**930.04 Intraoperative Monitoring G 5**

Students examine the sensory and motor electrophysiologic measures used to perform intraoperative neurophysiologic monitoring during common otolaryngology-head and neck surgeries.

Sp Qtr. 1 4-hr cl.

**930.05 Community and Industrial Audiology U G 3**

The effect of noise on hearing, physiological and psychological function, productivity and communication; federal and state regulations reviewed and effects on communities discussed.

Not open to students with credit for 720.

**940 Advanced Studies in Speech and Hearing Science G 3**

Prereq: Permission of instructor. Repeatable to a maximum of 45 cr hrs.

**943 Externship in Audiology G 1-15**

Students are placed in clinical sites for extended periods to solidify clinical skills and gain experience in the day to day workings of an audiology practice.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 707. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**950 Seminar in Speech and Hearing Sciences**

Prereq: Permission of instructor.

**950.01 Advanced Topics in Speech Production G 3**

Repeatable to a maximum of 45 cr hrs.

**950.02 Advanced Topics in Speech Perception G 3**

Repeatable to a maximum of 45 cr hrs.

**950.03 Advanced Topics in Acoustic Phonetics G 3**

Repeatable to a maximum of 45 cr hrs.

**950.04 Language Development and Disorders G 3**

Repeatable to a maximum of 45 cr hrs.

**950.05 Second Language Acquisition G 3**

Repeatable to a maximum of 45 cr hrs.

**950.06 Medical Speech-Language Pathology G 3**

Repeatable to a maximum of 45 cr hrs.

**950.07 Voice Disorders G 3**

Repeatable to a maximum of 45 cr hrs.

**950.08 Advanced Clinical Research Designs G 3**

Repeatable to a maximum of 45 cr hrs.

**950.09 Multidimensional Scaling G 3**

Repeatable to a maximum of 45 cr hrs.

**950.10 Phonological Acquisition and Disorders G 3**

Repeatable to a maximum of 45 cr hrs.

**950.11 Signal Detection Theory G 3**

Repeatable to a maximum of 45 cr hrs.

**950.12 Advanced Topics in Psychoacoustics G 3**

Repeatable to a maximum of 45 cr hrs.

**950.13 Development of the Auditory System G 3**

Repeatable to a maximum of 45 cr hrs.

**950.14 The Effects of Aging on the Auditory System G 3**

Repeatable to a maximum of 45 cr hrs.

**950.15 Psychoacoustics and Hearing Impairment G 3**

Repeatable to a maximum of 45 cr hrs.

**950.16 Signal Processing in Hearing Science and Audiology G 3**

Repeatable to a maximum of 45 cr hrs.

**950.17 Molecular Biology of Hearing G 3**

Repeatable to a maximum of 45 cr hrs.

**950.18 Advanced Topics in Audiologic Rehabilitation G 3**

Repeatable to a maximum of 45 cr hrs.

**950.19 Research to Practice in Audiology G 3**

Repeatable to a maximum of 45 cr hrs.

**950.20 Special Topics G 3**

Repeatable to a maximum of 45 cr hrs.

**997 AuD Capstone Project G 1-15**

Students complete clinical or research centered project depending on their career interests.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 707. Repeatable to a maximum of 45 cr hrs. This course is graded S/U.

**998 Research in Speech and Hearing Science: Thesis G 1-18**

Research for thesis purposes only.

Repeatable. This course is graded S/U.

**999 Research in Speech and Hearing Science: Dissertation G 1-18**

Research for dissertation purposes only.

Repeatable. This course is graded S/U.

**Statistics**

404 Cockins Hall, 1958 Neil Avenue, 292-2866

Introduction to Biostatistics

See Biostat H318.

**133 Statistics for the Business Sciences U 5**

Introduction to basic concepts of descriptive statistics and probability; including graphical and numerical data summaries, properties of discrete and continuous probability distributions, and sampling distributions.

Su, Au, Wi, Sp Qtrs. 3 hr lecture; 2 1-hr recitations. Night version 3 hr lecture (1.5-hr twice/week) + 1 2-hr recitation. H133 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Math 132 and CS&E 200.

**135 Elementary Statistics U 5**

Introduction to probability and statistics, experiments, and sampling, data analysis and interpretation.

Su, Au, Wi, Sp Qtrs. 3 1-hr cl, 2 labs. Prereq: Math 050 or Mathematics Placement Level S. Not open to students with credit for any of the following: 125, 145, 245, Econ 442, Ed-T&P 786, Mol Gen 650, Polit Sc 685, Psych 220 or 510, or Soc Work 570 or 571. GEC data analysis course.

**145 Introduction to the Practice of Statistics U 5**

Topics include probability, descriptive statistics, correlation, regression, design of experiments, sampling, estimation, and testing; emphasis on applications, statistical reasoning, and data analysis using statistical software.

Su, Au, Wi, Sp Qtrs. 3 1-hr cl, 2 labs. Prereq: Math placement level L or M, Math 116 or 130 or 148 or 150 or 151 or equiv. GEC data analysis course.

**201 Statistics in Your World**

Explore and learn more about popular real-world topics using statistics as your tools. Statistical techniques include contingency tables, regression, confidence intervals and hypothesis testing.

Prereq: One GEC in statistics or equiv or permission of instructor. 201 decimals cannot be used to replace a Data Analysis GEC. Cannot repeat decimals.

**201.01 Statistics in the Sports World U 3**

Ask and answer questions, debate issues and analyze data from your favorite sports using statistics. Statistical techniques include contingency tables, regression, estimation, confidence levels, testing.

Au Qtr. 2 1.5-hr labs.

**218 Statistics for the Life Sciences U 5**

Calculus-based introduction to the statistical analysis of biological data, including probability, common discrete and continuous distributions, experimental design, and hypothesis testing.

Sp Qtr. 3 cl, 2 1-hr recitations. Prereq: Math 152 or equiv. Not open to students with credit for 245.

**245 Introduction to Statistical Analysis U 5**

Calculus-based introduction to data analysis, experimental design, sampling, probability, and inference.

Au Qtr. 3 cl, 2 1-hr labs. Prereq: Math 152 or equiv. GEC data analysis course.

**H246 Intermediate Data Analysis U 4**

Intermediate data analysis including multiple regression, analysis of variance, nonparametric methods, and time series. Emphasis on statistical reasoning and using statistical software.

Wi Qtr. 4 1-hr cl. Prereq: 245 (or credit for 245 based on AP Statistics exam score). Student must have honors or scholars standing.

**420 Introduction to Mathematical Statistics I U 5**

Basic concepts in mathematical statistics, including probability, discrete and continuous distributions and densities, mathematical expectation, functions of random variables, transformation techniques, sampling distributions, order statistics.

Prereq: Math 254 or permission of instructor. Not open to students with credit for 520, 610, or 620.

**421 Introduction to Mathematical Statistics II U 5**

Calculation and evaluation of point estimators, interval estimation, Neyman-Pearson lemma, uniformly most powerful tests, likelihood ratio tests, chi-square, F, and nonparametric tests.

Prereq: 420. Not open to students with credit for 521 or 621.

**427 Introduction to Probability and Statistics for Engineering and the Sciences I U 3**

Introduction to probability, discrete and continuous random variables, expected value, and sampling distributions.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: Math 153 or 254 or permission of instructor. This course is not intended to stand alone as an introduction to probability and statistics. It should be followed by 428. GEC data analysis course.

**428 Introduction to Probability and Statistics for Engineering and the Sciences II U 3**

Continuation of 427; point and interval estimation; hypotheses tests for proportions, means, variances, and goodness-of-fit; least squares regression.

Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: 427. Not open to students with credit for 426.

**451 Statistical Foundations of Survey Research U 5**

Study objectives; survey and sampling design, implementation, ethics. Statistical analysis of survey data including confidence intervals, hypothesis tests and model building. Interpretation, communication of results.

Au Qtr. 3 80-min sessions. Prereq: One introductory course in data analysis (such as Stat 135), and college algebra (Math 104 or equiv). Not open to students with credit for 651.

**494 Group Studies U 3-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**504 The Role of Statistical Concepts and Methods in Guiding and Enhancing Academic Research U G 4**

Introduction to statistical concepts, theory and methods in research of scientific methods.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 135 or equiv or permission of instructor.

**520<sup>A</sup> Mathematical Statistics I U G 5**

Probability, random variables, discrete and continuous distributions; binomial, Poisson, normal, gamma (chi-square), t, F, distributions; change of variable and moment-generating function techniques; order statistics; limit theorems.

Au Qtr. 5 cl. Prereq: Math 254 or written permission of instructor. Not open to students with credit for 610 or 620. GEC data analysis course.

**521<sup>A</sup> Mathematical Statistics II U G 5**

Confidence intervals; minimum variance unbiased estimation, maximum likelihood estimation; Neyman-Pearson theorem, uniformly most powerful tests, likelihood ratio tests, chi-square and F tests, nonparametric tests.

Wi Qtr. 5 cl. Prereq: 520. Not open to students with credit for 621.

**528 Data Analysis I U G 3**

Non-calculus treatment of descriptive statistics, statistical inference, goodness of fit, use of t, X<sup>2</sup> in one sample situation.

Su, Au, Wi Qtrs. 3 cl, lab hrs arr. Not open to students with credit for 145 or 245.

**529 Data Analysis II U G 3**

Two sample tests, non-parametric one and two sample procedures, regression analysis, one and two way analysis of variance.

Wi, Sp Qtrs. 3 cl, lab hrs arr. Prereq: 528 or equiv.

**530 Data Analysis III U G 4**

Multiple regression models; diagnostics, inferences, and variable selection; ANOVA with several factors, mixed models, nesting.

Sp Qtr. 3 cl. Prereq: 529 or permission of instructor.

**574 Introduction to SAS Software U G 3**

Inputting data, date manipulation and calculations, data presentation and reports, graphical displays, data and character data, formatting, macro programming, basic statistical procedures.

Sp Qtr. 3 cl. Prereq: 529 or equiv or permission of instructor.

**600 Statistical Consulting I U G 2**

Role of statistical consultant; enhancement of problem solving and communication skills; development of a personal philosophy of consulting.

Au, Sp Qtrs. Prereq: 645 and permission of instructor. This course is graded S/U.

**601 Statistical Consulting II U G 2**

Experience is given the student in working with real data through association with projects in the Statistics Consulting Service.

Su, Wi Qtrs. 1 1.5-hr cl. Prereq: 600 and permission of instructor. This course is graded S/U.

**602 Early Start in Statistics G 5**

Selected mathematical topics, including geometric series, binomial expansion, integration by parts, Taylor series; transformation of variables, linear algebra, basic concepts of probability.

Su Qtr. 5 cl. Prereq: Grad standing in stat.

**603 Teaching of Statistics G 5**

Introduction to the teaching of statistics; teaching strategies; communicating with students; review of topics taught in Stat 133, 135, and 145, and the computing lab.

Su Qtr. 2 2.5-hr cl. Prereq: Grad standing in stat. This course is graded S/U.

**610 Probability for Statistical Inference U G 5**

Introduction to probability, random variables, and distribution theory intended primarily for students in MAS degree program.

Au, Wi Qtrs. 3 cl. Prereq: Math 548 or permission of instructor. Not open to students with credit for Math 530.

**620 Statistical Theory I U G 4**

Introduction to probability, conditional probability, independence, random variables, distribution functions, transformations, moment generating function, common probability distributions; marginal and conditional distributions, sampling distributions; convergence concepts.

Au Qtr. 4 cl. Prereq: Math 548. Not open to students with credit for 610.

**621 Statistical Theory II U G 4**

Sufficiency, maximum likelihood estimation, minimum variance, unbiased estimation, Bayes estimation, decision theory.

Wi Qtr. 4 cl. Prereq: 620 or written permission of instructor.

**622 Statistical Theory III U G 4**

Likelihood ratio tests, Neyman Pearson theorem and uniformly most powerful tests, confidence intervals, applications to linear models.

Sp Qtr. 4 cl. Prereq: 621.

**623 Theory of Statistical Analysis U G 5**

Estimation, hypothesis tests, best tests, likelihood ratio tests, confidence sets, sufficiency, efficient estimators; intended primarily for students in the MAS degree program.

Wi, Sp Qtrs. 3 cl. Prereq: 610 or 620 or permission of instructor. Not open to students with credit for 621 or 622.

**625 Applied Bayesian Analysis G 4**

Introduces various aspects of Bayesian modeling (including conditionally specified models and models for non-normal data) and simulation-based model-fitting strategies.

Wi Qtr. 2 2-hr cl. Prereq: Statistical Theory (Stat 520/521, or Stat 610/623, or Stat 621/622) and Applied Regression Analysis (Stat 645) or permission of instructor.

**628 Statistical Practice I G 4**

Computing environment; statistical computing; scientific method; overview of statistical problem formulation and inference; foundations of stochastic modeling; exploratory data analysis; descriptive statistics.

Su Qtr. 4 cl. Prereq or concur: 620.

**632 Applied Stochastic Processes I U G 3**

Conditioning, discrete time Markov chains, Poisson processes, branching process.

Wi Qtr. 3 cl. Prereq: 623 or permission of instructor.

**635 Statistical Analysis of Time Series U G 3**

Time series models; estimation of the spectral density function; transformations of time series; prediction theory applications.

Au Qtr. Prereq: 521 or 525 or 623 or permission of instructor.



**641 Design and Analysis of Experiments U G 5**

The linear model for experimental designs; analysis of variance; factorial experiments; and block designs.  
Wi, Sp Qtrs. 3 cl. Prereq: 521, 645, and knowledge of elementary linear algebra; or permission of instructor.

**645 Applied Regression Analysis U G 5**

Simple and multiple linear regression, diagnostics, model selection, models with categorical variables.  
Au, Wi, Sp Qtrs. 3 cl. Prereq: 521 or equiv.

**651 Survey Sampling Methods G 4**

Sampling from finite populations, simple random, stratified, systematic, and cluster sampling designs, ratio and regression estimates; non-sampling errors.  
Wi Qtr. 2 2-hr cl. Prereq: 521 or permission of instructor. Not open to students with credit for PubH-Bio 651. Cross-listed in Public Health: Biometrics.

**656 Applied Multivariate Analysis U G 5**

Matrix computation of summary statistics, geometry of sample data; multivariate normal distribution; MANOVA; principal components; discriminant analysis; topics may include factor analysis, cluster analysis, canonical correlation.  
Wi, Sp Qtrs. 3 cl. Prereq: 645 or equiv and knowledge of linear algebra. Some experience with computers is expected.

**661 Applied Nonparametric Statistics U G 5**

Noncalculus treatment of nonparametric tests, confidence intervals, estimation; topics include one- and two-sample problems, one- and two-way analysis of variance, multiple comparisons, correlation.  
Su, Sp Qtrs. 5 cl. Prereq: 521 or 529 or equiv.

**662\* Environmental Statistics U G 3**

Environmental statistical methodologies applied to case studies; topics include the role of ecology, bioassay, risk, censoring, spatial statistics and hierarchical statistics.  
Sp Qtr. 2 1.5-hr cl, 3 labs arr/qtr. Prereq: 530 or equiv.

**663^ Statistical Methods in Reliability U G 5**

Statistical failure models, graphical and analytic parametric estimation for censored samples, non-parametric survival function estimation, reliability of composite and repairable systems, Bayesian estimation and prediction.  
Sp Qtr. 3 1.5-hr cl. Prereq: 521 or 623 or equiv.

**664 Principles of Statistical Quality Control U G 5**

Pareto diagrams; process control: Shewhart, CUSUM, empirical Bayes, multivariate and other control charts; economic design, process capability, Taguchi's method for off-line control; acceptance sampling.  
Au Qtr. 3 cl. Prereq: 521 or 623 or equiv.

**665 Discrete Data Analysis U G 4**

Two-by-two tables; cross-sectional, prospective, and retrospective studies; log linear model analysis of cross-classified data; logistic regression analysis; analysis of stratified tables.  
Sp Qtr. 2 cl. Prereq: 529 or 645 or permission of instructor.

**673 Monte Carlo Techniques U G 3**

This course covers the Monte Carlo topics of Stat 671.  
Au Qtr. 3 cl. Prereq: 520 or 529 or equiv and some knowledge of computer programming, or permission of instructor. Not open to students with credit for 671.

**674 Data Management and Presentation I U G 2**

Inputting data, data manipulation and calculations, handling missing data, merging data, transporting data sets, dates and formatting, relational databases and structured query language; emphasizes use of statistical software SAS.  
Au, Wi Qtrs. 1 2-hr cl. This course is graded S/U.

**675 Data Management and Presentation II U G 2**

Handling character data, custom reports, macro programming, graphics and multiple plots, output delivery system, transforming output to Web pages and other formats; emphasizes use of statistical software SAS.  
Wi, Sp Qtrs. 1 2-hr cl. Prereq: 674 or permission of instructor. This course is graded S/U.

**693 Individual Studies U G 1-5**

Individual conferences, assigned readings, and reports on minor investigations.  
Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**694 Group Studies U G 2-5**

Designed to give groups of students an opportunity to pursue special studies not otherwise offered.  
Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 20 cr hrs.

**722 Theory of Probability I G 4**

Measure and integration; random variables; independence; convergence in

probability, almost everywhere, and in the mean; conditional probability and expectation.  
Au Qtr. 4 cl. Prereq: Math 653. Not open to students with credit for Math 722. Cross-listed in Mathematics.

**723 Theory of Probability II G 4**

Weak convergence; characteristic functions; central limit theorems; random walks; introduction to martingales.  
Wi Qtr. 4 cl. Prereq: 722 or Math 722. Not open to students with credit for Math 723. Cross-listed in Mathematics.

**742 Theory of Linear and Mixed Models G 4**

Theory of the general linear model; least square estimates and properties, especially in non-full rank models; analysis of variance technique; multi-factor models; random effects and mixed models.  
Au Qtr. 2 2-hr cl. Prereq: 621 or 623, and 656 or Math 568, or permission of instructor.

**743 Generalized Linear Models G 3**

Introduces the statistical theory and methodology to extend regression and analysis of variance to non-normal data.  
Wi Qtr. 3 cl. Prereq: 645 and 742.

**745\* Multiple Comparisons Procedures G 3**

Types and levels of multiple comparison inference, abuses, sample size computation, graphical representation.  
Sp Qtr. 3 cl. Prereq: 742 or permission of instructor.

**746 Design and Analysis of Experiments G 3**

A continuation of 742; various experimental designs; analysis of covariance, mixed and random models.  
Wi Qtr. 2 cl. Prereq: 742.

**755^\* Multivariate Analysis I G 3**

Geometrical representations of data; random vectors, normal distribution for random vector and random data matrices, Wishart distribution, inferences based on normal theory.  
Wi Qtr. 2 cl. Prereq: 521 or 623, and Math 471 or 601.

**756^\* Multivariate Analysis II G 3**

Multivariate regression analysis; principal component analysis; factor analysis; canonical correlation analysis; discriminant analysis--all from a theoretical point of view.  
Sp Qtr. 2 cl. Prereq: 755.

**760 Elements of Statistical Learning G 3**

Statistical and Machine Learning - Applied modern regression, pattern recognition and clustering techniques for discovery/understanding of underlying statistical structures within large, complex and noisy data sets.  
Wi Qtr. 2 1.5-hr cl. Prereq: 610/623 or higher, or ECE 804/806; Familiarity with Matrix Algebra and Linear Regression Analysis. Final project report and class presentation is a key component of this course.

**761\* Nonparametric Statistics I G 3**

Order statistics, equal in distribution technique, counting and ranking methods, distribution-free statistics, Monte Carlo power simulation studies, asymptotic relative efficiency.  
Au Qtr. 3 cl. Prereq: 622 or 623.

**763\* Nonparametric Function Estimation G 3**

Nonparametric function estimation with emphasis on smoothing splines, flexible model building based on noisy multivariate data, kernel methods, additional topics in smoothing.  
Sp Qtr. 3 cl. Prereq: 622, 645, and knowledge of linear algebra.

**764^\* Order Statistics U G 4**

Distribution theory in continuous and discrete cases, moments, order statistics in statistical inference, asymptotic theory.  
Sp Qtr. 4 cl. Prereq: 622 or permission of instructor.

**773 Statistical Computing G 3**

Random number and variate generation, variance reduction, integral equations, resampling methods, maximization, E-M algorithm and other topics.  
Au Qtr. 3 cl. Prereq: 622.

**789 Survey Research Practicum G 5**

Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.  
Sp Qtr. 1 3-hr cl. Prereq: Admission to grad interdisciplinary specialization in survey research and permission of instructor. Not open to students with credit for 789 in AED Econ, Agr Educ, Bus-Mktg, Econ, Edu P&L, Geog, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, or Sociol. Cross-listed in AED Econ, Agr Educ, Bus-Mktg, Econ, Ed P&L, Geog, J Com, Polit Sc, Psych, Pub Hlth, PubPol&M, and Sociol.

**801 Seminar on Research Topics in Statistics G 2**

Lectures on current research by each graduate faculty member in statistics.  
 Au Qtr. 1 2-hr cl. Prereq: 2nd yr standing in stat PhD program or permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**820 Statistical Inference I G 3**

Statistical decision theory, foundations of statistics, Bayesian analysis, sequential analysis, sequential probability ratio test.  
 Au Qtr. 3 cl. Prereq: 622.

**821 Statistical Inference II G 3**

Sufficiency and invariance, unbiased and equivariant estimators, Neyman-Pearson, UMP, UMPU and invariate tests.  
 Wi Qtr. 3 cl. Prereq: 722, or Math 722 and 820.

**822 Statistical Inference III G 3**

Asymptotic theory for estimators and tests, resampling methods and other topics in modern inference.  
 Sp Qtr. 3 cl. Prereq: 723 or Math 723, and 821.

**825\* Advanced Bayesian Analysis G 3**

Bayesian computation, nonparametric Bayes methods, semiparametric Bayes methods, robust Bayesian analysis, complex Bayesian models.  
 Wi Qtr. 3 cl. Prereq: 821.

**829\*\* Spatial Statistics G 3**

Spatial statistics at an advanced level; topics include geostatistics, lattice models with emphasis on Markov random fields, and spatial point processes.  
 Wi Qtr. 2 1.5-hr cl, 3 labs arr/qtr. Prereq: 622 and 645.

**832 Applied Probability Models G 3**

Birth and death processes, Queueing Theory, Branching processes and other applied probability models.  
 Wi Qtr. 3 cl. Prereq: Math 722.

**833\* Statistical Methods for Analyzing Genetic Data G 3**

Basic principles of population genetics, linkage analysis, association study, genetic epidemiology, and analysis of gene expression data.  
 Au Qtr. 2 2-hr cl. Prereq: 622 or equiv or permission of instructor.

**847\*\* Advanced Design of Experiments G 3**

Partially balanced designs, factorial experiments, confounding and fractional replications, response surface designs.  
 Sp Qtr. Prereq: 746.

**881 Advanced Topics in Mathematical Statistics I G 3**

Topics to be taken from the following: multivariate analysis, stochastic processes, analysis of variance, components of variance models, advanced test design.  
 Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: Grad standing in stat. Repeatable to a maximum of 9 cr hrs.

**882 Advanced Topics in Mathematical Statistics II G 3**

Continuation of 881.  
 Su, Au, Wi, Sp Qtrs. 3 cl. Prereq: Grad standing in stat. Repeatable to a maximum of 9 cr hrs.

**888 Large Sample Theory G 3**

Mann-Wald theory of stochastic order relationships; asymptotic distribution of maximum likelihood estimates and likelihood ratio statistic, large deviation theory, asymptotic theory of well-known statistics.  
 Sp Qtr. 3 cl. Prereq: 822.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.  
 Cross-listed in Biomedical Engineering, Biomedical Informatics, Biophysics, Computer Science and Engineering, Electrical and Computer Engineering, Integrated Biomedical Science, Pathology, Radiology, and Vision Science.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.  
 Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**893 Advanced Individual Studies G 1-5**

Individual conferences, assigned readings, and reports on investigations.  
 Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**894 Advanced Group Studies G 1-5**

Designed to give groups of advanced students an opportunity to pursue special studies not otherwise offered.  
 Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**895 Statistics Seminar G 1**

Topics range over the current research interests of statisticians from around the world; some lectures are of an expository nature.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Permission of dept. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**999 Research G 1-18**

Research for thesis or dissertation purposes only.  
 Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Surgery**

308 Means Hall, 1654 Upham Drive, 293-9751

**610 Techniques in Transplantation Research U G 3**

Provides students with exposure to theoretical and practical aspects of techniques in transplant research.  
 Su, Au, Wi, Sp Qtrs. 1 3-hr cl or 2 1.5-hr cl. This course is graded S/U.

**611 Transplantation Research U G 3**

Gives students the opportunity to design, execute and report research in transplantation.  
 Su, Au, Wi, Sp Qtrs. 2 1.5-hr cl. Prereq: 610; permission of instructor.

**750 Seminars in Practice Management for Surgeons I-VI**

Provides surgery residents basic information on business principles related to the practice of medicine and surgery.  
 Su, Au, Wi, Sp Qtrs. Prereq: Medical Degree; One year of surgical residency.

**750.01 Seminars in Practice Management for Surgeons I G 1**

This course is graded S/U.

**750.02 Seminars in Practice Management for Surgeons II G 1**

This course is graded S/U.

**750.03 Seminars in Practice Management for Surgeons III G 1**

This course is graded S/U.

**750.04 Seminars in Practice Management for Surgeons IV G 1**

This course is graded S/U.

**750.05 Seminars in Practice Management for Surgeons V G 1**

This course is graded S/U.

**750.06 Seminars in Practice Management for Surgeons VI G 1**

This course is graded S/U.

**790 Research Studies in Surgery**

1, 2, 3, or 4 months; offered all months. Prereq: Permission of instructor.

**790.02 General Surgery P G 1-18**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**790.03 Neuro Surgery P G 1-18**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**790.04 Orthopaedics P G 1-18**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**790.05 Pediatric Surgery P G 1-18**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**790.06 Urology P G 1-18**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**790.08 Plastic Surgery P G 1-18**

Repeatable to a maximum of 24 cr hrs. 1, 2, 3, or 4 months; offered all months. Repeatable to a maximum of 24 cr hrs for professional credit. Repeatable to a maximum of 15 cr hrs for grad credit. This course is graded S/U.

**790.09 Cardiothoracic Surgery P G 1-18**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**790.10 Peripheral Vascular Surgery P G 1-18**

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**791 Clinical Studies in Surgery**

Prereq: Permission of instructor.

**791.02 Emergency Room P 6**

Repeatable to a maximum of 24 cr hrs.

**791.03 Neurological P 6,12,18**

Repeatable to a maximum of 24 cr hrs.

**791.04 Orthopedic P 6,12,18**

Repeatable to a maximum of 24 cr hrs.

**791.05 Pediatric P 6****791.06 Urology P 6****791.07 General Surgery P 12,24**

Repeatable to a maximum of 24 cr hrs. Offered all months.

**791.08 Plastic P 6,12,18**

Repeatable to a maximum of 24 cr hrs.

**793 Individual Studies**

Conducting basic science or clinical research on a surgically related topic under faculty supervision. All months.

Su, Au, Wi, Sp Qtrs. Prereq: Must be PGY-2 or more advanced in surgery residency or related residency programs; permission of instructor.

**793.01 General Surgery P G 1-18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.02 Pediatric Surgery P G 1-18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.04 Surgical Infectious Diseases P G 1-18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.06 Surgical Oncology P G 1-18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.08 Transplantation P G 1-18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.10 Wound Healing P G 1-18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**793.12 Molecular Medicine P G 1-18**

Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**814 Responsible Conduct of Research: Human Participants and the Use of Animals in Biomedical Research P G 2**

Discussion of current literature and ethical issues relating to human participants and use of animals in research.

Wi, Sp Qtrs. 1 hr e-learning, 1 hr lecture/discussion. Prereq: Introduction to research ethics course (e.g. Pharmacol 751); permission of instructor. Repeatable to a maximum of 4 cr hrs. Credit counts towards MSMS degree.

**815 Training in Clinical Research****815.01 Training in Clinical Research I P G 1**

Su, Au Qtrs. 1 cl. Prereq: Permission of instructor. Repeatable to a maximum of 2 cr hrs. This is a Progress course. Credit counts towards MSMS degree. Credit will be awarded upon completion of 815.03. This course is graded S/U.

**815.02 Training in Clinical Research II P G 1**

Continuation of 815.01.

Au, Wi Qtrs. 1 cl. Prereq: Permission of instructor. Repeatable to a maximum of 2 cr hrs. This is a Progress course. Credit counts towards MSMS degree. Credit will be awarded upon completion of 815.03. This course is graded S/U.

**815.03 Training in Clinical Research III P G 1**

Continuation of 815.02.

Wi, Sp Qtrs. 1 cl. Prereq: 815.01 and 815.02. Repeatable to a maximum of 2 cr hrs. This is a Progress course. Credit counts towards MSMS degree. This course is graded S/U.

**850 Seminar G 3,5**

Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts.

Repeatable. This course is graded S/U.

**999 Research in Surgery G 1-18**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Swahili**

486 University Hall, 230 North Oval Mall, 292-3700

**101 Elementary Swahili I**

Development of basic listening, speaking, and reading skills using a competency-based curriculum.

Not open to students with credit for 101, or to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang courses. FL Adms Cond courses.

**101.01 Classroom Track U 5**

Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**102 Elementary Swahili II**

Continuation of 101; further work on basic listening, speaking, and reading skills using a competency-based curriculum.

Not open to students with credit for 102, or to native speakers of this language through regular course enrollment or EM credit. GEC for lang courses. FL Adms cond courses.

**102.01 Classroom Track U 5**

Prereq: 101 or 101.01 or 5 cr hrs of 101.51.

Students must register for and complete 5 cr hrs during the qtr. This course is available for EM credit.

**103 Intermediate Swahili I U 5**

Further development of listening, reading, speaking, and writing skills; readings based on Swahili culture and literature.

5 cl. Prereq: 102 or 102.01 or 102.51. Not open to students with credit for

AfAm&Ast 203; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

**104 Intermediate Swahili II U 5**

Balanced use of basic language skills; emphasis on speaking and aural comprehension; further exposure to Swahili culture through reading of current newspapers, short stories, plays, and novels.

5 cl. Prereq: 103 or equiv. Not open to students with credit for AfAm&Ast 204; or to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

**401^ Advanced Swahili Grammar U 5**

Review of fundamental principles of grammar and syntax; exercises in Swahili.

Prereq: 104 or permission of instructor.

**402^ Advanced Swahili, Grammar and Composition U 3**

Introduction to advanced Swahili composition and grammar.

Prereq: 401 or permission of instructor.

**Swedish**

498 Hagerty Hall, 1775 College Road, 292-6985

**101 Elementary Swedish I****101.01 Classroom Track U 5**

Development of aural comprehension, speaking, reading, and writing skills.

Au Qtr. 5 cl. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang course. No audit.

**102 Elementary Swedish II****102.01 Classroom Track U 5**

Continuation of development of aural comprehension, speaking, reading, and writing skills.

Wi Qtr. 5 cl. Prereq: 101.01 or equiv or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. No audit.

**103 Intermediate Swedish I****103.01 Classroom Track U 5**

Balanced use of basic language skills; review of aural comprehension basics, speaking, reading, and writing.

Sp Qtr. 5 cl. Prereq: 102.01 or equiv or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. No audit.

**104 Intermediate Swedish II****104.01 Classroom Track U 5**

Conclusion of intermediate Swedish; extensive practice in spoken and written Swedish.

Au Qtr. 5 cl. Prereq: 103.01 or equiv; or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. No audit.

**201 Swedish Conversation and Composition U 5**

Practice in basic written and spoken Swedish, emphasis on study of word forms and sentence structure, themes and oral presentations on topics of everyday life.

Wi Qtr. 5 cl. Prereq: 104 or equiv or permission of instructor. No audit.

**293 Individual Studies U 2-5**

Independent study of advanced Swedish language texts not covered in other course offerings.

Au, Wi, Sp Qtrs. Prereq: 104 or equiv or permission of instructor. Repeatable to a maximum of 10 cr hrs. Taught in Swedish. This course is graded S/U.

**294 Group Studies U 2-5**

Special topics to be announced in the quarter previous to the one in which the course is offered.

Wi, Sp Qtrs. 2 cl. Prereq: 104 or equiv or permission of instructor. Repeatable to a maximum of 15 cr hrs. Taught in Swedish.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

## Theatre

1089 Drake Union, 1849 Cannon Drive, 292-5821

### 100 Introduction to Theatre U 5

A study of the theatre with emphasis upon its cultural and social influences in our society.

Au, Wi, Sp Qtrs. H100 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC social diversity and arts and hums VPA course. VPA Admis Cond course.

### H101 Introduction to Theatre: Making History U 5

Exploration of the cultural and aesthetic dynamics of performance through examining primary source materials documenting artistic creation.

Sp Qtr. 2 2-hr cl. Prereq: May be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 100 or H100. Taught in English. GEC arts and hums VPA course. VPA Admis Cond course.

### 161 Dance and Theatre, 1945 to the Present U 5

Survey of contemporary practices in western dance and theatre from 1945 to the present, with emphasis on major stylistic trends, multicultural influences, and principal artists and their works.

Su, Au, Wi, Sp Qtrs. 2 2-hr cl, 1 1-hr rec. Not open to students with credit for Arts Col 161 or Dance 161. Cross-listed in Dance. GEC arts and hums VPA course. VPA Admis Cond course.

### 205 Technical Production Practicum U 1

Provides experience in technical production activities.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. VPA Admis Cond course.

### 210 Fundamentals of Script Analysis U 3

Fundamental principles for intensive study of the playscript as the basis of production.

Wi, Sp Qtrs. Prereq: 100. VPA Admis Cond course.

### 220 Technical Production Fundamentals I U 5

Basic aspects of scenery design construction; theory, process, equipment, materials, and skills.

Su, Au, Wi Qtrs. 2 cl, 2 lab hrs; plus 20 practicum hours. VPA Admis Cond course.

### 221 Technical Production Fundamentals II U 5

Basic aspects of lighting design and technology, theory, process, equipment, materials, and skills.

Su, Wi, Sp Qtrs. 2 cl, 2 lab hrs; plus 20 practicum hours. VPA Admis Cond course.

### 222 Technical Production Fundamentals III U 5

Basic aspects of costume design and construction; equipment, theory, process, materials, and skills.

Au, Sp Qtrs. 2 cl, 2 lab hrs; plus 20 practicum hours. VPA Admis Cond course.

### H230 Moving Image Art U 5

Exploration of creative moving image art through the use of video and with participation in Wexner Center film/video program.

Wi Qtr. 1 2-hr cl, 1 3-hr cl. Prereq: Enrollment in an honors program or permission of instructor, and soph standing. GEC arts and hums VPA course.

### 271 Great Ages of the Theatre U 5

Concepts and characteristics of the great periods of the theatre of the western world.

Au, Wi, Sp Qtrs. Offered only on regional campuses. H271 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: English 110 or 111 or equiv. GEC arts and hums VPA course. VPA Admis Cond course.

### 280 Acting Fundamentals I U 3

Basic acting techniques; imagination, concentration, human psychology as applied to creation of character and development of stage presence.

Su, Au, Wi, Sp Qtrs. 4 lab hrs. VPA Admis Cond course. GEC arts and hums VPA course.

### 300 Fundamentals of Television Broadcasting U 5

Provides students with the fundamentals of television broadcasting through lectures, labs and practicum involvement with Buckeye TV.

Au, Wi, Sp Qtrs. 1 2-hr cl, 1 2-hr lab. Prereq: Permission of instructor.

### 305 Production Run Crew Practicum U 2

Hands-on involvement in the production of live theatre; participation leading to a more thorough understanding of theatre and in particular theatre design and technology.

Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 8 cr hrs.

### 310 Stage Directing U 5

Techniques of play analysis, interpretation, composition, movement, rhythm and tempo; their integration in stage direction.

Au, Wi, Sp Qtrs. 3 2-hr cl. Prereq: 210, 280, and jr standing.

### 341\* Introduction to Stage Design U 3

Introduction to basic design elements of stage design including research, sketching, color theory, and model building.

Wi Qtr. 2 1.5-hr cl. Prereq: 220.

### 353 Stage Makeup U 3

Practical application of the theories and techniques of theatrical makeup and presentational theatre styles.

2 3-hr labs.

### 367 Theatre Writing Courses

Study of theatre history at an intermediate level with emphasis on writing skills.

5 cl or 2 2.5-hr cl. Prereq: English 110 or 111 or equiv, and soph standing or above. GEC second writing and social diversity courses.

#### 367.01 Self Images: America on Stage, 1830 to the Present U 5

Exploration of the images of Americans presented on popular stages through written analysis of theatrical and critical texts.

Au, Wi, Sp Qtrs. H367.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 367.

#### 367.02 African American Theatre History U 5

Examination of the aesthetic and sociological evolution in America of African American theatre and its literature.

Au, Sp Qtrs. Not open to students with credit for AfAm&Ast 367.02. Cross-listed in African-American and African Studies.

#### 367.03 Criticizing Television U 5

A critical analysis of a wide variety of television programs through viewing, discussing, reading, and writing.

Au, Wi, Sp Qtrs. 2 2.5-hr cl. Prereq: English 110. Not open to students with credit for Art Educ 367.03. This course will alternately be taught by Art Education and Theatre. Cross-listed in Art Education.

### 380 Acting Studio IA U 3

Studio in acting focusing on the principles of Stanislavsky in rehearsed scenes.

Au Qtr. 3 2-hr cl. Prereq: 280, and either 383 or 386.

### 381 Acting Studio IB U 3

Studio in acting focusing on contemporary scene study.

Wi Qtr. 3 2-hr cl. Prereq: 380.

### 382 Acting Studio IC U 3

Studio in acting focusing on the special challenges of acting in Shakespeare's plays.

Sp Qtr. 3 2-hr cl. Prereq: 380.

### 383 Speech and Voice Studio I U 3

Basic study and training in voice production, phonetic transcription, and vocal expressiveness.

Au, Wi, Sp Qtrs. Prereq: 280.

### 384 Speech and Voice Studio II U 3

Continuation of 383; developing vocal range and resonance, breath control, articulation and expanded dialect choices through work on a variety of performed texts.

Wi Qtr. 4 cl. Prereq: 383.

### 385 Speech and Voice Studio III U 2

Individual voice problems: phonetic transcription and sound appreciation.

Sp Qtr. 4 cl. Prereq: 384.

### 386 Stage Movement Studio I U 3

Fundamentals of movement training; particular attention on physical awareness, body alignment, and physical principles of acting.

Au, Wi, Sp Qtrs. 4 cl. Prereq: 280.

### 387 Stage Movement Studio II U 2

Introduction to mask work: continuation of 386.

Wi Qtr. 4 cl. Prereq: 386.

### 405 Theatre Practicum II

Provides experience in theatrical performance and production activities at an intermediate level.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs in any combination of decimal subdivisions.

#### 405.01 Stage Direction/Management U 1-3

Repeatable to a maximum of 18 cr hrs.

#### 405.02 Technical Production U 1-3

Repeatable to a maximum of 18 cr hrs.

**405.04 Stage Design U 1-3**

Repeatable to a maximum of 18 cr hrs.

**405.05 Costuming/Makeup U 1-3**

Repeatable to a maximum of 18 cr hrs.

**405.08 Acting U 1-3**

Repeatable to a maximum of 18 cr hrs.

**405.09 Theatre Management U 1-3**

Repeatable to a maximum of 18 cr hrs.

**405.10 General U 1-3**

Repeatable to a maximum of 18 cr hrs.

**405.12 Lighting U 1-3**

Repeatable to a maximum of 18 cr hrs.

**489 Internship in Theatre U 1-5**

A cooperative education or internship assignment conducted under the supervision of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**494 Group Studies U 1-3**

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**531 Theatre Repertory I U 5**

Survey of representative world drama and theatre from classical Greece to the 17th century.

Au Qtr. 2 2-hr cl. Prereq: 100.

**532 Theatre Repertory II U 5**

Survey of representative western drama and theatre from the 17th century through the rise of realism.

Wi Qtr. 2 2-hr cl. Prereq: 100.

**533 Theatre Repertory III U 5**

Survey of representative drama and theatre since the rise of realism.

Sp Qtr. 2 2-hr cl. Prereq: 100.

**534 American Musical Theatre U 5**

An examination and exploration in the art form of Musical Theatre with an emphasis on the American Rock Musical.

Prereq: 100.

**580 Radio and TV Production U 5**

Broadcasting techniques, skills and styles.

Au Qtr. 2 2-hr cl. Elective in undergraduate interdisciplinary minor, Media Production and Analysis.

**597 Issues of the Contemporary World: Censorship and Performance U 5**

Exploration of issues of censorship of performance in both Western and Asian communities with particular attention to live performance.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: Sr standing. GEC contemporary world course.

**600 Professional Aspects of Theatre U G 3**

Study of the professional theatre as a business; contracts, unions, the theatre marketplace; preparation of resumes, portfolios, audition pieces, interview.

Au Qtr. 3 cl. Prereq: Grad standing or Rank 4 theatre major.

**601 Theatre Management U G 3**

Principles, practices, and techniques of theatre management and a survey of modern management techniques.

Prereq: 220 and 221; or permission of instructor.

**602 Stage Management U G 3**

Principles, practices, and techniques of stage management, and a survey of modern management techniques.

Au Qtr. 2 2-hr cl. Prereq: 220, 221, and 222; or permission of instructor.

**610 Advanced Stage Directing U G 3**

Principles, techniques, and practice of advanced direction and integration of technical elements in theatrical production.

Sp Qtr. 2 2-hr cl. Prereq: 310 or permission of instructor.

**621 Theatre Graphics U G 3**

Technical and design graphics, and drafting procedures for production of scenery and lighting designs.

Sp Qtr. 2 2-hr cl. Prereq: 220 or permission of instructor.

**622\* Metals as a Scenic Element U G 3**

Introduction to metal products and fabrication techniques for scenery and properties.

Wi Qtr. 2 2-hr cl. Prereq: 220 or permission of instructor.

**623\* Advanced Technical Production U G 3**

Consideration of methods and materials for stage rigging, mechanics, and non-traditional scenic materials.

Sp Qtr. 2 2-hr cl. Prereq: 220 or permission of instructor.

**624\* Technical Direction U G 3**

Study of technical direction and production management; budget, personnel, schedule, other logistic problems in technical production.

Sp Qtr. 2 2-hr cl. Prereq: 220, 221, and 222; or permission of instructor.

**625 Lighting Design I U G 3**

A study of light as a design element for theatrical performance; analysis and preparation of designs for theatre applications.

Au Qtr. 2 2-hr cl. Prereq: 220 and 221, or permission of instructor.

**626\* Theatre Sound Techniques U G 3**

A survey of equipment and operational techniques used to provide sound support for theatrical productions.

Wi Qtr. 2 2-hr cl. Prereq: 221 or permission of instructor.

**633 Editorial Process U G 5**

Introduces theoretical and procedural basis for montage, controlling cinematic time, and understanding relationship of sound to image, including digital audio post-production.

2 2-hr cl.

**634 Video Production I U G 5**

An introduction to creative single camera video production--emphasis on performance, staging, and editing short video productions.

Au, Wi Qtrs. 2 2-hr cl. Prereq: Permission of instructor.

**635 Video Production II U G 5**

Continued exploration of creative single camera video production; topics may include documentary, drama, and experimental.

Sp Qtr. 2 2-hr cl. Prereq: 634 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**636 Screenwriting U G 5**

Exploration of creative script-writing for video/cinema; development of short or feature length scripts.

2 2-hr cl. Prereq: Permission of instructor.

**641 Stage Design Media U G 3**

Techniques of rendering for stage design in various media.

Au Qtr. Prereq: Theatre grad standing or permission of instructor.

**642 Scene Painting and Watercolor U G 3**

Techniques used in scene painting and watercolor; mixing and matching colors, rendering texture and form, enlarging painter's elevations; types of paints used in scene painting.

Sp Qtr. Prereq: 220 or 641, and grad standing in theatre; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

**643 Stage Design I U G 3**

Investigation of 20th-century design and rendering techniques and their application to the stage; experience in researching and designing projects.

Au Qtr. 2 cl, 3 lab hrs, and indiv conferences. Prereq: 341 or theatre grad standing or permission of instructor.

**644 Intermediate Stage Design II U G 3**

Presentation of the design concept in three-dimensional media; emphasis on designing for nonproscenium production.

Wi Qtr. 1 2-hr cl, 3 lab hrs. Prereq: 643 or permission of instructor.

**645 Modern Stage Design Styles U G 3**

Study of the application of major stylistic trends in scenic design to modern theatrical productions through lecture-discussion and specific design projects.

Sp Qtr. Arr. Prereq: 644 or permission of instructor.

**646\* Stage Properties U G 3**

Techniques in construction and design of stage properties, including production operation.

Sp Qtr. 2 2-hr cl. Prereq: 220 or theatre grad standing or permission of instructor.

**649 Period Style for Production I U G 3**

A survey of period styles, from ancient through baroque, for theatrical production with emphasis on architecture, clothing, furniture, jewelry, textiles and decorative objects.

Au Qtr. 2 2-hr cl. Prereq: 2nd yr standing or permission of instructor.

**650 Period Style for Production II U G 3**

A survey of period styles, from rococo to contemporary, for theatrical production with emphasis on architecture, clothing, furniture, jewelry, textiles and decorative objects.

Wi Qtr. 2 2-hr cl. Prereq: 2nd yr standing or permission of instructor.

**651 Intermediate Stage Costume Construction U G 3**

Methods of pattern development and construction techniques for creating historical stage costumes.

Sp Qtr. 2 cl hrs, 2 lab hrs. Prereq: 222 or permission of instructor.

**656 Costume Design for the Stage U G 3**

The study of the theories, principles, and process by which costumes are designed for a theatrical production.

Wi Qtr. 2 cl, 5 lab hrs. Prereq: 100 and 222 or permission of instructor.

**660 Playwriting U G 5**

Laboratory course in playwriting; student plays developed from original idea through scenario into final production script with limited production of selected works.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**671 Theatre Topics I U G 5**

Topical studies in theatre and drama from classical Greece to the 17th century.

Au Qtr. 2 2-hr cl. Prereq: 100 and jr or sr or grad standing. GEC third writing course.

**672 Theatre Topics II U G 5**

Topical studies in theatre and drama from the 17th century through the rise of realism.

Wi Qtr. 2 2-hr cl. Prereq: 100 and jr or sr or grad standing. GEC third writing course.

**673 Theatre Topics III U G 5**

Topical studies in theatre and drama since the rise of realism.

Sp Qtr. 2 2-hr cl. Prereq: 100 and jr or sr or grad standing. GEC third writing course.

**674 Contemporary Theatre History U G 5**

Contemporary continental, English, and American theatre, post World War II to the present.

2 2-hr cl. Prereq: 100 and jr or sr or grad standing. GEC third writing course.

**675 Theatre and Aging****675.01 Crones, Curmudgeons, and Living Treasures - Theatre and Aging U G 5**

The history, theory, and literature of the Senior Theatre Movement, from its beginnings to the present from both theatrical and gerontological perspectives.

Su Qtr. 1 4-hr cl. Also part of the graduate interdisciplinary certificate in aging.

**675.02 The Practice of Theatre and Aging U G 5**

Practical exploration and creation of new work for Senior Theatre.

Su Qtr. 1 4-hr cl. Also part of the graduate interdisciplinary certificate in aging.

**680 Cinema/Video Scene Workshop I U G 3**

Exploration of directing talent and acting for single-camera style video/film production.

3 2-hr cl. Prereq: Permission of instructor.

**684 Outreach Theatre**

Prereq: Permission of instructor.

**684.01 Creation of Outreach Theatre U 5**

The creation, development and performance of interactive and instructional theatre for social awareness.

Au, Wi, Sp Qtrs. 2 2-hr cl. Repeatable to a maximum of 15 cr hrs. Performance of work may occur outside listed class meeting time.

**684.02 Performance Studies in Outreach Theatre U 5**

Use of improvisational acting techniques to develop the performance of an outreach touring theatre production.

Au, Wi, Sp Qtrs. 2 3-hr cl. Repeatable to a maximum of 15 cr hrs.

**685 Mime U G 2**

Study of techniques, styles, and presentation of the art of mime.

2 2-hr cl. Repeatable to a maximum of 4 cr hrs.

**686 Period Dance/Movement for Actors U G 2**

An introduction to and instruction in Western European dance movement since the 16th century.

Au Qtr. 3 2-hr cl. Prereq: Permission of instructor.

**687 Stage Combat U G 2**

An introduction to and instruction in techniques of stage combat.

Sp Qtr. 3 2-hr cl. Prereq: Permission of instructor.

**688 Undergraduate New Works Lab U 3**

Designed to be taught with 987 and will serve undergraduate students who are ready to participate with graduate students in the creation of new works for the stage.

Wi Qtr. 2 2-hr cl. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**689 Field Work in Theatre, Cinema, or Video U G 3-15**

Planned production or management experience in an off-campus professional, educational, community theatre, film or video facility, or other agency under supervision.

Su, Au, Wi, Sp Qtrs. Prereq: Advanced undergrad or grad standing or permission of adviser. Repeatable to a maximum of 15 cr hrs.

**692 Workshops U G 1-15**

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.

Prereq: Upper-division or grad standing and prior study and training in the theatre arts or written permission of workshop director. Repeatable to a maximum of 18 cr hrs.

**693 Individual Studies U G 1-5**

Conference, library, and laboratory work.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**698 Study Tour**

Specific content, location, quarter(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

**698.01 Domestic U G 1-15**

Repeatable.

**698.02 Foreign U G 1-15**

Repeatable.

**699 Undergraduate Scholarship: Research and Creative Activity in Theatre U 1-15**

Undergraduate research or creative activities in varying topics.

Su, Au, Wi, Sp Qtrs. Arr. H699 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. H699 is letter graded. This course is graded S/U.

**710 Advanced Script Analysis for the Actor G 3**

To learn to weave multiple methodologies into an integrated approach to script analysis and acting the role.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing in theatre or permission of instructor.

**725 Advanced Stage Lighting Design U G 3**

Study and analysis of lighting design styles in relation to different forms of theatre arts; emphasis on practical problems.

Wi Qtr. 2 2-hr cl, 3 lab hrs. Prereq: 625.

**727 Advanced Lighting Technology U G 3**

Study of current and future lighting technology in the area of control systems and stage lighting equipment as it applies to advanced lighting design.

Sp Qtr. 2 2-hr cl. Prereq: 625.

**754\* Digital and Physical Lighting U G 5**

Introduction to basic principles and concepts of lighting as used in theatre and computer graphics. Working in collaborative teams, students develop and execute installation schemes.

Prereq: 625 or Arts Col 752 or grad standing or permission of instructor. Not open to students with credit for Arts Col 754. Cross-listed in Arts, College of the Jointly taught by Theatre and The Advanced Computing Center for Art and Design. Offered every other year.

**762 Theatre/Cinema Styles U G 5**

Study and analysis of significant styles of production in the live theatre, cinema, and video.

Sp Qtr. 2 2-hr cl. Prereq: Permission of instructor required of undergraduates.

**771 Advanced Stage Movement Studio I U G 2**

Fundamentals of movement; introduction to principles of movement for the actor.

Au Qtr. 4 cl. Prereq: Permission of instructor.

**772 Advanced Stage Movement Studio II U G 2**

Special problems in movement for the actor; beginning study of stylized techniques.

Wi Qtr. 4 cl. Prereq: 771 or permission of instructor.

**773 Advanced Stage Movement Studio III U G 2**

Special problems in movement for the actor; intermediate study of stylized techniques.

Sp Qtr. 4 cl. Prereq: 772 or permission of instructor.

**775 Concepts and History of the Repertory/Ensemble G 3**

Theory and practice of the repertory/ensemble model in the theatre, cinema, and video of the twentieth century.

2 2-hr cl. Prereq: Grad standing in theatre or permission of instructor.

**777 Studies in the Documentary U G 3**

Conceptual, aesthetic, critical, social, ethical, practical issues in the practice of documentary and docudrama production of cinema and video works.

2 2-hr cl, 1 lab. Prereq: Permission of instructor.

**780 Advanced Acting Studio I U G 3**

Introduction to acting techniques, focusing on believability, impulse, and partnering.

Au Qtr. 3 2-hr cl. Prereq: Permission of instructor.

**781 Advanced Acting Studio II U G 3**

Development of techniques for acting in realistic plays.

Wi Qtr. 3 2-hr cl. Prereq: 780 or permission of instructor.

**782 Advanced Acting Studio III U G 3**

Development of expanded techniques for acting in stylized plays.

Sp Qtr. 3 2-hr cl. Prereq: 781 or permission of instructor.

**H783 Honors Research U 3-5**

An individual program of study, with conferences, reports, and honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing; a grade of A in at least half of the theatre courses taken and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts Honors Committee whichever is relevant to the student's program. Repeatable to a maximum of 15 cr hrs. Failure to receive a mark of S in this course is a disqualification for special honors. This course is graded S/U.

**786 Advanced Speech and Voice Studio I U G 2**

Vocal technique for the actor focusing on breathing techniques.

Au Qtr. 4 cl. Prereq: Permission of instructor.

**787 Advanced Speech and Voice Studio II U G 2**

Vocal technique for the actor focusing on aspects of vocal production.

Wi Qtr. 4 cl. Prereq: 786 or permission of instructor.

**788 Advanced Speech and Voice Studio III U G 2**

Vocal technique for the actor focusing on articulation of speech.

Sp Qtr. 4 cl. Prereq: 787 or permission of instructor.

**800 Advanced Studies in Theatre**

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 40 cr hrs in any combination of decimal subdivisions.

**800.01 Stage Direction/Management G 3,5**

Repeatable to a maximum of 40 cr hrs.

**800.02 Technical Production/Lighting G 3,5**

Repeatable to a maximum of 40 cr hrs.

**800.03 Dramatic Literature G 3,5**

Repeatable to a maximum of 40 cr hrs.

**800.04 Stage Design G 3,5**

Repeatable to a maximum of 40 cr hrs.

**800.05 Costuming/Makeup G 3,5**

Repeatable to a maximum of 40 cr hrs.

**800.06 Criticism, Theory, Playwriting G 3,5**

Repeatable to a maximum of 40 cr hrs.

**800.07 History G 3,5**

Repeatable to a maximum of 40 cr hrs.

**800.08 Acting G 3,5**

Repeatable to a maximum of 40 cr hrs.

**800.09 Theatre Management G 3,5**

Repeatable to a maximum of 40 cr hrs.

**801 Research Methods G 5**

Introduction to graduate study: methods and tools of research in all areas of theatre and cinema/video.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**802 Seminars in Theatre**

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 40 cr hrs in any combination of decimal subdivisions.

**802.03 Dramatic Literature G 2-5**

Repeatable to a maximum of 40 cr hrs.

**805 Graduate Theatre Practicum**

Individual theatrical performance and production activities at an advanced level under faculty supervision.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs in any combination of decimal subdivisions.

**805.01 Stage Management G 1-5**

Repeatable to a maximum of 40 cr hrs.

**805.02 Technical Production G 1-5**

Repeatable to a maximum of 40 cr hrs.

**805.03 Dramaturgy G 1-5**

Repeatable to a maximum of 40 cr hrs.

**805.04 Stage Design G 1-5**

Repeatable to a maximum of 40 cr hrs.

**805.05 Costuming/Makeup G 1-5**

Repeatable to a maximum of 40 cr hrs.

**805.07 Stage Direction G 1-5**

Repeatable to a maximum of 40 cr hrs.

**805.08 Acting G 1-5**

Repeatable to a maximum of 40 cr hrs.

**805.09 Theater Management G 1-5**

Repeatable to a maximum of 40 cr hrs.

**805.12 Lighting G 1-5**

Repeatable to a maximum of 40 cr hrs.

**813 Cinema/Video Sketchbook I G 3**

Exploration of sketchbook approach to research and development of creative cinema/video projects.

2 2-hr cl. Prereq: Permission of instructor.

**814 Cinema/Video Sketchbook II G 3**

Continued examination of creative approach to cinema/video idea development with introduction of actors to the process.

2 2-hr cl. Prereq: 813 or permission of instructor.

**825 Advanced Stage Lighting Design II G 3**

Advanced study of lighting design and its creative application to modern theatre practice.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Grad standing in theatre. Repeatable to a maximum of 9 cr hrs.

**833\* Modern Drama G 5**

Studies in drama from the late 19th century to the present.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**834\* Contemporary Drama G 5**

Consideration of the most significant dramatists since 1975.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**845 Advanced Scene Design G 3**

Study of historic and modern scene design and application to modern theatrical stage practices; experience in executing creative and interpretive project designs.

Su, Au, Wi, Sp Qtrs. Prereq: 645 and grad standing in theatre. Repeatable to a maximum of 9 cr hrs.

**855 Advanced Stage Costume Design G 3**

Theory, methods, and materials of costume design with emphasis on design problems for the stage.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

**864\* Theatre Criticism I G 5**

Critical theory of the theatre: classical to neoclassical.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for 860.

**865\* Theatre Criticism II G 5**

Critical theory of the theatre: 17th, 18th, and 19th centuries.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for 861.

**866\* Theatre Criticism III G 5**

Critical theory of the theatre: 20th century.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for 863.

**871\* Greek, Roman, and Medieval Theatre G 5**

Advanced study and directed research in Greek, Roman, and Medieval theatre and drama.

Au Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor. Not open to students with credit for 870.

**872 European Renaissance Theatre and Baroque Theatre G 5**

Advanced study and directed research in European Renaissance theatre and Baroque theatre and drama.

Wi Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**873\* 18th- and 19th-Century Theatre G 5**

Advanced study and directed research in European and American theatre and drama through the beginning of the twentieth century.

Sp Qtr. 2 2-hr cl. Prereq: Grad standing or permission of instructor.

**880 Advanced Acting Studio IV G 3**

Laboratory in visual and verbal effects.

Au Qtr. 3 2-hr cl. Prereq: 772 or permission of instructor.

**881 Advanced Acting Studio V G 3**

Laboratory in rehearsal methods.

Wi Qtr. 3 2-hr cl. Prereq: 880 or permission of instructor.

**882 Advanced Acting Studio VI G 3**

Applied styles: exploration of acting techniques and conventions of comedy, tragedy, farce, melodrama, and tragicomedy.

Sp Qtr. 3 2-hr cl. Prereq: 881 or permission of instructor.

**883 Advanced Speech and Voice Studio IV G 2**

Vocal technique for the actor focusing on Standard Stage Speech.

Au Qtr. 4 cl. Prereq: 788 or permission of instructor.

**884 Advanced Speech and Voice Studio V G 2**

Vocal technique for the actor focusing on work with texts.

Wi Qtr. 4 cl. Prereq: 883 or permission of instructor.

**885 Advanced Speech and Voice Studio VI G 2**

Vocal techniques for Restoration and Greek drama: development of the techniques for the vocal performance of characters from the plays of the Restoration and Classical Greek periods.

Sp Qtr. 4 cl. Prereq: 884 or permission of instructor.

**886 Advanced Stage Movement Studio IV G 2**

Special problems in movement for the actor; advanced study of stylized techniques.

Au Qtr. 4 cl. Prereq: 773 or permission of instructor.

**887 Advanced Stage Movement Studio V G 2**

Development of special movement skills.

Wi Qtr. 4 cl. Prereq: 886 or permission of instructor.

**888 Advanced Stage Movement Studio VI G 2**

Graphing movement principles: review of specific movement principles, graphing them for the acting process.

Sp Qtr. 4 cl. Prereq: 887 or permission of instructor.

**890 Directed Teaching Experience in Theatre G 1-5**

Designed to aid the prospective teacher of theatre in the development of essential teaching skills in a variety of settings.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor.

**893 Individual Studies G 3-5**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**980 Advanced Acting Studio VII G 3**

Rehearsal techniques: special emphasis on the style, research, and characterization proper to the plays in the concurrent repertory season.

Au Qtr. 3 2-hr cl. Prereq: 882 or permission of instructor.

**981 Advanced Acting Studio VIII G 3**

Rehearsal techniques: special emphasis on concurrent plays in repertory company season.

Wi Qtr. 3 2-hr cl. Prereq: 980 or permission of instructor.

**982 Advanced Acting Studio IX G 3**

Rehearsal techniques: special emphasis on concurrent plays in repertory company season.

Sp Qtr. 3 2-hr cl. Prereq: 981 or permission of instructor.

**983 Advanced Speech and Voice Studio VII G 2**

Applied phonetics: advanced study of phonetic transcription and structural awareness.

Au Qtr. 4 cl. Prereq: 885 or permission of instructor.

**984 Advanced Speech and Voice Studio VIII G 2**

Stage dialects: process and practical application of phonetic and structural variations in performing dialects.

Wi Qtr. 4 cl. Prereq: 983 or permission of instructor.

**985 Advanced Speech and Voice Studio IX G 2**

Character voices: process and practical application of phonetic and structural variations in performing character voices.

Sp Qtr. 4 cl. Prereq: 984 or permission of instructor.

**986 Projects in Acting G 5**

Special projects in rehearsal and performance tied to departmental productions.

Au, Wi, Sp Qtrs. 3 2-hr cl and 6 4-hr rehearsals. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

**987 New Works Lab**

Laboratory in performer-created works.

Prereq: Grad standing in theatre or permission of instructor.

**987.01 Devising: Techniques for Creating New Work G 3**

Creation of solo and group work from multiple sources, giving equal value to text, action, and design: lighting, scenery, costume, and sound.

**987.02 Outreach and Engagement G 3**

Exploration of the collaborative outreach and engagement process in the development of an original ensemble creation which will emphasize community themes in a service-learning capacity.

Repeatable to a maximum of 6 cr hrs.

**987.03 Site-Specific Solo Projects G 3**

Examination of the history of site-specific performance, selection of sites and creation of a performance work that is informed by the site.

**995 Proseminar G 1**

Reading, directed study, and/or projects in theatre history, criticism, literature, acting, directing, and/or design.

Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

**998 Research in Theatre: Thesis G 1-6**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**999 Research in Theatre: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Turkish

300 Hagerty Hall, 1775 College Rd, 292-9255

**101 Elementary Turkish I U 5**

Introduction to Turkish; development of listening, reading, speaking, and writing skills.

Au Qtr. 5 cl. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**102 Elementary Turkish II U 5**

Further development of listening, reading, speaking, and writing skills.

Wi Qtr. 5 cl. Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**103 Elementary Turkish III U 5**

Development of listening, reading, speaking, and writing skills; reading of simplified literary texts about Turkish culture.

Sp Qtr. Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**104 Intermediate Turkish I U 5**

Reading of Turkish short stories and poems with attention to literary and cultural appreciation; development of basic language skills.

Au Qtr. 5 cl. Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**201 Intermediate Turkish II U 5**

Extensive reading from literary texts, with practice in conversation and composition.

2 2-hr cl. Prereq: 104 or equiv.

**202 Intermediate Turkish III U 5**

The study of nineteenth- and twentieth-century literary texts, with further practice in composition and translation.

2 2-hr cl. Prereq: 201 or 401 or equiv.

**241 Turkish Culture U 5**

An introduction to Turkish culture through reading of literature and criticism,



and listening and viewing of films, slides, and performances arranged for the class.

Wi Qtr. 5 cl. GEC arts and hums cultures and ideas course.

### 293 Individual Studies U 1-5

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 294 Group Studies U 1-5

Special topics announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 371 Turkish Sufism U 5

An introduction to the literature, forms of thought, and institutions of Turkish Sufism.

Prereq: English 110 or 111 or equiv. No knowledge of Turkish required. GEC arts and hums lit course.

### 372 Turkish Literature in Translation U 5

A study of Turkish literature and the history of its discourses, genres, and styles.

Prereq: English 110, 110.01, 110.02, 110.03 or equiv. GEC arts and hums lit course.

### 610 Ottoman Orthography, Conventions, and Style U G 5

Usage and syntax in the old Turkish script, 14th through 20th centuries.

Prereq: One course in Turkish at the 600-level or above, or permission of instructor.

### 627 Classical Turkish Poetry U G 5

Reading and analysis of Turkish poetry of the 13th through 18th centuries; Turkish metrics and literary theory.

Prereq: 402 or permission of instructor.

### 641 Travels in Turkey U G 5

Turkish culture seen through the eyes of travellers writing in English.

Prereq: 241 or 372 or permission of instructor. No knowledge of Turkish required.

### 651 Modern Turkish Poetry and Prose U G 5

Selected topics in poetry and prose of the 20th century; conducted in Turkish.

Prereq: 402 or permission of instructor.

### 693 Individual Studies U G 1-5

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 694 Group Studies U G 1-5

Special topics announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 697 Study at a Foreign Institution U G 1-15

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

### 721 Studies in Turkish and Ottoman Literature and Criticism U G 5

Movements, authors, and critical schools of Turkish and Ottoman poetry and prose.

Prereq: 10 cr hrs of Turkish literature at the 600 level or equiv, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

### H783 Honors Research U 3-5

A program of research for each student which includes individual conferences and which culminates in an honors thesis or oral defense.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC Honors Committee approval of project, a minimum 3.50 pt-hr ratio in the field of distinction, sr standing, and CPHR commensurate with honors program membership. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### 811 Seminar in Turkish and Ottoman Studies G 5

Intensive study of a specific topic of literary and intellectual culture; preparation of final paper required.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### 998 Research in Turkish G 1-10

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

## Twi

486 University Hall, 230 North Oval Mall, 292-3700

### 101^ Elementary Twi I U 5

Development of oral proficiency in elementary conversational Twi using a competency-based approach.

GEC for lang course.

### 102^ Elementary Twi II U 5

Continuation of 101; development of aural and oral skills in elementary conversational Twi using a competency-based approach.

5 cl. Prereq: 101. GEC for lang course.

### 103^ Intermediate Twi I U 5

Continuation of 102; further development of listening and speaking skills; introduction of reading as a basis for more oral practice.

5 cl. Prereq: 102. GEC for lang course.

### 104^ Intermediate Twi II U 5

Continuation of 103; reading and comprehension exercises; reading from authentic texts.

5 cl. Prereq: 103. GEC for lang course.

## Ukrainian

400 Hagerty Hall, 1775 College Road, 292-6733

### 101 Elementary Ukrainian I

Development of oral and written language skills.

Not open to native speakers of this language through regular course enrollment or EM credit FL Admis Cond courses. GEC for lang course.

#### 101.51 Individualized Track U 1-5

Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 hrs before the end of the qtr may proceed to 102.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement.

### 102 Elementary Ukrainian II

Development of oral and written language skills.

Prereq: 101 or 101.01 or 5 cr hrs of 101.51 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. FL Admis Cond courses. GEC for lang course.

#### 102.51 Individualized Track U 1-5

Prereq: 101 or 101.01 or 5 cr hrs of 101.51 or permission of instructor. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Students who complete 5 cr hrs before the end of the qtr may proceed to 103.51. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 101.51 and 102.51 concurrently with permission of instructor.

### 103 Intermediate Ukrainian I

#### 103.51 Individualized Track U 1-5

Development of all four skills: listening comprehension, speaking, reading, and writing.

Prereq: 102.01 or 5 cr hrs of 102.51 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 102.51 and 103.51 concurrently with permission of instructor. GEC for lang course.

### 104 Intermediate Ukrainian II

#### 104.51 Individualized Track U 1-5

Continuation of 103.51; development of the four skills.

Prereq: 5 cr hrs of 103.51 or permission of instructor. Not open to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 5 cr hrs. Students register for and complete from 1 to 5 cr hrs during the qtr. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Students may register for 103.51 and 104.51 concurrently with permission of instructor. GEC for lang course.

## Undergraduate Student Academic Services

352 Denney Hall, 164 West 17th Avenue, 292-0646

### 100 University Survey

Introduction to the University community; strategies for successful transition to and participation in that community; institutional context of academic programs; education and learning as life-long processes; University resources and procedures.

Su, Au, Wi, Sp Qtrs. 2 1-hr cl. Not open to students with credit for Agr 100, Arch 100, Arts Col 100, Arts&Sci 100, Bio Sci 100, Bus Adm 100, Engineer 100, Hum Col 100, MPS Col 100, Nursing 100, SBS Col 100, or Scholars 100. H100 (honors) decimal subdivisions may be available to students enrolled in an honors program or by permission of college. Students schedule a section of University Survey corresponding to their curricular academic program.

**100.11 Arts and Sciences Survey U 1**

**100.21 Exploration Survey U 1**

## Urdu

300 Hagerty Hall, 1775 College Road, 292-9255

### 101 Elementary Urdu I U 5

Study of Urdu language, with appropriate cultural background; development of listening, reading, speaking, and writing skills.

Au Qtr. 2 2-hr cl. Prereq: Permission of instructor. Not open to students with credit for NELC 294B (Au 02, Au 03) or 294J (Au 04). GEC for lang course.

### 102 Elementary Urdu II U 5

Continued study of Urdu language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills.

Wi Qtr. 2 2-hr cl. Prereq: 101 or permission of instructor. Not open to students with credit for NELC 294B (Wi 03, Wi 04, Wi 05). GEC for lang course.

### 103 Elementary Urdu III U 5

Continued study of Urdu language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills.

Sp Qtr. 2 2-hr cl. Prereq: 102 or permission of instructor. Not open to students with credit for NELC 294B (Sp 03, Sp 04) or 294A (Sp 05). GEC for lang course.

### 104 Intermediate Urdu I U 5

Continued study of Urdu language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills.

Au Qtr. 2 2-hr cl. Prereq: 103 or permission of instructor. GEC for lang course.

## Uzbek

300 Hagerty Hall, 1775 College Rd, 292-9255

### S000 Special U P G 1-25

Repeatable.

### 101 Elementary Uzbek I U 5

Introduction to Uzbek language; development of listening, reading, speaking, and writing skills.

Not open to native speakers of Uzbek or students with credit for E Eur LL 671D. GEC for lang course. This course is available for EM credit.

### 102 Elementary Uzbek II U 5

Continued study of Uzbek language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills.

Prereq: 101 or permission of instructor. Not open to native speakers of Uzbek or students with credit for E Eur LL 671D. GEC for lang course. This course is available for EM credit.

### 103 Elementary Uzbek III U 5

Continued study of Uzbek language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills.

Prereq: 102 or permission of instructor. Not open to native speakers of Uzbek or students with credit for E Eur LL 671D. GEC for lang course. This course is available for EM credit.

### 104 Intermediate Uzbek I U 5

Continued study of Uzbek language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills.

Prereq: 103 or permission of instructor. GEC for lang course. This course is available for EM credit.

### 201 Intermediate Uzbek II U 5

Extensive reading from literary texts, with practice in conversation and composition.

Prereq: 104 or permission of instructor.

### 202 Intermediate Uzbek III U 5

Continued reading from literary texts, with further practice in conversation, composition, and translation.

Prereq: 201 or permission of instructor.

## Veterinary Biosciences

206 Goss Laboratory, 1925 Coffey Road, 292-5661

### 640\* Fundamentals of Oncology P G 4

Lecture/seminars covering aspects of oncology: chemical and biologic carcinogenesis, epidemiology, genetics, developmental biology, biochemistry, cell kinetics, clonality, metastases, hormonal and immunology factors, and therapy.

Wi Qtr. Prereq: Permission of instructor. Not open to students with credit for Vet Path 640. Offered in cooperation with Pathology.

### 693\* Individual Studies U P G 1-10

Laboratory, library, conference, and reports concerning animal disease problems.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 50 cr hrs. This course is graded S/U.

### 696 Advanced Studies in Veterinary Biosciences P G 1-6

Advanced studies in various topics in the fields of Veterinary Biosciences.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Vet Med or Grad standing. Repeatable to a maximum of 20 cr hrs. This course is graded A-E.

### 700 Applied Functional Neuroanatomy I P G 3

Study of structure and function of autonomic, peripheral, and central nervous systems of infraprimates, with references to primates, as related to clinical neurology, neuropathology, neurosurgery, or neurobiological research.

Wi Qtr. 3 cl. Prereq: VM Coll 603, CBN&Anat 704 or equiv, and permission of dept. Not open to students with credit for Vet A&CB 700.

### 710 Applied Veterinary Clinical Pathology P 1

Designed to familiarize the veterinary student with the preparation and cytologic interpretation of blood films, body cavity fluids, and tissue aspirates and imprints.

Su, Au, Wi, Sp Qtrs. 1 cl. Prereq: Vet med 2nd, 3rd or 4th yr standing who have completed VM Coll 618.

### 711 Basic Macroscopic Pathology P G 2

Interpretation of macroscopic tissue changes in diseases of domestic and exotic animal species, with correlation to pathogenesis.

Sp Qtr. Prereq: Permission of instructor. Not open to students with credit for Vet Path 796.01.

### 715 Applied Veterinary Medical Virology P G 3

Major viral pathogens of domestic animals are discussed and illustrated; principles of virology applicable to the recognition, differentiation, and prevention of diseases of animals are presented.

Sp Qtr. Prereq: Permission of instructor. Not open to students with credit for Vet Path 796.05.

### 717 Current Topics of Veterinary Immunology P G 3

Discussion of modern topics in immunobiology as it relates to domestic animals.

Not open to students with credit for Vet Path 796.07.

### 718 Advanced Gross Pathology P G 1-5

Advanced training in gross dissection and interpretation of gross lesions in animals.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing in vet med. Not open to students with credit for Vet Path 796.08. Repeatable to a maximum of 5 cr hrs.

### 719 Basic Histopathology P G 3

Interpretation of basic histologic tissue changes in diseases of domestic and exotic animal species, with correlation to pathogenesis.

Wi Qtr. Prereq: 2nd yr standing. Not open to students with credit for Vet Path 796.09. Each student will be provided with a microscopical slide study set and a microscope.

### 720 Introduction to Applied Pathology P G 2

Correlation of macroscopic and histologic findings in diseases of domestic and exotic animal species, and the use of these findings in deducing pathogenesis.

Sp Qtr. 1-hr cl, 2-hr lab (Sat). Prereq: Vet med 1st yr standing.

### 730 Endocrinology P G 5

A study of functions of the thyroid, parathyroid, pituitary, adrenal, pancreas, gonads, and other organs with possible endocrine functions.

Wi Qtr. 4 cl, 1 lab. Prereq: Physiol 312 or equiv, organic chem, and permission of instructor. Not open to students with credit for Vet Phys 730.

**739 Laboratory Medicine P G 1-10**

Advanced training in veterinary hematology, cytology, and clinical chemistry; independent study, use of laboratory methods for the characterization of clinicopathologic change in hospitalized patients. Kociba and graduate faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: DVM degree and grad standing. Not open to students with credit for Vet Path 740. Repeatable.

**751 Professional and Ethical Issues in Biomedical Sciences G 1,3**

A discussion course based on case scenarios dealing with ethical issues facing biomedical researchers, such as publishing practices, confidentiality, mentoring, etc.

Su Term 1, Wi Qtr. 2 1.5-hr cl or 2 hrs wk arr, 5 wks. Prereq: Grad standing in Vet BioS or permission of instructor. Not open to students with credit for Vet Phys 751. Cross-listed in Pharmacology (3 cr hrs). Offered Wi Qtr for 3 cr hrs and Su Qtr (1T) for 1 cr hr. This course is graded S/U.

**754\* Fundamentals of Molecular Virology P G 5**

Primary emphasis is on molecular biology of animal/human viruses. Covers the strategy of virus replication with special emphasis on the molecular biology of genomic replication and virus gene expression.

Sp Qtr. 5 1-hr cl. Prereq: Mol Gen 701, Biochem 702 or equiv. Not open to students with credit for Med Micr 754 or MVIMG 754. Cross-listed in Molecular Virology, Immunology and Medical Genetics.

**777 Veterinary Plant Toxicology P 2**

To familiarize the veterinary student with toxic plants and their diagnosis and treatment of toxicity.

Au Qtr. Prereq: Vet med 2nd yr standing.

**778 Basic and Applied Autonomic Pharmacology P G 2**

Principles of autonomic pharmacology with special emphasis on the drugs used in the practice of veterinary medicine.

Wi Qtr. 2 cl. Prereq: Vet med 2nd yr standing or permission of instructor. Not open to students with credit for Vet Phys 778.

**790 Comparative Cardiovascular Physiology P G 3**

Comparative electrocardiography emphasizing fundamentals and clinical interpretations.

Au Qtr. 3 cl. Prereq: Vet med 2nd, 3rd, or 4th yr standing; or permission of instructor. Not open to students with credit for Vet Phys 790.

**791 Heart Sounds, Murmurs, and Pulse Curves P G 3**

Comparative hemodynamics and cardiovascular sound emphasizing apex and echocardiograms and pressure pulses, origins of heart sounds and murmurs, clinical interpretation and clinical pathological correlation.

Wi Qtr. 3 cl. Prereq: Vet med 2nd, 3rd, or 4th yr standing or permission of instructor. Not open to students with credit for Vet Phys 791.

**792\* Signs, Symptoms, and Treatment of Cardiopulmonary Disease P G 3**

Advanced comparative cardiovascular physiology with emphasis upon circulatory response to stress of various congenital and acquired cardiovascular defects.

Sp Qtr. 3 cl. Prereq: Vet med 2nd or 4th yr standing; or permission of instructor. Not open to students with credit for Vet Phys 792.

**794 Group Studies P G 1-6**

Group studies course in areas of comparative physiology and pharmacology.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable.

**795 Seminars in Diagnostic Veterinary Pathology P G 1**

Seminars emphasizing interpretation of lesions and correlation with pathogenesis and clinical signs are presented in veterinary gross, dermat, neuro, and ophthalmic pathology.

Su, Au, Wi, Sp Qtrs. 1 cl. Prereq: Vet med with VM Coll 550, or grad standing. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**797\* Advanced Comparative Electrocardiography P G 3-5**

Cellular and cardiac electrophysiologic and clinical features of complex cardiac arrhythmias and conduction disturbances.

Wi Qtr. 3 cl. Prereq: 790 or permission of instructor. Not open to students with credit for Vet Phys 795.

**800 Seminars in Veterinary Pathology**

Su, Au, Wi, Sp Qtrs. 1 cl. Prereq: Permission of instructor.

**800.01 Seminar in Veterinary Clinical Pathology G 1,2**

Case presentation with emphasis on clinicopathologic correlations; specimen evaluation, literature searches, preparation of clinicopathologic case reports, and preparation of visual aids.

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

**800.02 Veterinary Histopathology Seminar G 1**

Weekly histopathology slide seminars.

Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**801 Anatomical Techniques G 2-5**

Theory and practice of macroscopic, microscopic, and scanning electron

microscopic methods, including specimen preparation for microcirculation studies, fixing, imbedding, sectioning, mounting, and staining of animal tissue. Special emphasis is placed upon techniques for the preparation of microcorrosion casts for SEM study.

Su, Au, Wi, Sp Qtrs. 1 cl, 6-15 lab hrs. Prereq: VM Coll 521, 531 or equiv and permission of instructor. Not open to students with credit for Vet A&CB 801. Repeatable to a maximum of 15 cr hrs.

**802 Advanced Veterinary Anatomy**

Advanced topographical anatomy of domestic animals studied by lecture, prosection, and dissection.

1 cl, 1 hr prosection, 2-6 lab hrs. Prereq: Vet med 3rd yr standing, veterinary gross anatomy, and permission of instructor.

**802.01 Limbs and Back of Domestic Animals G 3-5**

Not open to students with credit for Vet A&CB 802.01.

**802.02 Head and Neck of Domestic Animals G 3-5**

Not open to students with credit for Vet A&CB 802.02.

**802.03 Thorax, Abdomen, and Pelvis of Domestic Animals G 3-5**

Not open to students with credit for Vet A&CB 802.03.

**803 Muscle Biology and Ultrastructure G 3-5**

Structural basis of muscle contraction explored through application of methodology for myofibrillar protein isolation and characterization through electron microscopy.

Wi Qtr. 1 2-hr cl, 1 3-hr lab. Prereq: Permission of instructor. Not open to students with credit for Vet A&CB 803. Repeatable to a maximum of 15 cr hrs.

**810\* Advanced Systemic Pathology I G 3,5**

An advanced study of animal diseases as they affect all organ systems of the body.

Au Qtr. Prereq: Permission of instructor. Not open to students with credit for Vet Path 810.

**811 Advanced Systemic Pathology II G 3,5**

Advanced study of animal diseases as they affect all organ systems of the body.

Wi Qtr. 3 2-hr cl. Prereq: 810. Not open to students with credit for Vet Path 811.

**812 Advanced Systemic Pathology III G 3,5**

Advanced study of animal diseases as they affect all organ systems of the body.

Sp Qtr. 3 2-hr cl. Prereq: 810 and 811. Not open to students with credit for Vet Path 812.

**815 Veterinary Surgical Pathology G 3-5**

Biopsy methods and diagnosis; surgical specimens are studied, and emphasis is placed upon the correlation of lesions and functional pathology.

Su, Au, Wi, Sp Qtrs. 3 2-hr cl. Prereq: Enrollment in grad program in vet path; DVM and experience in basic histopathology. Not open to students with credit for Vet Path 815. Repeatable to a maximum of 40 cr hrs.

**841 Viral Pathogenesis and Oncogenesis G 5**

Cellular, immunological and molecular mechanisms involved with virus pathogenesis in animals/humans.

Au Qtr. 5 cl. Prereq: Med Micr 701 or equiv and Med Micr 754. Not open to students with credit for Vet Path 841 or Med Micr 841. Cross-listed in Medical Microbiology and Immunology.

**850 Research Seminar in Veterinary Biosciences G 1**

Presentation of new scientific knowledge in lectures and conferences by faculty and graduate students.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad or professional standing in vet bios. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

**855 Techniques in Veterinary Molecular Medicine P 3**

Didactic instruction and hands-on experience performing molecular and genetic research techniques while learning their applications in clinical veterinary medicine.

Sp Qtr. Prereq: Biology 113 and 114 (or equiv) and Biochem 511 (or equiv). Priority will be given to first-year veterinary students, followed by second-year veterinary students.

**880 Research Seminars**

Intensive study of problems in graduate fields of specialization.

Prereq: 10 grad cr hrs or permission of instructor.

**880.07 Gene Expression: Post-Transcriptional Control G 3**

Sp Qtr. 3 cl. Not open to students with credit for Mol Gen 880.07 or MolBioch 880.07. Repeatable to a maximum of 30 cr hrs. Cross-listed in Molecular Genetics and Molecular and Cellular Biochemistry.

**999 Research in Veterinary Biosciences G 1-18**

Research for dissertation or thesis purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

**Veterinary Clinical Sciences**

1010 Veterinary Hospital, 1935 Coffey Road, 292-7105

**622 Advanced Equine Medical and Surgical Procedures**

Au, Wi Qtrs. 3-6 lab hrs. Prereq: Vet med 3rd yr standing and VM Coll 617. For students with an interest in equine medicine and surgery.

**622.01 Advanced Equine Medical and Surgical Procedures P G 1**

Tracheal wash, thoracentesis, CFS samples, bone marrow biopsies, epidural anesthesia, endoscopy, nerve blocks, castrations, arthrocentesis, tracheotomy, and cast applications.

Open to grad students with permission.

**628 Small Animal Surgery P 4**

Topics in surgery of dogs and cats will be discussed, including both general and orthopedic surgery.

Au Qtr. 4 cl. Prereq: Vet Med 3rd yr standing.

**696 Advanced Studies in Veterinary Clinical Sciences P G 1-4**

Su, Au, Wi, Sp Qtrs. Prereq: Vet med 2nd, 3rd or 4th yr standing. Repeatable to a maximum of 20 cr hrs.

**710 Applied Veterinary Medicine Options**

A series of clinical studies offered as electives for 4th year Vet Med students to arrange into an elective program in conjunction with a faculty adviser.

Su, Au, Wi, Sp Qtrs. Clinics, seminars, ward rounds, and 24-hr patient care responsibilities. Prereq: Vet med 4th yr standing.

**710.01 Receiving/Out-Patient Clinic P 1-5**

Clinical instruction designed to improve the student's proficiency in client relations, diagnosis, treatment, and prevention of diseases in out-patients. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.02 Small Animal Medicine P 1-5**

Clinical instruction and experience in the diagnosis, treatment, and prevention of diseases of small animals.

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**710.03 Small Animal Surgery P 1-5**

The application of principles of surgery to treatment of diseases of companion animals.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.04 Food Animal Medicine and Surgery P 1-5**

Clinical instruction and experience in the diagnosis, treatment, and prevention of diseases of food animals.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.05 Equine Medicine and Surgery P 1-5**

Clinical instruction and experience in the diagnosis, treatment, and prevention of diseases of the horse.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.06 Field Service P 1-5**

The application of the principles of management, diagnosis, treatment, and prevention of disease in farm and exotic animals in the environment in which they are produced.

Field trips to facilities for patient care, case discussions, seminars, and 24-hr patient care responsibilities. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.07 Veterinary Clinical Radiology P 1-5**

Diagnostic and therapeutic techniques that will broaden the student's knowledge in clinical diagnosis and treatment.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.08 Clinical Microbiology P 1-5**

Assignment of patients for in-depth study of diagnosis and course of disease with emphasis on selection and interpretation of laboratory parameters; emphasis on microbiologic and immunologic methods for diagnosis and evaluation of infectious disease.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.09 Clinical Anesthesiology P 1-5**

The application of principles of anesthesiology.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.12 Veterinary Clinical Ophthalmology P 1-5**

Application of principles of diagnosis and treatment of diseases of the eye to patients of all species.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**710.13 Applied Theriogenology P 1-5**

Application of principles of diagnosis, treatment, and prevention of diseases of the reproductive system of all species.

Sp Qtr. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**718 Clinical Problem Solving and Treatment in Small Animal Internal Medicine I P 3**

Problem-oriented course using case discussions to teach the diagnostic and therapeutic approach to the most common clinical problems in small animal internal medicine.

Au Qtr. 3 cl. Prereq: Vet Med 3rd yr standing.

**719 Clinical Problem Solving and Treatment in Small Animal Internal Medicine II P 3**

Problem-oriented course using case discussions to teach the diagnostic and therapeutic approach to the most common clinical problems in small animal internal medicine.

Wi Qtr. 3 cl. Prereq: Vet Med 3rd yr standing.

**720 Veterinary Clinical Nutrition****720.01 Introduction to Veterinary Clinical Nutrition P 2**

Basic animal nutrition and feeding and nutrition-related problems.

Wi Qtr. 2 cl. Prereq: Vet med 2nd yr standing or permission of instructor. This course is graded S/U.

**721 Veterinary Acupuncture P 1**

Practical approaches to diagnosis and treatment of clinical cases (dog, cat, horse, cow) by acupuncture of animals in the veterinary hospital.

Sp Qtr. 1 cl. Prereq: Permission of instructor. This course is graded S/U.

**722 Clinical Problems in Small Animal Cardiology P 1**

This course will increase skills in physical exam, radiographic and electrocardiographic interpretation of common cardiovascular diseases in a small group setting.

Wi Qtr. 1 cl. Prereq: Vet Med 2nd or 3rd yr standing. This course is graded S/U.

**723 Emergency/Critical Care Volunteer Program P 1**

Offers students the opportunity to observe daily caseload of emergency/critical care service while volunteering.

Au, Wi, Sp Qtrs. 2 3-hr shifts and 12 1-hr rounds sessions. Prereq: Au, Wi: Vet Med 2nd or 3rd yr standing; Sp: Vet Med 1st or 2nd yr standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**724 Topics in Feline Medicine and Surgery P 2**

To provide third and fourth year veterinary students with information on selected medical and surgical topics unique to the cat.

Wi Qtr. 2 cl. Prereq: Vet med 3rd or 4th yr standing. Professional students only. Not repeatable. This course is graded S/U.

**725 Canine and Feline Dentistry P G 1**

Lectures, demonstrations, and laboratories covering prophylactic care, and extraction of teeth, endodontic and prosthodontic therapy.

Sp Qtr. Prereq: Vet Med 4th yr standing or permission of instructor.

**726 Advanced Practice: Client Communication P 2**

Provides an applied learning environment for students to develop advanced client communication skills.

Au, Wi, Sp Qtrs. Prereq: Vet Med 4th yr standing. This course is graded S/U.

**727 Companion Bird Medicine and Surgery P G 3**

All aspects of companion bird medicine, including husbandry, nutrition, pediatrics, diagnostic and therapeutic techniques, disease problems, radiology, anesthesia and surgery. Emphasis placed on psittacine species.

Wi Qtr. 3 cl. Prereq: Vet Med 2nd, 3rd, or 4th yr standing or written permission of instructor.

**728 Clinical Endocrinology P 3**

To familiarize pre-clinical veterinary students with the clinical presentation, laboratory abnormalities and treatment of common endocrine disorders of dogs and cats.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Vet Med 3rd yr standing. This course is graded S/U.

**729 Pet Loss Education and Grief Support P 1-6**

An applied learning environment for students to develop introductory client communication, grief education, and grief support skills.

Au, Wi, Sp Qtrs. 5-hr seminar and 2 3-hr shifts for ea credit. Prereq: Au,Wi: Vet Med 2nd, 3rd, or 4th yr standing; Sp: Vet Med 1st, 2nd, or 4th yr standing. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**732 Equine Lameness and Gait Abnormalities P 2**

To acquaint the student with conditions of the horse that produce gait abnormalities as the presenting clinical complaint.

Wi Qtr. 2 cl. Prereq: Vet Med 3rd yr standing. Repeatable to a maximum of 4 cr hrs.

**733 Equine Medicine and Surgery P 2**

A course to provide professional students with knowledge to diagnose, treat and prognosticate common medical and surgical diseases of horses.

Au Qtr. 2 cl. Prereq: Vet Med 4th yr standing.

**734 Equine Soft Tissue Surgery P 3**

Practical approach to most frequently encountered soft tissue problems in equine practice. Includes rationale for decision-making, procedures, and comprehensive case management.

Sp Qtr. 3 cl. Prereq: Vet Med 4th yr standing.

**737 Equine Intensive Care P 2**

Students will be taught to critically evaluate, treat and monitor patients in the Equine Intensive Care Unit through supervised patient contact and weekly seminars.

Su, Au, Wi, Sp Qtrs. 1 cl, 4 lab. Prereq: Vet Med 2nd, 3rd, or 4th yr standing, and successful completion of ICU shadowing. This course is graded S/U.

**738 Pleasure Horse Medicine**

Review of prevention, diagnosis, and treatment of diseases which are common problems of pleasure horses.

Au Qtr. 2 lec. Prereq: Vet Med 2nd, 3rd, or 4th yr standing.

**739 Diagnostic Equine Lameness P 1**

Designed to provide hands-on experience in the diagnosis and treatment of equine lameness.

Wi Qtr. 2 lab hrs. Prereq: Vet Med 2nd yr standing with concurrent enrollment in 738 and pre-test. Pre-test is required. This course is graded S/U.

**743 Pocket Pet Medicine P 2**

Basic medicine, surgery, and husbandry for pocket pets, including rabbits, ferrets, guinea pigs, mice, rats, gerbils, chinchillas, and hamsters.

Au Qtr. 2 cl. Prereq: Vet Med 2nd, 3rd, or 4th yr standing.

**744 Reptile Medicine P 3**

Covers husbandry, medicine, anesthesia and surgery for captive reptiles.

Wi Qtr. 2 cl and labs arr. Prereq: Vet Med 3rd or 4th yr standing.

**746 Cattle Diseases P 5**

Medical diagnosis and therapy of individual cattle. The course will teach students medicine and surgery of individual cattle.

Au Qtr. 5 cl. Prereq: Vet Med 2nd, 3rd, or 4th yr standing.

**747 Small Ruminant Diseases P 3**

Diagnosis and therapy of common medical and surgical disorders in small ruminants. This course is organized in an age-related, problem-oriented manner.

Wi Qtr. 3 cl. Prereq: Vet Med 3rd yr standing.

**749 Equine Ophthalmology P 2**

Comprehensive problem-based discussions of equine ophthalmic cases, clinical patient examinations and stall-side rounds, ophthalmic techniques lab and cadaver surgery lab.

Wi Qtr. 2 cl. Prereq: Vet Med 3rd yr standing and VM Coll 612. This course is graded S/U.

**751 Equine Anesthesia Elective P G 1**

Review of the literature of equine anesthesia.

Wi Qtr. Arr. Prereq: Vet Med 3rd or 4th yr standing. This course is graded S/U.

**752 Case Studies in Clinical Neurology P 1**

Diagnostic and management approaches in individual patients are demonstrated and discussed. Lesion localization and differential diagnoses are emphasized.

Au, Wi, Sp Qtrs. Arr. Prereq: VM Coll 603. Limited to second and third year students in the veterinary curriculum. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**753 Small Animal Internal Medicine Case Presentations P 1**

Case discussions in small animal internal medicine for pre-clinical veterinary students.

Sp Qtr. 1 cl. Prereq: Vet med 2nd yr standing. This course is graded S/U.

**760 Specialized Study in Veterinary Medicine P 1-16**

Field or lab study encompassing the various areas in the field of veterinary medicine through an approved off-campus experience with qualified professionals.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Vet med 4th yr standing and permission of instructor. Repeatable to a maximum of 16 cr hrs. To be taken during elective qtr. Cross listed in all veterinary medicine depts. Students must serve at least 4 wks in one experience to receive minimum elective cr. This course is graded S/U.

**762 Clinical Veterinary Ophthalmology P 2**

A problem-based approach to differential diagnosis, final diagnosis, and treatment of ophthalmic diseases in large and small animals.

Wi Qtr. 2 cl. Prereq: Vet Med 3rd or 4th yr standing. Problem-based learning format. This course is graded S/U.

**763 Small Animal Endoscopy P 1**

Use of endoscopy for evaluation of gastrointestinal and respiratory problems in dogs and cats.

Au Qtr. 2 cl. Prereq: Vet med 3rd yr standing.

**768 Integrative Medicine, Science and Experience P 2**

Designed to give an overview of integrative medicine, as defined by the National Center for Complementary and Alternative Medicine (housed in NIH).

Au Qtr. 1 cl, 2 lab.

**782\* Pharmacology of Cardiac Drugs P G 3**

Clinical evaluation, pharmacokinetics, and pharmacotherapy of cardiac dysrhythmias.

Wi Qtr. 2 cl. Prereq: 3rd or 4th yr or grad standing. Not open to students with credit for Vet Phys 782.

**790 Advanced Theriogenology Seminar P G 1**

Review of current theriogenology literature placing primary emphasis on experimental design, procedures, and scientific conclusions of reported work; each student will orally describe and prepare a written research protocol.

Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**791 Reproductive Techniques**

Au, Wi Qtrs. Prereq: Vet med 3rd yr standing.

**791.01 Equine Theriogenology P G 4**

The lectures and laboratory experiences are designed to present material covering frequently occurring reproductive abnormalities and reproductive management desirable to obtain maximal reproductive efficiency.

3 lecture hrs and 2 lab hrs. Prereq: Vet Med 3rd yr standing or permission of instructor.

**791.03 Canine Theriogenology P G 2**

This course will present information on canine theriogenology in lecture, discussion and laboratory format.

Wi Qtr. 2-hr lab, 1-hr lecture. Prereq: Vet Med 3rd yr or grad standing. Evaluation will be based on laboratory participation and written examination.

**791.04 Reproductive Physiology of Pseudoruminants P G 3**

Provides an in-depth analysis of pseudoruminant physiology including comparisons with true ruminants.

Sp Qtr.

**792 Advanced Theriogenology Laboratory P G 2**

A laboratory for the application of research, diagnostic and therapeutic techniques involving the reproductive system of domestic animals.

Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 18 cr hrs.

**793 Individual Studies P G 1-8**

A supervised critical investigation of some aspects of animal disease about which there is a mutual curiosity on the part of both the student and faculty.

Su, Au, Wi, Sp Qtrs. Prereq: Vet med 3rd or 4th yr standing, adequate clinical training and written permission of instructor. Repeatable. This course is graded S/U.

**795 Introductory Research Experience P 2**

To obtain basic laboratory experience in a veterinary research setting.

Sp Qtr. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**796 Advanced Studies in Veterinary Clinical Sciences**

**796.02 Advanced Equine Lameness P G 1-8**

Study of the methods used for diagnosis and treatment of diseases causing lameness in horses; includes radiographic and surgical techniques.

Su, Au, Wi, Sp Qtrs. Prereq: Vet med 4th yr standing or written permission of instructor. Repeatable to a maximum of 30 cr hrs.

**796.03 Advanced Gastroenterology P G 1-8**

Study of diagnosis, treatment, and prevention of diseases of the gastrointestinal system.

Su, Au, Wi, Sp Qtrs. Prereq: Vet med 4th yr standing or written permission of instructor. Repeatable to a maximum of 30 cr hrs.

**800 Research Methods G 2**

Development of a research grant including formation, research, statistical analysis of data, preparing, submitting and editing a grant.

Au Qtr. Odd years. 1 cl. Prereq: DVM or equiv or permission of instructor.

**801 Research Methods II P G 3**

The course content emphasizes the principals and practice of clinical research design and data analysis.

Wi Qtr. 3 cl. Prereq: 800; DVM degree or permission of instructor.

**807 Known Case Conference G 1**

Teach and train radiology students the correct approach to diagnostic image reading and interpretation.

Au, Wi, Sp Qtrs. 1 cl. Prereq: DVM degree. Repeatable to a maximum of 20 cr hrs.

**822 Advanced Veterinary Internal Medicine**

Prereq: DVM or equiv or permission of instructor.

**822.02^ Gastroenterology G 3**

Fundamental pathophysiology of disease in small animal gastroenterology.

Sp Qtr. 2 cl. Offered spring quarter every 3 years beginning with Sp 2003.

**822.03 Respiratory Diseases G 3**

Fundamental pathophysiology of disease in comparative veterinary pulmonology.

Au Qtr. 2 cl. Offered autumn quarter every 3 years beginning with Au 2000.

**822.04 Neurology G 3**

Fundamental pathophysiology of disease in comparative veterinary neurology.

Wi Qtr. 2 cl. Offered winter quarter every 3 years beginning with Wi 2001.

**822.05 Cardiology G 3**

Pathophysiology and select clinical diseases in comparative veterinary cardiology.

Sp Qtr. 2 cl. Offered spring quarter every 3 years beginning with Sp 2001.

**822.06^ Nephrology and Urology G 3**

Pathophysiology and select clinical diseases in comparative veterinary nephrology and urology.

Au Qtr. 2 cl. Offered autumn quarter every 3 years beginning with Autumn 2001.

**822.07^ Hematology and Oncology G 3**

Pathophysiology and select clinical diseases in comparative veterinary hematology and oncology.

Sp Qtr. 2 cl. Offered spring quarter every 3 years beginning with Sp 2002.

**822.08^ Hepatology G 2**

Pathophysiology and select clinical diseases in comparative veterinary hepatology.

Au Qtr. 2 cl. Offered autumn quarter every 3 years beginning with Au 2002.

**822.09^ Dermatology G 2**

Pathophysiology and select clinical diseases in comparative veterinary dermatology.

Au Qtr. 2 cl. Offered autumn quarter every 3 years beginning with Au 2002.

**822.10^ Ophthalmology G 2**

Pathophysiology and select clinical diseases in comparative veterinary ophthalmology.

Su Qtr. 2 cl. Offered summer quarter every 3 years beginning with Su 2002.

**823 Veterinary Core Communications Skills Competency G 2**

Competency in core communication skills increases client satisfaction, compliance and positive outcomes and decreases malpractice risk.

Su Qtr. Restricted to VCS graduate students.

**833 Advanced Veterinary Surgical Sciences****833.01 Anesthesia and Critical Care G 2**

Fundamental anesthesia and critical care methodology in comparative veterinary surgical sciences.

Wi Qtr. 1 2-hr cl. Prereq: DVM degree. Offered winter quarter every 3 years beginning with Wi 2004.

**833.02 Gastrointestinal Surgery G 2**

Fundamental gastrointestinal methodology in comparative veterinary surgical sciences.

Sp Qtr. 1 2-hr cl. Prereq: DVM degree. Offered spring quarter every 3 years beginning with Sp 2004.

**833.03 Respiratory/Thoracic Surgery G 2**

Fundamental respiratory/thoracic surgery methodology in comparative veterinary surgical sciences.

Au Qtr. 1 2-hr cl. Prereq: DVM degree. Offered autumn quarter every 3 years beginning with Au 2006.

**833.05 Cardiovascular/Hemolymphatic Surgery G 2**

Fundamental cardiovascular/hemolymphatic surgery methodology in comparative veterinary surgical sciences.

Sp Qtr. 1 2-hr cl. Prereq: DVM degree. Offered spring quarter every 3 years beginning with Sp 2004.

**833.06 Renal/Urinary/Reproductive Surgery G 2**

Fundamental renal/urinary/reproductive surgery methodology in comparative veterinary surgical sciences.

Au Qtr. 1 2-hr cl. Prereq: DVM degree. Offered autumn quarter every 3 years beginning with Au 2004.

**833.07 Musculoskeletal Surgery G 2**

Fundamental musculoskeletal surgery methodology in comparative veterinary surgical sciences.

Wi Qtr. 1 2-hr cl. Prereq: DVM degree. Offered winter quarter every 3 years beginning with Wi 2005.

**833.08 Selected Surgical Topics G 2**

Selected fundamental surgical topics methodology in comparative veterinary surgical sciences.

Sp Qtr. 1 2-hr cl. Prereq: DVM degree. Offered spring quarter every 3 years beginning with Sp 2005.

**833.09 Reconstructive Surgery G 2**

Fundamental reconstructive surgical methodology in comparative veterinary surgical sciences.

Au Qtr. 1 2-hr cl. Prereq: DVM degree. Offered autumn quarter every 3 years beginning with Au 2005.

**850 Seminar in Veterinary Clinical Sciences**

Su, Au, Wi, Sp Qtrs. 1 hr per wk in seminar. Prereq: The degree Doctor of Veterinary Medicine.

**850.04 Clinical Pathophysiology Cases in Small Animal Medicine G 1**

Detailed clinical approach to small animal internal medicine cases to include an understanding of the differential diagnoses and associated pathophysiological mechanisms of disease.

Su, Au, Wi, Sp Qtrs. Prereq: DVM or equiv or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**850.08 Veterinary Neurology Seminar G 1**

Provide a clinical case oriented approach. Discussion of pathophysiology of diseases of the central and peripheral nervous system; emphasis on comparison between species.

Au, Wi, Sp Qtrs. Prereq: DVM or equiv or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**850.09 Surgery Resident Seminar G 1**

Gain experience in organization/preparation of scientific/professional presentations.

Su, Au, Wi, Sp Qtrs. 1 cl. Prereq: DVM degree. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**999 Research in Veterinary Clinical Sciences G 1-18**

Research for thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Veterinary Medicine, College of**

101A Sisson Hall, 1900 Coffey Road, 292-1171

**510 Principles of Epidemiology P 4**

Descriptive and analytical epidemiology, including design, analysis, and interpretation of results; veterinary economics and information handling techniques; host, agent, and environmental factors in disease causation.

Au Qtr. 3 cl and 2 lab hrs. Prereq: Vet med 1st yr standing.

**520 Topographic Anatomy (Canine) P 5**

Body and its components as forms, relationships, and mechanical functioning.

Au Qtr. 2 cl, 3 2-hr labs. Prereq: Vet med 1st yr standing.

**521 Topographic Anatomy (Equine) P 4**

Continuation of 520.

Wi Qtr. Prereq: Vet med 1st yr standing.

**522 Topographic Anatomy (Food Animals) P 4**

Continuation of 521.

Sp Qtr. 2 cl, 2 lab hrs. Prereq: Vet med 1st yr standing.

**525 Principles of Diagnostics Radiology P 1**

Principles behind the imaging modalities of radiology.

Au Qtr. Prereq: 1st yr standing in vet med.

**526 Principles of Radiographic Interpretation P 1**

Introduction to principles of radiographic interpretation, including general principles as well as specific strategies for musculoskeletal, thoracic and abdominal image interpretation.

Wi Qtr. 1 cl. Prereq: Vet med 1st yr standing.

**530 Microscopic and Developmental Anatomy I P 5**

Study of microscopic and ultrastructural features of cells and tissues, as well as basic fetal development.

Au Qtr. Prereq: Vet med 1st yr standing.

**531 Microscopic and Developmental Anatomy II P 4**

Correlated study of the development, microscopic structure, and ultrastructural morphology of organ systems.

Wi Qtr. Prereq: Vet med 1st yr standing.

**540 Structure and Function of Cells P 5**

Introduction to structure and function at cellular level including physiological principles of homeostasis, energetics, metabolism, enzymes, nutrition, and growth.

Au Qtr. Prereq: Vet med 1st yr standing.

**550 Comparative Biology of Disease**

An interdisciplinary study of the interactions between disease producing agents, body systems, tissues, cells, subcellular units, and selected drugs and toxins.

Prereq: Vet med 1st yr standing.

**550.01 Comparative Biology of Disease | P 5**

Wi Qtr.

**550.02 Comparative Biology of Disease II P 5**

Wi Qtr. 5 cl.

**560 Introduction to Veterinary Profession: Ethics and Jurisprudence**

**560.01 Introduction to Veterinary Professions: Ethics and Jurisprudence P 1**

Problems faced by the practicing veterinarian in relation to the Ohio code, the law, ethics, and communications.

Au Qtr. Prereq: Vet Med 1st yr. standing.

**560.02 Ethics and Jurisprudence in the Veterinary Career P 2**

Focus on analysis of ethical and legal issues associated with the art of veterinary medicine practice and establishment of optimal veterinarian-client-patient relations.

Wi Qtr. Prereq: Vet Med 1st yr. standing.

**561 Pharmacology P 4**

Basic principles of pharmacology, therapeutics, and chemotherapy of disease.

Sp Qtr. 4 cl. Prereq: Vet med 1st yr standing.

**562 Introduction to Anesthesiology P 2**

Introduction to anesthesia.

Sp Qtr. Prereq: Vet med 2nd yr standing.

**563 Introduction to Surgery P 3**

Introduction to surgery.

Sp Qtr. 2 cl, or 1 2-hr lab. Prereq: Vet med 2nd yr standing.

**564 Clinical Veterinary Therapeutics P 3**

Principles of chemotherapy of bacterial, fungal, viral, and parasitic infections; application of basic principles for chemotherapy of neoplastic disease.

Wi Qtr. 3 cl. Prereq: Vet Med 3rd yr standing.

**600 Cardiovascular System P 6**

A comparative study of the structure, function, and dysfunction of the cardiovascular system including arrhythmias, abnormal flow, congenital disease, etiologic agents, diagnostic methods, and therapeutic approaches.

Au Qtr. Prereq: Vet med 2nd yr standing.

**601 Respiratory System P 5**

A comparative study of the structure, function, and dysfunction of the respiratory system including reaction to injury, ventilation defects, pneumonias, neoplastic disease, radiological diagnosis, and therapeutic approaches.

Au Qtr. 5 cl. Prereq: Vet med 2nd yr standing.

**602 Urinary System P 5**

A comparative study of the structure, function, and dysfunction of the urinary system including diseases of the kidney, bladder, and urethra, and their diagnosis and treatment.

Wi Qtr. 5 cl. Prereq: Vet med 2nd yr standing.

**603 Neurobiology P 6**

Comparative study of structure, stressing functional anatomy, normal physiology, and the examination of the nervous system.

Sp Qtr. 6 cl. Prereq: Vet med 1st yr standing.

**604 Endocrine System P 5**

A comparative study of the structures, function, and dysfunction of the endocrine system including diseases of each endocrine organ and their relationships to whole body functions.

Sp Qtr. 5 cl. Prereq: Vet med 1st yr standing.

**605 Reproductive System P 5**

A comparative study of the structure, function, and dysfunction of the reproductive system including etiologic, pathogenic, pathophysiological, therapeutic, and preventive aspects of reproductive diseases.

Sp Qtr. 5 cl, 2 labs. Prereq: Vet med 2nd yr standing.

**606 Integumentary System P 5**

A comparative study of the structure, function, and dysfunction of the integumentary system including important infectious and parasitic diseases, diagnosis, treatment, and prevention.

Sp Qtr. 5 cl, or 4 cl and 2 labs. Prereq: Vet med 2nd yr standing.

**607 Musculoskeletal System P 6**

A comparative study of the structure, function, and dysfunction of the musculoskeletal system including congenital and acquired diseases, their radiographic diagnosis, treatment, and prevention.

Wi Qtr. 6 cl. Prereq: Vet med 2nd yr standing.

**608 Non-Mammalian and Avian Medicine P 2**

Basic study of avian, reptile, amphibian and fish medicine including anatomy, physiology, pathogenesis of disease, diagnosis, treatment, and disease prevention and control.

Sp Qtr. Prereq: Vet Med 2nd yr standing.

**609 Digestive System P 6**

A comprehensive study of the gastrointestinal system of domestic animals.

Wi Qtr. 6 cl or equiv lab hrs. Prereq: Vet Med 2nd yr standing.

**610 Sustainable Parasite Control P 2**

Epidemiological approach to sustainable parasite control for major parasites of the digestive system of large and small animals.

Sp Qtr. 2 cl. Prereq: Vet Med 2nd yr standing.

**611 Veterinary Preventive Medicine P 4**

Introduction to prevention and control of disease in the human and animal populations with emphasis on the important role of the veterinarian in these activities.

Wi Qtr. 3 cl, 2 lab hrs. Prereq: Vet med 3rd yr standing.

**612 Introduction to Veterinary Ophthalmology P 3**

Comparative anatomy, histology and physiology of the normal and abnormal eye and adnexa of domestic animals.

Au Qtr. 3 cl. Prereq: Vet med 3rd yr standing.

**613 Fluid Therapy P 1**

Principles and applications of fluid therapy in small and large animals.

Wi Qtr. 1 cl. Prereq: Vet med 2nd yr standing.

**614 Professional Development**

**614.01 Basic Life Skills P 1**

Basic life skills for the successful veterinarian.

Sp Qtr. 1 cl. Prereq: Vet med 1st yr standing.

**614.02 Career Strategies P 1**

Choosing a career and career search strategies.

Au Qtr. 1 cl. Prereq: Vet med 2nd yr standing.

**614.03 Leadership Success P 1**

Understanding leadership; leadership as a pathway to success.

Wi Qtr. 1 cl. Prereq: Vet med 2nd yr standing.

**614.04 Communications P 1**

The art of successful communication.

Sp Qtr. 1 cl. Prereq: Vet med 2nd yr standing.

**614.05 Career Development and Business Management P 2**

Introduction to career planning; reviewing the normal stages of a professional career.

Au Qtr. 2 cl. Prereq: Vet med 3rd yr standing.

**614.06 Practice Success P 1**

The art and knowledge for a successful veterinary practice.

Wi Qtr. 1 cl. Prereq: Vet med 3rd yr standing.

**615 Small Animal Operative Practice and Diagnostic Techniques**

**615.01 Small Animal Operative Practice P 4**

Clinical instruction in and application of surgical techniques and treatment of small animal diseases.

Au, Wi Qtrs. 1 cl, 12 lab hrs/wk. Prereq: Vet med 3rd yr standing. Not open to students with credit for 615.

**615.02 Small Animal Diagnostic Medicine Techniques P 1**

Clinical instruction in and application of medical diagnostic and therapeutic techniques in small animals.

Au, Wi Qtrs. 4 lab hrs/wk. Prereq: Vet med 3rd yr standing.

**616 Food Animal Medicine Techniques and Diagnostic Procedures P 3**

Laboratory instruction in microbiology, parasitology, and radiology; instruction and self-study in minor techniques for large animals.

Au, Wi Qtrs. 9-13 lab hrs. Prereq: Vet med 3rd yr standing.

**617 Basic Equine Medical and Surgical Procedures P 1**

Laboratory and self-instruction in equine techniques.

Au, Wi Qtrs. 3-6 lab hrs. Prereq: Vet med 3rd yr standing.

**618 Hemic-Lymphatic System P 5**

A comparative study of the hemic-lymphatic system with emphasis on dysfunction immunologic diseases diagnosis, treatment and prevention of hemopoietic disease.

Au Qtr. Prereq: Vet med 2nd yr standing.

**640 Veterinary Toxicology P 3**

Study of toxic substances affecting domestic animals including major types of poisons, sources, mechanisms of action, diagnosis, and treatment.

Au Qtr. 3 cl. Prereq: Vet med 3rd yr standing.

**646 Veterinary Population Medicine and Public Health P 2**

Study of risk factors affecting health of populations; interrelationships of populations; and control measures to enhance population health.

Au Qtr. 2 cl. Prereq: Vet med 2nd yr standing.

**689 Practicum in Veterinary Medicine P 0**

Applied veterinary experiences offered to fourth year veterinary students which enhance their skills in areas such as medicine, surgery, dentistry, research, etc.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Vet med 4th yr standing on elective qtr. Repeatable. This course is graded S/U.

**690 Veterinary Medicine Senior Clinics P 1-10**

Supplement to senior clinical rotations.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Vet med 4th yr standing. This course is graded S/U.

**700 Applied Veterinary Medicine**

A series of clinical studies offered fourth-year veterinary medical students as part of the core curriculum.

Su, Au, Wi, Sp Qtrs. Clinics, seminars, case discussions, and 24-hr patient care responsibilities. Prereq: Vet med 4th yr standing.

**700.01 Community Practice P 3**

Clinical instruction in client relations, diagnosis, treatment, and prevention of diseases in out-patients.

Repeatable to a maximum of 32 cr hrs.

**700.02 Small Animal Internal Medicine P 2**

Clinical instruction and experience in the diagnosis, treatment, and prevention of diseases of small companion animals.

Repeatable to a maximum of 32 cr hrs.

**700.03 Small Animal Surgery P 6**

The application of principles of surgery to treatment of diseases of companion small animals.

Repeatable to a maximum of 32 cr hrs.

**700.04 Food Animal Medicine and Surgery P 6**

Application of principles of diagnosis, treatment, and prevention of diseases of food animals.

Repeatable to a maximum of 32 cr hrs.

**700.05 Equine Medicine and Surgery P 6**

Application of principles of diagnosis, treatment, and prevention of diseases of equine patients.

Repeatable to a maximum of 32 cr hrs.

**700.06 Equine Field Services P 3**

Application of principles of management, diagnosis, treatment and prevention of diseases in horses in environment in which they are raised.

Repeatable to a maximum of 32 cr hrs.

**700.07 Radiology P 3**

Application of radiological principles to diagnosis of diseases of animals.

Repeatable to a maximum of 32 cr hrs.

**700.08 Preventive Medicine P 5**

Intensive practical training in preventive medicine applied to public health and animal health; emphasis on herd health management, food hygiene, laboratory animals, public service, and control of livestock and poultry diseases.

Repeatable to a maximum of 32 cr hrs. Seminars, field trips, problem solving. This course is graded S/U.

**700.09 Clinical Anesthesiology P 4**

Provides supervised experience in hospital-based anesthesia practice. Students anesthetize patients for surgical as well as diagnostic procedures.

Repeatable to a maximum of 32 cr hrs. Seminars supplement clinical patient management.

**700.10 Large Animal Ambulatory Clinics P 3**

Provides student the experience of working in a large animal clinic, including patient and business management aspects. Provides instruction in production medicine and its role in modern agriculture.

Repeatable to a maximum of 32 cr hrs.

**700.11 Small Animal Emergency/Critical Care P 6**

Application of principles of diagnosis, therapy, and management of patients with acute or critical illness.

Repeatable to a maximum of 32 cr hrs.

**700.12 Veterinary Clinical Ophthalmology P 2**

Application of principles of diagnosis and treatment of diseases of the eye to patients of all species.

Repeatable to a maximum of 32 cr hrs.

**700.14 Applied Pathology P 3**

Training in gross dissection and interpretation of gross and microscopic pathologic lesions in animals.

**700.15 Dermatology P 2**

Su, Au, Wi, Sp Qtrs. Prereq: Vet med 4th yr standing. Repeatable to a maximum of 32 cr hrs.

**700.16 Equine Emergency/Critical Care P 3**

Provides students supervised experience in hospital-based emergency and critical care practice with horses.

Repeatable to a maximum of 32 cr hrs. Seminars supplement clinical patient management.

**700.17 Shelter Medicine and Surgery P 3**

Clinical rotation teaching principles and practice of shelter medicine.

**700.19 Small Animal Cardiology P 3**

Clinical instruction in client relations, diagnosis, treatment and prevention of heart diseases.

This course is graded S/U.

**700.20 Small Animal Neurology P 2**

Clinical instruction in client relations, diagnosis, treatment and prevention of neurologic disorders.

**700.21 Veterinary Public Practice P 1**

Theory and application of public health in veterinary medicine.

This course is graded S/U.

**700.22 Small Animal Oncology P 2**

Clinical instruction in client relations, diagnosis, treatment and prevention of cancer.

**Veterinary Preventive Medicine**

239 Sisson Hall, 1900 Coffey Road, 292-1206

**101 Introduction to Veterinary Medicine U 3**

To increase awareness of the many dimensions of veterinary medicine.

Sp Qtr.

**693 Individual Studies P G 1-6**

Laboratory and library investigations of animal disease problems involving veterinary preventive medicine.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

**696 Advanced Studies in Veterinary Preventive Medicine P G 1-6**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

**700 Molecular Epidemiology of Infectious Diseases P G 3**

Provides students with the knowledge and skills to study disease outbreaks in livestock using molecular biology techniques.

Sp Qtr. 1 1.5-hr cl. Prereq: 780, Prev Med 800, or permission of instructor.

**711 Applied Veterinary Medicine Options**

A series of field studies offered as electives for fourth year veterinary students to arrange into an elective program in conjunction with a faculty adviser.

Su, Au, Wi, Sp Qtrs.

**711.01 Herd Health Problems P 2,3**

Field instruction and experience in comprehensive disease prevention, nutritional, reproductive, and economic services in modern confinement and conventional livestock production.

**711.02 Public Service Problems P 2,3**

Instruction and experience in animal and human disease (zoonoses) prevention, control, and eradication as provided by public service veterinarians in local, state, and national agencies.

**711.03 Comparative Medicine Topics P G 1-3**

Discussion of lab animal models, techniques, diseases and management.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**715\* Veterinary Public Service P G 3**

Practice of public service directed at animal and public health in international, national, state, and local agencies with emphasis on planning, decision making, and budgeting; interaction of veterinarian and other health workers.

Au Qtr.

**721 Zoonotic Diseases P G 4**

Epidemiology of zoonotic diseases, including understanding basic prevention and control strategies associated with each disease.

Au Qtr. 2 2-hr cl. Prereq: Vet med 2nd, 3rd or 4th yr, or grad standing. Repeatable to a maximum of 30 cr hrs.

**722 Food-Borne Diseases, Food Animal Production Systems, and Food Safety P G 4**

Detailed description of common zoonotic food-borne diseases, with previous description of food chains for products from animal sources. Food safety issues will also be discussed.

Wi Qtr. 2 2-hr cl. Prereq: Vet med 3rd or 4th yr standing. Repeatable to a maximum of 30 cr hrs.

**723 Biosecurity, Environmental Health, and Other Veterinary Public Topics P G 4**

Overview on biosecurity (bioterrorism, preparedness, management of zoonotic outbreaks), common environmental health issues related to human and animal interactions, and other topics about Veterinary Public Health.

Sp Qtr. 2 2-hr cl. Prereq: Vet med 4th yr standing. Repeatable to a maximum of 30 cr hrs.



**750 Veterinary Practice and Hospital Management P 3**

Basic principles of hospital and practice management including insurance, partnerships, corporations, accounting, taxes, employees, and general management procedures.

Wi Qtr. 3 cl. Prereq: Vet med 3rd or 4th yr standing.

**760 Specialized Study in Veterinary Medicine P 1-16**

Field or lab study encompassing the various areas in the field of veterinary medicine through an approved off-campus experience with qualified professionals.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Vet med 4th yr standing and permission of instructor. Repeatable to a maximum of 16 cr hrs. To be taken during elective qtr. Cross listed in all veterinary medicine depts. Students must serve at least 4 wks in one experience to receive minimum elective cr. This course is graded S/U.

**770 Zoo and Wildlife Medicine I P 1**

Introduction to zoo and wildlife medicine. Overview of taxonomy, natural history, behavior, husbandry, restraint and common veterinary techniques and concerns for a wide range of species.

Sp Qtr. 1 cl. Prereq: Vet med 1st and 2nd yr standing. This course is graded S/U.

**771 Zoo and Wildlife Medicine II P 2**

Overview of preventive medicine, common diseases, and treatment of disease for a wide range of non-domestic species. Introduction to unique veterinary concerns and regulations in zoo and wildlife medicine.

Au Qtr. 2 cl. Prereq: Vet med 2nd and 3rd yr standing with Vet Prev 770.

**796 Advanced Studies in Veterinary Preventive Medicine**

A course providing small group instruction in the topics designated.

Su, Au, Wi, Sp Qtrs.

**796.01 Public Health Organization, Environmental Health, Food-Borne Illnesses P G 1-8**

Deals with application of public health principles to solution of community problems.

Au, Wi, Sp Qtrs. Prereq: 715, 796.02, 796.03, 796.04, 796.05. Open only to DVM and grad students. Repeatable to a maximum of 8 cr hrs. Repeatable with permission of instructor. This course is graded S/U.

**796.02 Prevention of Communicable Diseases P G 3**

Discussion of the epidemiology of communicable diseases of animals and fundamental approaches used by state and federal animal health agencies for prevention, control, and eradication.

Au Qtr. 3 cl. Prereq: Vet med 2nd, 3rd or 4th yr standing. Repeatable to a maximum of 30 cr hrs.

**796.06 Disease Control in Dairy Cattle P G 3**

Principles and applications of preventive medicine in establishing and maintaining dairy herd health programs and laboratory practices in mastitis control.

Sp Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: Vet med 2nd, 3rd, 4th yr or grad standing. Repeatable to a maximum of 30 cr hrs.

**796.08 Diseases of Swine P 3**

Discussion of swine diseases and herd health programs with emphasis on diagnosis, prevention, control and treatment.

Au Qtr. 3 cl. Prereq: Vet med 2nd, 3rd or 4th yr standing. Repeatable to a maximum of 30 cr hrs.

**796.12 Literature of Production Medicine P G 1**

Review and discussion of current, selected referred literature in production medicine.

Au, Wi Qtrs. 1-hr cl. Prereq: Vet med 3rd or 4th yr or grad standing. Repeatable to a maximum of 2 cr hrs.

**796.13 Applied Dairy Nutrition U P G 3**

Applied principles of dairy nutrition and feeding to prevent metabolic diseases.

Wi Qtr. 3 cl. Prereq: 796.06 or Anim Sci 330 or equiv; vet med 3rd or 4th yr, grad standing or permission of instructor. Not open to students with credit for Anim Sci 630.03. Repeatable to a maximum of 30 cr hrs. Cross-listed in Animal Sciences as 630.03.

**796.14 Swine Production Medicine P 3**

Discussion of the components of a swine production medicine program.

Au Qtr. 3 cl. Prereq: Vet med 2nd, 3rd or 4th yr standing. Repeatable to a maximum of 30 cr hrs.

**796.15 Dairy Herd Record Analysis P 2**

Interpretation of dairy records based on understanding of nutrition and physiology of lactation and reproduction.

Wi Qtr. 2 cl. Prereq: Vet med 3rd yr standing with 796.06. Requires computer access. This course is graded S/U.

**796.16 Topics in Dairy Production Medicine P G 1**

Presentation and discussion of current issues of interest in dairy production medicine and management.

Wi Qtr. 1 cl. Prereq: Vet med 2nd or 3rd yr or grad standing. Experts in various dairy-associated fields will be presenters and lead discussions. Offered odd numbered years. This course is graded S/U.

**796.17 Bovine Palpation P 2**

To review and enhance techniques of bovine reproductive exams, palpation, pregnancy diagnosis, and dystocia management.

Wi Qtr. 1 cl, 1 2-hr lab. Prereq: Vet med 3rd yr standing with Vet Clin 746.

**796.18 Bovine Theriogenology P 2**

Reproductive physiology, hormonal manipulation of the estrus cycle, A.I. and E.T., embryonic loss and abortion, obstetrics and the post-partum period, beef and dairy herd concepts.

Au Qtr. 2 cl. Prereq: Vet med 3rd yr standing. This course is graded S/U.

**797 Wildlife Disease Ecology U P G 2**

Topics in wildlife disease ecology as it relates to habitat quality, population regulation, wildlife management, and its implications for human and domestic animal health.

Sp Qtr. 2 cl. Prereq: Vet Med or grad standing; also, undergrads in the College of Food, Agricultural, and Environmental Sciences, College of Biological Sciences or School of Natural Resources.

**798 Applied Avian Medicine P G 1**

Review and discussion of current avian medicine topics as applied to a production medicine environment, diagnostics and prevention and control strategies.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

**810 Principles of Epidemiology G 2**

Discussion of principle theories and philosophies of epidemiology and scientific investigation.

Wi Qtr. 1 2-hr cl. Prereq: Grad standing.

**820 Veterinary Clinical Epidemiology G 1**

Application of clinical examination and diagnostic testing.

Su Qtr. 1 1-hr cl. Prereq: Grad standing. This course is based on a book "Clinical Epidemiology: A Basic Science for Clinical Medicine" by Sackett, Haynes, Guyatt and Tugwell.

**850 Seminar in Veterinary Preventive Medicine**

Au, Wi, Sp Qtrs.

**850.01 Seminar in Veterinary Preventive Medicine G 1**

Repeatable to a maximum of 3 cr hrs.

**850.02\* Seminars in Veterinary Preventive Medicine G 1**

Graduate student presentations on their research projects.

Au, Sp Qtrs. Repeatable. This course is graded S/U.

**850.03 Seminar in Veterinary Preventive Medicine G 2**

Group discussions of appropriate methodology and statistical analysis to meet objectives of investigators presenting seminars.

Au, Wi Qtrs. 2 cl. Prereq: Grad standing with DVM degree. Repeatable to a maximum of 4 cr hrs.

**999 Research in Veterinary Preventive Medicine G 1-18**

Research thesis or dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Vision Science**

A400 Starling Loving, 338 West 10th Avenue, 292-2647

**501 Geometric Optics U P 5**

Vergence, objects, and images, thin lenses, simple model eyes, spherical refracting surfaces, thick lens systems, mirrors, ray tracing, and prisms.

Au Qtr. 4 cl, 1 2-hr lab. Prereq: Optometry 1st yr standing or permission of instructor.

**503 Geometric and Physical Optics P 5**

Angular magnification, telescopes, apertures and stops, astigmatism, prismatic effects of lenses, diffraction, polarization, interference, electromagnetic waves, quantum optics.

Wi Qtr. 4 cl, 1 2-hr lab. Prereq: Optometry 1st yr standing and 501.

**511 Optics of the Eye U P G 5**

Optics of ametropias and their correction, classification and etiology of refractive errors, schematic eyes, retinal image size, optics of clinical instruments, optics of accommodation, aberrations of the eye.

Sp Qtr. 4 cl, 1 2-hr lab. Prereq: Optometry 1st yr standing and 503 or permission of instructor.

**512 Ocular Motility U P G 5**

The motility of the eye; the structure and innervation of the extraocular muscles; mechanisms and analysis and description of eye movements.

Au Qtr. 4 cl, 1 2-hr lab. Prereq: 511 or permission of instructor. Not for grad credit to students majoring in vision science.

**520 Measurement of Light and Color U P G 5**

Principles of photometry and colorimetry; light sources; color vision theory; clinic tests of color discrimination; and introduction to visual psychophysics.

Wi Qtr. 4 cl, 1 2-hr lab. Prereq: Optometry 1st yr standing. Not for grad credit to students majoring in vision science.

## 404 Vision Science

### 531 Basic Human Anatomy U P 5

Basic human developmental, neural, and gross anatomy, using models and films, supplemented with prepared specimens.

Au, Wi Qtrs. 3 cl, 2 2-hr lab. Prereq: Optometry 1st yr standing or major in vision science.

### 535 Microscopic Anatomy U P 5

Microscopic anatomy of cells and tissues and special histology of the organ systems.

Au, Wi Qtrs. 3 cl, 2 2-hr lab. Prereq: Optometry 1st yr standing or major in vision science.

### 580 Physiology for Optometrists I P G 4

Physiology of the cell, molecular physiology, neurophysiology, muscle physiology, and cardiovascular physiology.

Au Qtr. 4 cl. Prereq: Optometry 1st yr standing or permission of instructor.

### 581 Physiology for Optometrists II P G 5

A continuation of 580. Physiology of the blood, respiratory physiology, renal physiology, gastrointestinal physiology, endocrinology, and immunology.

Wi Qtr. 5 cl. Prereq: 580.

### 608 Anatomy of the Eye U P G 5

Human gross anatomy of the head and neck with special emphasis on the eye and orbit; histology and embryology of the eye and associated structures.

Sp Qtr. 3 cl, 2 2-hr lab. Prereq: Optometry 1st yr standing or permission of instructor.

### 613 Monocular Sensory Processes U P G 4

Spatial, temporal and chromatic aspects of visual sensitivity and their relation to photopic and scotopic visual systems and to the neurophysiology of the visual system.

Au Qtr. 4 cl. Prereq: Optometry 2nd yr standing or permission of instructor.

### 624 Ocular Form and Function I P 3

An in-depth study of the basic physiologic functions of the eye including related pathophysiologic mechanisms.

Au Qtr. 3 cl. Prereq: Optometry 2nd yr standing or permission of instructor.

### 625 Ocular Form and Function II P 3

Continuation of 624.

Wi Qtr. 3 cl. Prereq: 624 or permission of instructor.

### 626 Ocular Physiology P 5

A comprehensive study of the physiology of the eye, including related pathophysiologic mechanisms.

Sp Qtr. 5 cl. Prereq or concur: 581 and 608.

### 650 Mechanisms of Disease for Optometry P 5

Provides an introduction to the techniques used in the assessment of ocular health and in the diagnosis and management of ocular disease.

Sp Qtr. 5 cl. Prereq: Optometry 1st yr standing.

### 680 Introduction to Pharmacology for Optometrists P 3

A survey of general pharmacological principals and actions; effects of drugs on the central nervous system, cardiovascular system, and other systems.

Wi Qtr. 3 cl. Prereq: 581 and Optometry 2nd yr standing or permission of instructor.

### 715 Binocular and Spatial Vision P G 5

The study of the sensory processes involved in the coordination of the two eyes in the perception of space and the sensorimotor processes of spatial localization.

Sp Qtr. 4 cl, 1 2-hr lab. Prereq: Optometry 2nd yr standing.

### 716 Visual Perception P G 3

Traditional topics in visual perception; "higher brain function" and behavioral neuroscience of vision; brain disorders of vision and visual perception.

Wi Qtr. 3 cl. Prereq: Enrollment in College of Optometry or permission of instructor.

### 731 Environmental Vision P G 4

Visual testing in industry; relation of vision to performance, comfort, and safety; visual requirements for licenses; eye hazards and protection; compensation for vision loss.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: 520.

### 732 Vision of Children P G 5

Vision screening; the prevalence of visual anomalies and eye diseases in children; basic visual skills required in school and methods for their improvement.

Au Qtr. 3 cl, 1 4-hr lab. Prereq: Optometry 3rd yr standing.

### 733 Optometric Gerontology P G 4

A survey of visual and systemic changes associated with aging, with emphasis on ophthalmic examination and rehabilitative techniques.

Wi Qtr. 3 cl, 1 2-hr lab. Prereq: Optometry 3rd yr standing.

### 740 Survival Skills for Graduate Students P G 2

Provides "survival skills" for beginning graduate students. These include critiquing papers, writing abstracts, presenting data and analyses, preparing audiovisual materials, and some experimental design issues.

Su, Au, Wi, Sp Qtrs. 2 cl.

### 780 Topics in Vision Science

Experimental and theoretical aspects of areas of current interest in vision science.

Su, Au, Wi, Sp Qtrs. Prereq: Enrollment in Optometry. Each subdivision repeatable to a maximum of 20 cr hrs.

#### 780.01 Ocular Anatomy P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.02 Ocular Physiology P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.03 Corneal Physiology P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.04 Microbiology of the Eye P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.05 Experimental Design P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.06 Psychophysics of Vision P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.07 Paradigm of Vision Science P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.08 Ocular Biometrics P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.09 Visual Optics P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.10 Environmental Vision P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.11 Image Evaluation P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.12 Geometrical Optics P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.13 Physical Optics P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.14 Oculomotor Systems P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.15 Binocular Visual Processes P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.16 Monocular Visual Processes P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.17 Photochemistry of Vision P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.18 Color Vision P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.19 Stimulus Specification P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.20 Neurophysiology of Vision P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.21 Visual Electrometrics P G 1-5

Repeatable to a maximum of 20 cr hrs.

#### 780.22 Physiological Optics P G 1-5

Repeatable to a maximum of 20 cr hrs.

### 790 Advanced Topics in Anterior Segment and Contact Lenses G 2

Intended for students furthering their research experience in the areas of anterior segment (e.g., cornea, conjunctiva, tear system) or contact lenses.

Su, Au, Wi, Sp Qtrs. 2 cl. Prereq: Optometry 654 or permission of instructor. Repeatable to a maximum of 16 cr hrs.

### 795 Seminar P G 1-5

A series of seminars dealing with new developments in the various phases of vision science.

Su, Au, Wi, Sp Qtrs. 1-5 cl. Prereq: Permission of instructor Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

### 796 Ethics in Biomedical Research P G 2

Provides a general understanding of the issues surrounding the ethical conduct of science including issues related to research involving human subjects, scientific misconduct, and authorship of scientific papers. Real-life case studies will be used.

Au Qtr. 2 cl.

**797 Grantsmanship P G 2**

Designed to explain the structure of the National Institutes of Health, especially the National Eye Institute, to illustrate the principles of good grantsmanship, and to describe the review process grants undergo. Emphasis will be focused on two particular grant mechanisms: the Mentored Clinical Scientist Development Award (K23) and the Research Project Grant (R01).

Wi Qtr. 2 cl.

**798 Statistics in Clinical Research P G 2**

Introduction to the basic concepts and methods of statistical analysis of clinical research data. Statistical software packages will be demonstrated along with interpretation of output.

Su Qtr. 2 cl.

**799 Assessing the Literature P G 1**

Students will present findings from a journal article and discuss study design, statistical, analysis, presentation of data, conclusions, and other relevant information.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**801 Optics of the Eye and Specification of the Visual Stimulus G 5**

Ocular image-forming mechanisms of the eye and optics of ophthalmic instrumentation, specification of light, calibration and control of intensity and spectral composition of light.

Au Qtr. 4 cl, 1 2-hr lab. Prereq: 501, 511, 520 and grad standing, or permission of instructor.

**802 Ocular Motility and Binocular Vision G 5**

Advanced topics on eye movements, ocular motility, and sensorimotor aspects of visual perception and binocular vision.

Sp Qtr. 4 cl, 1 2-hr lab. Prereq: 512, 715, 716 and grad standing, or permission of instructor.

**803 Monocular Sensory Processes of Vision G 5**

Spatial, temporal and spectral properties of photopic and scotopic vision; color vision and color deficiencies; visual development; clinical psychophysics.

Wi Qtr. 4 cl, 1 2-hr lab. Prereq: 511, 520, 613 and grad standing, or permission of instructor.

**804 Anatomy and Physiology of the Visual System G 5**

Advanced anatomy, physiology and neurology of the visual system.

Su Qtr. 4 cl, 1 2-hr lab. Prereq: 608, 626 and grad standing or permission of instructor.

**810 Image Evaluation G 3-5**

Evaluation of optical systems and image forming systems including the eye by objective and subjective methodologies.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 801 and grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**811 Color Vision G 3-5**

Spectral sensitivity; color vision deficiency, color matching and color appearance; theory and laws of color mixture.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 803 and grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**812 Neurophysiology of Vision G 3-5**

Phototransduction; photoreceptor recordings; horizontal, bipolar and amacrine cells; ganglion and LGN cells; M and P pathways and relationship to optic nerve disorders; striate and extrastriate cortex.

Su, Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Prereq: 804 and grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**813 Physiology of the Eye G 3-5**

Recent developments in the respiration, metabolism, and mechanics of ocular tissues, and the aqueous dynamics of the eye.

Su, Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Prereq: 804 and grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**814 Experimental Design in Eye Movements G 3**

Provides the student with experience in the use of the eye tracking and accommodation-monitoring equipment and eye movement data analysis including main sequence relationships, coordinate systems, filtering techniques and data calibration.

Su, Au, Wi, Sp Qtrs. 2 cl, 1 2-hr lab. Prereq: 512 and 802.

**815 Binocular Vision and Perception G 3-5**

Study of binocular vision and visual spatial localization including the perception of distance, direction, form and motion.

Su, Au, Wi, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq: 802 and grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**816 Visual Development G 3-5**

Introduction to the fundamental concepts underlying human visual development and how to study it as well as learning to collect psychophysical data on human infants.

Sp Qtr. 3-5 cl. Prereq: Enrollment in the College of Optometry or grad standing in vis sci, or permission of instructor. Repeatable to a maximum of 5 cr hrs.

**818 Anatomy of the Visual Pathway G 3-5**

Advanced study of the neuroanatomy of the visual system; recent advances in ocular anatomy and neuroanatomy of the visual pathway.

Su, Au, Wi, Sp Qtrs. 3-5 cl. Prereq: 804.

**820 Specification of the Visual Stimulus G 3-5**

Assessment of critical detail of visual tasks to determine visual standards and appropriate level and distribution of light; study of apparatus to control intensity and composition of visual stimuli, measurement of light.

Su, Au, Wi, Sp Qtrs. 3 cl, 4-hr lab. Prereq: 801 and grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

**891 Interdisciplinary Seminar**

Graduate seminar for graduate interdisciplinary studies.

Cross-listed in Biomedical Engineering, Biomedical Informatics, Biophysics, Computer Science and Engineering, Electrical and Computer Engineering, Integrated Biomedical Science, Pathology, Radiology, and Statistics.

**891.01 Interdisciplinary Seminar on Biomedical Images G 1-2**

Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images.

Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

**894 Group Studies in Vision Science G 1-5**

Group studies on special problems in vision science.

Su, Au, Wi, Sp Qtrs. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 30 cr hrs.

**999 Research in Vision Science G 1-18**

Research for thesis on dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

## Vocational Education, Comprehensive

208 Agricultural Administration Building, 2120 Fyffe Rd, 292-6321

**893 Individual Studies in Vocational Education G 1-3**

Individual research and study on approved topics in comprehensive vocational education.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**894 Group Studies in Vocational Education G 1-3**

Selected topics directly related to comprehensive vocational education.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

**999 Research in Vocational Education G 1-18**

Individual dissertation research on problems of significance in comprehensive vocational education.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of adviser. Repeatable. This course is graded S/U.

## Welding Engineering

210 Baker Systems Engineering, 1971 Neil Avenue, 292-6239

**293 Individual Studies in Welding Engineering U 1-5**

Topics in welding engineering of individual interest at the undergraduate level; must be arranged with a member of the department faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

**300 Survey of Welding Engineering U 3**

Principles of welding engineering, including processes, materials effects, design, and quality assurance and codes.

Au, Wi Qtrs. 3 cl. Prereq: One unit of high school physics.

**350 Introductory Welding Laboratory I U 1**

Demonstration of a fundamental working knowledge of manual arc welding.

Au Qtr. 1 3-hr lab cl. Concur: 300 and acceptance as a Weld Eng major or written permission of chairperson.

**351 Introductory Welding Laboratory II U 1**

Demonstration of a fundamental working knowledge of semi-automatic arc welding.

Wi Qtr. 1 3-hr lab. Concur: 350 and acceptance as a Weld Eng major or written permission of chairperson.

**400 Chemistry of Welding and Joining Processes U 3**

Study of the chemical principles occurring during joining processes.

Sp Qtr. 3 cl. Prereq: Physics 133, Weld Eng 300 and acceptance as a Welding Engineering major.

**489 Industrial Experience I U 1**

Experience in an industrial organization and the submitting of an acceptable report on the work done.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. One qtr full time or equiv part-time field experience.

**500 Physical Principles in Welding Engineering I U 3**

Study of the application of electric and magnetic principles in welding engineering.

Au Qtr. 3 cl. Prereq or concur: 300 and Elec Eng 300.

**550 Physical Principles in Welding Engineering I-Laboratory U 1**

Experimentation with the application of electric and magnetic principles in welding engineering.

Au Qtr. 1 3-hr lab. Concur: 500 and a second writing course.

**600 Physical Principles in Welding Engineering II U G 3**

Study of physical principles in welding processes.

Wi Qtr. 3 cl. Prereq: 500, Eng Mech 440 or Mech Eng 420 or 440. GEC course.

**601 Welding Processes and Applications U G 3**

Solid state welding, resistance welding and welding applications.

Sp Qtr. 3 cl. Prereq: 600. Safety related equipment and procedures required.

**602 Fundamentals of Resistance Welding Processes U G 3**

The fundamentals of the resistance welding process will be presented; distinctions made between variations in processes. Emphasis will also be placed on process systems.

Sp Qtr. Prereq: 601.

**605 Principles of Welding Process Control U G 3**

Study of principles and practical application of control systems and control elements of welding processes.

Wi Qtr. 3 cl. Prereq: 500 or permission of instructor.

**610 Introduction to Welding Metallurgy U G 3**

Application of physical metallurgy principles to nonequilibrium thermo/mechanical conditions associated with welding.

Sp Qtr. 3 cl. Prereq: Matsc&En 542.01. Safety related equipment and procedures required. GEC course.

**611 Welding Metallurgy I U G 3**

Study of the metallurgy and welding of transformable steels.

Au Qtr. 3 cl. Prereq: 610 or permission of instructor. Safety related equipment and procedures required.

**612 Welding Metallurgy II U G 3**

Welding metallurgy and weldability of stainless steels, aluminum alloys and nickel- and cobalt-based superalloys; joining of polymers and polymer-based composites.

Wi Qtr. 3 cl. Prereq: 611. Safety related equipment and procedures required.

**620 Engineering Analysis for Design and Simulation U G 4**

Fundamentals of engineering analysis of heat flow, thermal and residual stresses, and fracture and fatigue with applications to design and simulation in welding and manufacturing.

Au Qtr. 2 1.5-hr cl, 1 3-hr lab. Prereq: Eng Mech H210 or 400, or Mech Eng H210 or 400 or 410. Not open to students with credit for Ind Eng 625. Cross-listed with Ind Sys Eng 625.

**621 Welding Engineering Design U G 4**

Design fundamentals applicable to welded structures. Hands-on PC-based design laboratory.

Wi Qtr. 3 cl, 1 3-hr cptr lab. Prereq: 620 and Eng Mech 440 or Mech Eng 420 or 440.

**631 Nondestructive Evaluation U G 4**

Principles of nondestructive evaluation and inspection of materials and structures for engineering plus laboratory experience with principles, equipment, techniques and interpretation of nondestructive tests.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: 3rd yr standing in ENG or equiv with written permission of instructor. Safety related equipment and procedures required.

**635 Fundamentals of Radiography U G 4**

Intended for engineering students who require knowledge of non-destructive testing methods; basic industrial radiographic methods such as film and real time, radiography, and image analysis are included.

Sp Qtr. 3 cl, 1-hr lab. Prereq: 631 or written permission of instructor.

**638\*\* Introduction to Ultrasonics U G 4**

Ultrasonic waves in solids and fluids; ultrasonic generators and systems; physical ultrasonics; applications of ultrasonics.

Au Qtr. 4 cl. Prereq: Eng Mech 440 or Mech Eng 420 or 440; Math 255 or 415. Not open to students with credit for 634, Eng Mech 634, or Mech Eng 638. Cross-listed in Mechanical Engineering.

**640 Welding Production U G 3**

Cost-effective production of quality-welded structures.

Wi Qtr. 3 cl. Prereq: 601; 4th yr standing in ENG or permission of instructor. Not open to students with credit for 642.

**641 Welding Codes, Specifications, and Standards U G 3**

Consideration of the welding requirements in a variety of industry and government documents including examples from the aircraft, automotive, maritime, piping, and pressure vessel fields.

Sp Qtr. 3 cl. Prereq: 4th yr standing in ENG or permission of instructor.

**651 Welding Process Applications - Laboratory U G 1**

Laboratory experience in engineering aspects of welding.

Sp Qtr. 1 3-hr lab. Concur: 601. GEC course.

**655 Welding Process Controls I - Laboratory U G 1**

Experimentation with the applications of process controls in welding engineering.

Wi Qtr. 1 3-hr lab. Concur: 605.

**656 Robot Programming and Operations U G 1**

Types and applications of industrial robot systems; lab experience in robot operation and programming. Richardson.

Au, Wi, Sp Qtrs. 1 3-hr lab. Prereq: Weld Eng or Ind Eng major and written permission of instructor.

**661 Welding Metallurgy I Laboratory U G 1**

Laboratory experience in welding metallurgy.

Au Qtr. 1 3-hr lab. Concur: 611. GEC course.

**662 Analysis of Non-Ferrous and High Alloy Welds U G 1**

Characterization of weld structures in stainless steel, aluminum alloys, and nickel-based superalloys.

Wi Qtr. 1 3-hr lab. Prereq: 610; concur: 612. GEC course.

**681 Nondestructive Evaluation Seminar U G 1**

Theory and application of nondestructive evaluation as presented in lectures by faculty, staff, graduate students, and guest speakers.

Au, Wi, Sp Qtrs. 1 cl. Prereq: 4th yr standing in ENG. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**690 Capstone Welding Design I U G 1**

Group design projects building on all aspects of welding engineering.

Au Qtr. 1 cl. Prereq: 4th yr standing in weld eng. GEC course.

**691 Capstone Welding Design II U G 2**

Group design projects building on all aspects of welding engineering.

Wi Qtr. 2 cl. Prereq: 690. GEC course.

**692 Capstone Welding Design III U G 2**

Group design projects building on all aspects of welding engineering.

Wi, Sp Qtrs. 1 2-hr cl. Prereq: Permission of instructor. GEC course.

**694 Group Studies in Welding Engineering U G 1-15**

The student must register for particular topics from fields of welding engineering, the topics, or hrs, and instructor will be announced in quarter previous to the quarter offered.

Su, Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs.

**695 Topics in Welding Engineering U G 1-3**

An opportunity for systematic exposure to timely and/or practical topics in welding engineering as presented by leaders in the field.

1-3 hr cl. Prereq: Sr or grad standing in welding engineering. Repeatable to a maximum of 6 cr hrs.

**699 Undergraduate Research in Welding Engineering U 1-5**

Opportunity for undergraduate student to conduct research in Welding Engineering.

Su, Au, Wi, Sp Qtrs. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

**701\* Solid State Welding U G 3**

The welding and joining of metals in the solid state with emphasis on processes and metallurgical principles.

Sp Qtr. 3 cl. Prereq: 600, Eng Mech 440, or Mech Eng 420 or 440, and Mat Sc&En 542.01.

**702 Fundamentals of Resistance Welding U G 3**

Fundamentals of the resistance welding process with emphasis on process analysis.  
Au Qtr. 3 cl. Prereq: 601.

**703 Brazing and Soldering U G 3**

Brazing and soldering processes with emphasis on physical and metallurgical principles, materials, design, and application considerations.  
Wi Qtr. 3 cl. Prereq: 504 or permission of instructor.

**704 High Energy Density Welding Processes U G 3**

Theory and practices in laser, electron beam, plasma, and other high energy density welding processes; process demonstrations.  
Au Qtr. 3 cl. Prereq: 600.

**705 Advanced Welding Process Control Systems U G 3**

Principles of continuously variable and digital control systems for manual, mechanized, automatic, and feedback operation of arc, resistance, and advanced welding processes.  
Sp Qtr. 3 cl. Prereq: 605 or permission of instructor.

**706 Welding of Plastics and Composites U G 3**

Theory and practice in welding of plastics and polymeric composites, including theory and analysis of welding processes, part and joint design, and process selection.  
Wi Qtr. 2 1.5-hr cl. Prereq: 620 or permission of instructor.

**707 Adhesive Bonding and Mechanical Joining of Plastics U G 3**

Fundamentals of adhesive bonding science and technology and methods for mechanical joining of plastics including fasteners, swaging, staking, snap-fits and press-fits.  
Sp Qtr. Prereq: 620 or permission of instructor.

**713 Joining of Specialty Metals U G 3**

Theory and practice of joining specialty metals is presented, with emphasis on joinability, joining processes, and procedures and applications.  
Wi Qtr. 2 1-hr cl, 1 2-hr lab. Prereq: 610

**714 Weldability U G 3**

Weldability of alloy systems-steels, stainless steels, nickel, aluminum, and titanium alloys-with reference to basic metallurgical phenomena, weldability testing, and interpretation; individual projects and presentations.  
Sp Qtr. 3 cl. Prereq: 611; prereq or concur: 612.

**715 Special Topics in Welding Engineering U G 3**

The course will review the nature of weld defects and their prevention. Other topics include failure analysis and weldability testing.  
Sp Qtr. Prereq: 610. Student must have basic knowledge of physical metallurgy principles.

**723 Analysis of Welding Systems U G 3**

Development of an analytical and empirical base for the selection of optimum parameters in the design and fabrication of welded structures.  
Au Qtr. 3 cl. Prereq: 620.

**732 Ultrasonic Nondestructive Evaluation U G 4**

Principles of ultrasonic wave interaction with material structures with emphasis on nondestructive measurements of material discontinuities, properties, and non-uniformities.  
Wi Qtr. 3 cl, 1 3-hr lab. Prereq: 631 or permission of instructor, and Math 255 or 256 or 416.

**736 Health and Safety U G 3**

Major health and safety hazards associated with welding and cutting; radiation, fumes, gases, and noise; discussion of hazard origin, technological control, physiological effects, and regulatory control.  
Wi Qtr. 3 cl. Prereq: 601 or permission of instructor.

**740 Fitness-for-Service of Welded Structures U G 3**

The interrelationship of design, fabrication, nondestructive evaluation, fracture mechanics, and reliability concepts in establishing the overall fitness-for-purpose of welded structures.  
Sp Qtr. 3 cl. Prereq: 620 or permission of instructor.

**755 Welding Process Control Laboratory U G 1**

Laboratory experiments in basic instrumentation and control systems for welding processes such as arc, resistance, electron-beam, and others.  
Sp Qtr. 1 3-hr lab. Concur: 705.

**H783 Undergraduate Honors Program Research U 1-3**

Honors program students are offered the opportunity to pursue independent project/research. Student presentations and thesis writing included.  
Su, Au, Wi, Sp Qtrs. Arr. Prereq: Sr standing in weld eng (or equiv). Repeatable to a maximum of 6 cr hrs. Students must have a GPA of at least 3.4 and permission of instructor.

**793 Individual Studies in Welding Engineering U G 1-15**

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**795 Graduate Seminar U G 1**

Presentations and discussion by graduate students and involved outside speakers on thesis research and current problems in welding engineering.  
Au, Wi, Sp Qtrs. 1 cl. Prereq: Grad or sr standing in weld eng. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**801 Welding Arc Physics G 3**

Theoretical study of the physics of welding arcs including processes of current maintenance and heat dissipation, arc radiation and spectre, arc stability, magnetic fields, and flows.  
Wi Qtr. 3 cl. Prereq: 600 or permission of instructor.

**804 Advanced Laser Material Processing G 3**

Advanced topics in laser materials processing. Resonant and non-resonant phenomena in laser-materials interaction.  
Wi Qtr. 3 cl.

**806\* Advanced Welding of Plastics and Composites G 3**

Theoretical study of welding of thermoplastics and composites, including analysis of the basic welding steps and modeling, optimization and control of welding processes.  
Wi Qtr. 3 cl. Prereq: 706 or permission of instructor.

**821 Residual Stresses and Distortion in Weldments G 3**

A study of the formation mechanisms of residual stresses and distortions; mathematical formulations and experimental analysis methods for distortion control.  
Wi Qtr. 3 cl. Prereq: 723.

**894 Group Studies in Welding Engineering G 2-5**

Special topics in welding engineering; the particular topic, credit hours, and the instructor will be announced in the quarter previous to the one in which the course is offered.  
Au, Wi, Sp Qtrs. Prereq: Written permission of instructor. Repeatable to a maximum of 10 cr hrs.

**999 Research in Welding Engineering G 1-18**

Research for thesis or dissertation purposes only.  
Su, Au, Wi, Sp Qtrs. Repeatable. This course is graded S/U.

**Women's Studies**

286 University Hall, 230 North Oval Mall, 292-1021

The Black Woman: Her Role in the Liberation Struggle  
See Af-Am&Af. Std. 230.

Women, Culture, & Development  
See Anthrop 597.02.

Global Perspectives on Women's Health  
See Anthrop 601.04.

Topics in Cultural Anthropology of Women (Topic must pertain to women)  
See Anthrop 620.02.

Biology of Human Diversity: Race, Gender, & Ethnicity  
See Biology 597.

Women in Greece and Rome  
See Classics 508.

Introduction to Latino/a Studies  
See Comp Std 242.

Women in East Asian & Asian-American Literature  
See Comp Std 314.

Women & Religion  
See Comp Std 315.

Studies in Latino/a Literature Studies (Topic must pertain to women)  
See Comp Std 544.

Topics in Comparative Studies (Topic must pertain to women)  
See Comp Std 651.

## 408 Women's Studies

Studies in Chinese-American Literature (Topic must pertain to women)  
See Comp Std 678.

Gender Education  
See Ed P&L 414.

Sport & Popular Culture, Race, & Gender  
See Ed P&L 626.02.

Sport in Western Culture  
See Ed P&L 658.

Women's Sport History  
See Edu PAES 610.

Topics in Literary Forms & Theory (Topic must pertain to women)  
English 575.

Issues & Movements in Critical Theory (Topic must pertain to women)  
English 576.03.

Folk Groups & Communities (Topic must pertain to women)  
English 577.01.

Studies in Film (Topic must pertain to women)  
English 578.

Topics in Gay & Lesbian Language in Literature (Topic must pertain to women)  
English 580.

Women in Literature  
See English 592.

Studies in Chinese-American Literature (Topic must pertain to women)  
English 681.03.

Women in French Literature  
See French 663.

Women in Ancient Hebrew Literature  
See Hebrew 374.

Women Artists of the Western World  
See Hist of Art 400.

Introduction to Women's History: The American Experience  
See History 325.

Women in the Western World: Ancient Civilization to the Industrial Revolution  
See History 523.

Women in the Western World: the Industrial Revolution to the Present  
See History 524.

Topics in Women's History  
See History 525.

Historical Perspectives on Sexuality: Same Sex Sexuality in the Western World  
See History 526.

Women in Latin America  
See History 533.06.

Topics in Chinese History (Topic must pertain to women)  
See History 546.

Studies in Women's History  
See History 781.

Studies in Japanese-American Literature (Topic must pertain to women)  
See Japanese 665.

Communication & Gender  
See Comm 662

Language and Gender  
See Linguist 367.

Women and Music  
See Music 685.

Women in the Muslim Middle East  
See Nelc 345.

Sheherazade and Company: Sex, Gender, & Power in Middle Eastern Story Telling  
See Nelc 360.

Topics in Feminist Theory (Topic must pertain to women)  
See Philosophy 625.

Women and Politics  
See Polit Sci 512.

Women and the Law  
See Polit Sci 514.

Gender & American Politics  
See Polit Sci 712.

Psychology of Women  
See Psych 543.

Women in Rural Society  
See Rural Soc 678.

Cinderella's Fantasy: Gender & Women in West & East Europe  
See Slavic H583.

Sociology of Women  
See Sociology 435.

Women, Crime, & the Legal System  
See Sociology 510.

Sociology of Sexuality  
See Sociology 605.

### 101 Introduction to Women's Studies in the Humanities U 5

Examination of the feminist viewpoint through interdisciplinary studies in the humanities; the relationship of feminist concepts, methods, and analyses to traditional, academic disciplines in humanities.

Su, Au, Wi, Sp Qtrs. 5 cl. H101 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 110, 201, 202, or 210. GEC arts and hums cultures and ideas, and social diversity course.

### 110 Women, Culture, and Society U 5

Interdisciplinary analysis of women, culture, and society; topics include cultural images, socialization, media, sexuality, sexual orientation, work, family, politics, violence, inequality, and racial diversity.

Su, Au, Wi, Sp Qtrs. 5 cl or 2 2-hr cl. H110 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Not open to students with credit for 101, 201, 202, or 210. GEC soc sci individuals and groups, and social diversity course.

### 215 Reading Women Writers U 5

Study of women writers' strategies for articulating experiences and using literature as a lens for social reality and catalyst for social and political change. GEC Arts and Hums lit course.

### 230 Gender, Sexuality, and Race in Popular Culture U 5

Explores how popular culture generates and articulates our understandings of gender and sexuality and their intersections with race and class. Prereq: English 110. GEC arts and hums VPA course.

### 294 Group Studies U 1-5

Special studies not otherwise offered. 5 cl. Repeatable to a maximum of 15 cr hrs.

**H296 Topics in Women's Studies U 5**

In-depth study in women's studies focusing on current issues in feminist analysis.

Repeatable to a maximum of 10 cr hrs.

**300 Introduction to Feminist Analysis U 5**

Introduction to principles of feminist analysis as they apply to a range of contemporary issues and institutions.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: One of the following: 101, 110, 201, 210, 367.01, 367.04. Not open to students with credit for 299.

**305 Gender, Culture and Power in International Perspective U 5**

Investigates gender cross-culturally, especially in the non-Western world, in relation to traditional culture, colonialism, nationalism and global economy.

**317 Women and Film U 5**

A critical survey of the representation of women in Hollywood cinema, with examples drawn from the 1930's to the present. Learn how film has functioned in its representations of women and how and why women film makers have created alternative visions of women in film.

2 2-hr cl. Not open to students with credit for Comp Std 317. GEC arts and hums VPA course.

**320 Topics in Women's Studies U 5**

Provides in-depth analyses of specific topics in the areas of difference and diversity, culture and representation, and political contexts and social change.

Repeatable to a maximum of 10 cr hrs.

**325 Issues in Women's Health U 5**

An interdisciplinary inquiry into the issues affecting women's health and the politics of gender in the medical health care profession.

2 2.5-hr cl.

**326 Women and Addiction: A Feminist Perspective U 5**

An interdisciplinary feminist focus on addictive consequences of sex-role socialization, substance abuse, addiction in intimate relationships, and eating disorders; medical/social consequences of addiction among women.

Not open to students with credit for 301.

**340 Latina Experience in the U.S. U 5**

Introduces the important and far reaching issues of Latinas today, recognizing the contributions of these women to U.S. history, the women's movement and feminism.

Au, Wi, Sp Qtrs.

**350 Feminist Perspectives on Women and Violence U 5**

Use of a feminist, interdisciplinary approach to analyze selected national or international issues of interpersonal and institutionalized violence in which women are victims or perpetrators.

**367 Second Writing Course**

Prereq: English 110 or equiv, and soph standing or above.

**367.01 U.S. Women Writers: Text and Context U 5**

Writing about and analysis of female experiences as represented in U.S. literature by women; emphasis on interdisciplinary relationships between literature and socio-political history.

Su, Au, Wi, Sp Qtrs. 5 cl. H367.01 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. GEC second writing and social diversity courses.

**367.02 U.S. Latina Writers: Text and Context U 5**

Writing and analysis of U.S. Latina experiences, with emphasis on interdisciplinary relationships between literature and U.S. Latina socio-political history.

Sp Qtr. 5 cl. GEC second writing course. Social Diversity course.

**367.03 U.S. Lesbian Writers: Text and Context U 5**

Writing and analysis of U.S. lesbian experiences, with emphasis on interdisciplinary relationships between literature and U.S. lesbian socio-political history.

5 cl or 2 2.5-hr cl. GEC second writing and social diversity course.

**367.04 Black Women Writers: Text and Context U 5**

Writing and analysis of black women's literary representations of issues in United States social history.

Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for AfAm&AS 367.04. Cross-listed in African-American and African Studies. GEC second writing and social diversity courses.

**370 Varieties of Female Experience: Lesbian Cultures U 5**

A survey of cultural, social, and political issues related to historical and contemporary lesbian experience in the United States.

2 2-hr cl. GEC social diversity course.

**372 Modern Arabic Literature in Translation U 5**

Reading and analysis of representative works of the 19th and 20th centuries by contemporary women authors.

Au, Wi, Sp Qtrs. 2 2-hr cl. H372 (honors) may be available to students enrolled

in an honors program or by permission of dept or instructor. Prereq: English 110 or 111 or equiv. Not open to students with credit for Arabic 273 or 372. Cross-listed in Arabic. GEC arts and hums lit course.

**375 Women and Visual Culture U 5**

Analysis of visual images of women in historical, racial, and class contexts. 2 2-hr cl.

**389 Theory and Practice of Peer Outreach in Women's Studies U 5**

Designed to prepare undergraduate students with the theoretical and practical skills necessary to present women's studies topics to middle and high school youth.

Au, Wi, Sp Qtrs. 50 hrs field work. Prereq: 101 or 201, 110 or 210, or permission of instructor. This course is required training for students who participate in the women's studies peer education outreach program (Peer Power).

**494 Group Studies U 1-5**

Special studies not otherwise offered; topic varies; students should consult department current course listing.

Au, Wi, Sp Qtrs. Arr. Prereq: 101 or 201, or 110 or 210, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

**505 Feminist Analysis in Global Perspective U G 5**

An exploration of the global dimensions of feminist research and politics with particular attention to feminism in the non-Western world.

2 2-hr cl. Prereq: 10 cr hrs in wom stds course work or permission of instructor. Not open to students with credit for 597.

**510 American Women's Movements U 5**

An interdisciplinary analysis of the American women's movements, including historical, literary, sociological, and theoretical perspectives.

5 cl. H510 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 10 cr hrs of wom stds course work or permission of instructor. Not open to students with credit for 400. GEC social diversity course.

**513 Women, Government, and Public Policy U G 5**

An examination of policymaking on gender-related issues and the impact of women in government.

Au, Wi, Sp Qtrs. 2 2-hr cl. Not open to students with credit for Polit Sc 513. Cross-listed in Political Science.

**517 Women Film Directors U G 5**

The works of women film directors from the 1940s to the present, with particular attention to the ways their works embody preoccupations with the representation of women's experience and a female point-of-view.

Wi Qtr. 2 2-hr cl. Prereq: 317 or permission of instructor.

**520 Women of Color and Social Activism U G 5**

Examination of multiple forms of social activism among women of color from various parts of the world concerning local, national, and international issues.

2 2-hr cl. Prereq: 10 cr hrs of wom stds course work or permission of instructor. GEC social diversity course.

**524 Women and Work U G 5**

The social, cultural, and historical factors that influence women's work in the U.S. and the multiple ways work is gendered.

Au, Wi, Sp Qtrs. 2.2-hr cl. Prereq: 5 cr hrs in wom's stds, or permission of instructor; AfAm&AS 101 or 230, History 237 or 325, or Social 101 recommended. Not open to students with credit for 424.

**527 Studies in Gender and Cinema U 5**

Analysis of different film types focused on women to help students understand historical scope, theoretical frameworks, and reading strategies for understanding these films; topics vary.

Prereq: 101 or 201, or 110 or 210; and 317 or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**535 Gender, Sexuality, and Science U G 5**

Examination of relations between gender and science; topics include gendering of "science" and "nature," biological theories of sexual inequality, feminist critiques of science and technology.

2 2-hr cl. Prereq: One course in comp std or wom stds. Not open to students with credit for Comp Std 535. Cross-listed in Comparative Studies.

**540 Studies in Women of Color Writing Culture U G 5**

Interdisciplinary feminist study of selected historical and cultural movements through writing by women of color; topics vary by genre and by era.

2 2-hr cl. Prereq: 10 cr hrs of wom stds course work or permission of instructor. Repeatable to a maximum of 10 cr hrs.

**545 Intersections: Approaches to Race, Gender, Class, and Sexuality U G 5**

Examines intersections of race, gender, class, and sexuality in various sites within American culture (e.g., legal system, civil rights discourse, social justice movements).

Prereq: One course in afam&ast or wom stds or comp std or grad standing. Not open to students with credit for AfAm&ASt 545 or Comp Std 545. Cross-listed in African-American and African Studies and Comparative Studies.

**550 History of Western Feminist Thought U G 5**

An introduction to and analysis of major texts of Western feminist theory as it has developed and changed since the Enlightenment.

Au, Wi, Sp Qtrs. Prereq: 101 or 201, or 110 or 210, and 367.01; or equivs.

**575 Issues in Contemporary Feminist Theory U G 5**

Examination of particular contemporary issues which have crucial implications for feminist inquiry (topics vary).

Prereq: 10 cr hrs of wom stds course work or permission of instructor.

**576 Women and Visual Cultures of Latin America U G 5**

Analysis of Latin American women visual artists of 20th and 21st centuries, with emphasis on contemporary feminist theories of visual culture.

Prereq: 10 cr hrs of wom stds course work or permission of instructor.

**589 Internship in Feminist Theory and Collective Action U 5**

Field-based learning experience to explore the relationship between feminist theory and collective action; use of field work and class discussion to relate theory to practice.

Wi Qtr. Minimum 10 hrs field work per week. Prereq: 299 or 300, 15 cr hrs in wom stds course work, and permission of instructor. Not open to students with credit for 489. Notify instructor of intent to take course by beginning of jr yr.

**620 Topics in Feminist Studies U G 5**

Interdisciplinary in-depth analysis of selected topics in feminist research and interpretation; topic varies quarterly.

Su, Au, Wi, Sp Qtrs. 5 cl. Prereq: 101 or 201, or 110 or 210, and at least 10 additional cr hrs in wom stds or written permission of instructor. Repeatable to a maximum of 30 cr hrs. Contact the department for information.

**623 African Women: History and Socioeconomic Change U G 5**

Focuses on African women's experiences: legal and socioeconomic status, religious and political roles, the impact of colonial and post colonial developments, feminism and representation issues.

Sp Qtr. 2 2-hr cl. Prereq: Recommended 505 for undergrads. Not open to students with credit for History 744. Cross-listed with History 744.

**624 Women and Social Change in Latin America U G 5**

Feminist perspectives to introduce students to Latin American women's experiences and reality as perceived by those who study women and by women themselves.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: 299 or 300, and 5 cr hrs in wom stds at the 300 level or above or related course work; or permission of instructor.

**657 Gender and National Identity in Russian Cinema U G 5**

Explores changes of Russian national and gender identities during the twentieth century as reflected in Russian cinema.

Sp Qtr. 2 2-hr cl. Prereq: 317 or Russian 360 or English 263 or 378 or Film Std 270 or grad standing or permission of instructor. Cross-listed in Russian. Taught in English. No prior knowledge of Russian language required.

**670 Gender Discrimination U G 5**

Legal, social, and public policy trends; analysis of gender-related constitutional law and relationship to social, political, and economic developments; meaning and significance of sex discrimination.

Wi Qtr. 2 2-hr cl. Prereq: 10 cr hrs of woms stds course work, or permission of instructor. Not open to students with credit for Sociol 670A.

**693 Individual Studies U G 1-5**

Students may register for individual directed study in subjects not covered in regular course work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Jr standing or above; permission of instructor. Repeatable to a maximum of 15 cr hrs. No more than 5 cr hrs may be applied to women's studies major or minor. This course is graded S/U.

**699 Undergraduate Research in Women's Studies U 1-15**

Undergraduate research or creative activities in variable topics.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. Only 5 hours can count toward major/minor. This course is graded S/U.

**700 Introduction to Graduate Studies G 5**

Introduction to women's studies as an academic field of study and an orientation to the graduate program, facilities, resources, and people.

Au Qtr. 1 3-hr lec, 1 1-hr rec. Prereq: Grad standing in wom stds.

**702 Teaching Women's Studies G 5**

Assist graduate students in meeting instructional responsibilities and developing

necessary skills for college level teaching in women's studies.

Au Qtr. 3 cl, 1 field obs. Prereq: Grad standing in wom stds and TA.

**710 Theorizing Difference G 5**

Examines theories of difference based on race, ethnicity, nationality, sexuality, and class and the ways difference defines and modifies women's realities.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: 10 cr hrs of wom stds course work and permission of instructor.

**720 Theorizing Gender, Power, and Change G 5**

Examination of feminist theoretical approaches to the material conditions of women's lives and the changing structures of social, economic, and political power.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: Grad standing in wom stds or permission of instructor.

**726 Gender and Public Policy G 5**

This graduate level course addresses gender and public policy with special attention to policy areas that most directly impact women's lives.

Au Qtr. 2 2-hr cl. Prereq: 299 or 300, plus 5 additional wom stds cr hrs at 300 or above; or grad standing.

**740 Theorizing Gender Representation G 5**

Designed to introduce graduate students to the central debates that have characterized feminist theories of representation.

Wi, Sp Qtrs. 2 2-hr cl. Prereq: Grad standing in wom stds or permission of instructor.

**742 Feminism and the Cinema G 5**

Study of the relationship between feminist film theory and criticism and specific genres, historical periods, and issues in cinematic representation.

2 2-hr cl. Prereq: Grad standing in wom stds or permission of instructor.

**750\* Violence Against Women: Theory and Response G 5**

Seminar on theories and women's experiences of and responses to violence; special focus on evaluating theories and programs.

Sp Qtr. 5 hrs cl. Prereq: Grad standing or 20 hrs of wom stds course work or permission of instructor.

**760 Survey of Feminist Methodologies G 5**

An overview of feminist methodological issues and dilemmas and an introduction to a variety of research methods.

Wi, Sp Qtrs. 1 cl, field research. Prereq: Grad standing in wom stds or Edu P&L or permission of instructor. Not open to students with credit for Edu P&L 760. Cross-listed in Educational Policy and Leadership.

**771 Feminism and Psychoanalysis G 5**

An analysis of major psychoanalytic writings about women and feminist responses to them.

2 2-hr cl. Prereq: Grad standing in Wom Stds or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**H783 Honors Research U 3-5**

A program of individual study for undergraduate honors students; may include individual conferences and reports; requires presentation and oral defense of an honors thesis.

Su, Au, Wi, Sp Qtrs. Prereq: 4th yr standing with a CPHR of at least 3.50 in women's studies courses; permission of thesis adviser and Arts and Sciences Honors Committee. Repeatable to a maximum of 15 cr hrs. At least 8 cr hrs and 2 qtrs of enrollment are required of candidates for the BA degree with distinction in women's studies. This course is graded S/U.

**792 Interdepartmental Studies in the Humanities U G 3-5**

Two or more departments offer courses on subjects of mutual interest.

Repeatable to a maximum of 15 cr hrs.

**810 Topics in Black Feminist Theory G 5**

Theoretical analysis of the politics and perceptions of womanhood in the black community.

Au, Wi, Sp Qtrs. 2 2-hr cl. Prereq: Grad standing in Wom Stds or permission of instructor. Repeatable to a maximum of 20 cr hrs. Cross-listed in African American and African Studies.

**820 Topics in Gender, Power, and Social Change G 5**

Advanced study of variable topics relating to gender, power and change, both theoretical (especially materialist) and practical.

2 2-hr cl. Prereq: Grad standing in Wom Stds or permission of instructor. Repeatable to a maximum of 20 cr hrs.

**840 Topics in Representing Gender G 5**

In-depth investigations of topics and genres central to feminist theories of gender representation, including considerations of aesthetics, subjectivity, intersectionality, narrative, and spectatorship.

5 cl. Prereq: 740, 742, or permission of instructor. Repeatable to a maximum of 15 cr hrs.



**860 Topics in Feminist Studies G 5**

Feminist studies on a variety of topics at the PhD level.  
5 cl. Prereq: PhD standing. Repeatable to a maximum of 15 cr hrs.

**863 Women's Studies Practicum G 3-5**

Internship placement in an agency or organization serving women to provide an opportunity to integrate feminist theory and practice.

Su, Au, Wi, Sp Qtrs. Prereq: 700 and at least 10 additional cr hrs of wom stds course work and permission of instructor. Repeatable to a maximum of 10 cr hrs. Each hr of cr corresponds to 3 hrs per wk of internship for 10 wks. This course is graded S/U.

**870 Topics in Sexuality Studies G 5**

Contemporary biological, psychological, social, legal, and political theories of sexuality.

Prereq: PhD standing. Repeatable to a maximum of 15 cr hrs. including cr hrs earned in 850.

**890 Interdepartmental Studies in Critical Theory G 5**

Interdisciplinary study of a movement (phenomenology, deconstruction, etc.) or problem (intentionality, evaluation, etc.) in literary theory.

Sp Qtr. 2 2-hr or 5 cl. Prereq: Background in critical theory recommended. Repeatable to a maximum of 10 cr hrs. Cross-listed in Comparative Studies, English, French, German, and Spanish.

**893 Individual Studies G 1-5**

Students may register for individual directed study in subjects not covered in regular course work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: PhD standing. No more than 10 cr hrs may be applied to doctoral program. Repeatable to a maximum of 30 cr hrs. This course is graded S/U.

**998 Research in Women's Studies: Thesis G 1-15**

Directed research for master's thesis.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Appropriate progress toward the degree. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**999 Research in Women's Studies: Dissertation G 1-18**

Research for dissertation purposes only.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable. This course is graded S/U.

## Yiddish

498 Hagerty Hall, 1775 College Road, 292-6985

**101 Elementary Yiddish I U 5**

Introduction to Yiddish; development of listening, reading, speaking and writing skills.

Au, Sp Qtrs. 5 cl. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**102 Elementary Yiddish II U 5**

Continuation of 101; further development of listening, reading, speaking and writing skills.

Au, Wi Qtrs. 5 cl. Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course. FL Admis Cond course.

**103 Intermediate Yiddish I U 5**

Continued study of Yiddish; development of listening, reading, speaking and writing skills; reading of simplified literary texts about Yiddish culture.

Wi, Sp Qtrs. 5 cl. Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**104 Intermediate Yiddish II U 5**

Readings of Yiddish short stories and poems with attention to literary and cultural appreciation; development of basic language skills.

Au, Sp Qtrs. 5 cl. Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GEC for lang course.

**241 Yiddish Culture U 5**

Introductory survey of political, social, ideological, and religious trends as reflected in Yiddish culture, especially folklore and literature.

Au Qtr. 5 cl. Not open to students with credit for 341. GEC arts and hums cultures and ideas course.

**293 Individual Studies U 1-5**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**294 Group Studies U 1-5**

Special topics announced in the quarter previous to the one in which the

course is offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**367 Jewish-American Voices in U. S. Literature U 5**

Introduction to Jewish-American literature; development of expository writing and argumentation skills through systematic and critical reflection upon their own country from the perspective of an ethnic community.

2 2-hr cl. Prereq: English 110 or 111 or equiv, and soph standing or above. GEC second writing course.

**371 Yiddish Literature in Translation U 5**

Reading, analysis, and discussion of representative works and of the development of major movements and genres in Yiddish literature.

5 cl. Taught in English. GEC arts and hums lit course.

**399 The Holocaust in Literature and Film U 5**

Reading, analysis, and discussion of representative works pertaining to the Holocaust, from the perspectives of the German and Ashkenazic traditions.

2 2-hr cl. Not open to students with credit for German 399. Cross-listed in German. Taught in English. GEC arts and hums lit course.

**401 Advanced Yiddish I U 5**

Reading in literary and journalistic prose, with practice in conversation and composition; intensive review of Yiddish grammar.

5 cl. Prereq: 104 or equiv.

**402 Advanced Yiddish II U 5**

Readings in texts from the nineteenth century to the present with emphasis on contemporary prose; practice in conversation and composition.

5 cl. Prereq: 401 or equiv.

**603\*\* Advanced Yiddish Conversation and Composition U G 5**

Intensive practice in speaking and writing Yiddish, based on contemporary Yiddish literary usage; conducted entirely in Yiddish.

5 cl. Prereq: 402 or permission of instructor.

**611 History of the Yiddish Language U G 5**

Linguistic history of Yiddish; Yiddish dialect formation; analysis of Yiddish documents from the 13th century to the present; Yiddish in the context of Jewish interlinguistics.

5 cl. Prereq: 402 or equiv or permission of instructor.

**612 Language and Culture Geography in Ashkenaz U G 5**

Development and description of Yiddish dialect areas: linguistic atlases and the mapping of Yiddish dialect and Ashkenazic cultural features; dialect networks; development of standard Yiddish.

2 2-hr cl.

**641 Places in Ashkenaz U G 5**

Jewish society of a specific place (e.g., Vienna; Amsterdam); tradition and modernity; assimilation and continuity; cultural, literary, and linguistic expression; arts and entertainment.

2 2-hr cl. Prereq: Jr standing or permission of instructor. Not open to students with credit for German 641, without permission of instructor. Repeatable to a maximum of 15 cr hrs. Specific topics not repeatable for credit.

**651 Modern Yiddish Prose U G 5**

Reading and analysis of short stories and novels representative of major developments and trends in Yiddish prose of the 19th and 20th centuries.

5 cl. Prereq: 402 or equiv.

**671 Yiddish for Speakers of German U G 5**

Yiddish for speakers of German; stylistics of academic Yiddish; introduction to bibliography in Yiddish and Ashkenazic studies.

3 1.3-hr cl. Prereq: German 201 or higher or equiv, or grad standing in German. May not be used to satisfy any part of the undergrad foreign language requirement.

**693 Individual Studies U G 1-5**

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

**694 Group Studies U G 1-5**

Special topics to be announced in the quarter previous to the one in which the course is offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

**697 Study at a Foreign Institution U G 1-15**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Written permission of dept chairperson. Repeatable to a maximum of 45 cr hrs. This is a Progress course. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

## 412 Yiddish

### **721 Studies in Yiddish Literature U G 5**

Advanced study of specific literary periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary source materials.

5 cl. Prereq: 5 cr hrs of Yiddish at the 600 level. Repeatable to a maximum of 15 cr hrs.

### **H783 Honors Research U 3-5**

A program of research for each student which includes individual conferences and which culminates in an honors thesis or oral defense.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC Honors Committee approval of project, a minimum 3.50 pt-hr ratio in the field of distinction, sr standing, and CPHR in the commensurate with honors program membership. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

### **811 Seminar in Yiddish Studies G 5**

In-depth study of a selected topic or issue in Yiddish literature, linguistics, or intellectual culture.

3-5 cl. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

### **998 Research in Yiddish G 1-10**

Research for thesis purposes only.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

## Yoruba

486 University Hall, 230 North Oval Mall, 292-3700

### **101^ Elementary Yoruba I U 5**

Introduction to elementary Yoruba with emphasis on oral proficiency.

Not open to native speakers of this language through regular course enrollment or EM credit or to students with 3 or more yrs of study in this language in high school. GEC for lang course. FL Admis Cond course.

### **102^ Elementary Yoruba II U 5**

Continuation of 101 with emphasis on oral proficiency.

Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

### **103^ Intermediate Yoruba I U 5**

Intermediate Yoruba, combining oral and reading skills.

Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

### **104^ Intermediate Yoruba II U 5**

Continuation of 103, combining oral and reading skills.

Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

## Zulu

486 University Hall, 230 North Oval Mall, 292-3700

### **101 Elementary Zulu I U 5**

Introduction to elementary Zulu, using a proficiency-based approach.

Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GEC for lang course. FL Admis Cond course.

### **102 Elementary Zulu I U 5**

Continuation of 101, using a proficiency-based approach.

Prereq: 101. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course. FL Admis Cond course.

### **103 Intermediate Zulu I U 5**

Introduction to intermediate Zulu, using a proficiency-based approach.

Prereq: 102. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.

### **104 Intermediate Zulu II U 5**

Continuation of 103, using a proficiency-based approach.

Prereq: 103. Not open to native speakers of this language through regular course enrollment or EM credit. GEC for lang course.