

5815. Topics in Studio Art. 3–6 hours. Variable topics course designed to explore concepts and processes in art-making that go beyond the normal curricular parameters of traditional studio disciplines. May be repeated for credit as topics vary. Prerequisite(s): consent of instructor.

5817. Watercolor Studio. 3 hours. Historic and contemporary watercolor research through galleries, museums and text with practical applications toward a series of student-developed water media paintings. Prerequisite(s): BFA or consent of instructor.

5825. Professional Practices for the Studio Artist. 3 hours. A study of theoretical and practical aspects of succeeding as a practicing artist outside the academy. Survey of the protocols and common practices expected of the artists as a productive member of the business community wherein fine art is the commodity.

5830. Issues and Applications of Technology in Art Education. 3 hours. Historical and philosophical issues related to the use of technology and digital imagery in the art classroom, as well as advanced application of technology to enhance the acquisition and manipulation of knowledge and imagery. Prerequisite(s): ART 5855 or consent of instructor.

5835. Parallels in Art, Culture and Fashion. 3 hours. (2;4) Concentrated overview of developments in 20th-century fashion and the relationships between movements in art, design and popular culture.

5845. Theories in Criticism and Aesthetics. 3 hours. Examination of aesthetics in the visual arts through visual discrimination and critical thinking in relationship to historical and socio-political influences. Application of the theories of aesthetics and criticism to curriculum development. Prerequisite(s): ART 5855 or consent of instructor.

5850. Seminar in Art Education. 3 hours. Selected problems in art education, theory and practice. Prerequisite(s): consent of school. May be repeated for credit as topics vary.

5855. Theory and Practice of Teaching Elementary and Secondary Art. 3 hours. Examination of how educational and art educational theory inform contemporary art education practice in both elementary and secondary art classrooms. In addition to scheduled class meetings, students are required to complete 55 hours of observation (half in an elementary art classroom and half in a secondary art classroom) in an assigned location. Prerequisite(s): admission to the MA program in art education (Option III). Students must contact instructor prior to registration to arrange for observation assignments and to complete paperwork/criminal history forms.

5860. Curriculum Development and Program Assessment in Art. 3 hours. Processes for developing and sequencing the curriculum and methodologies for the assessment of educational programs and student learning in art for elementary and secondary public schools and higher education.

5870. History of Art Education. 3 hours. Seminar explores the history and philosophy of education in relationship to the teaching of art in public schools and higher education.

5880. Trends and Issues in Art Education. 3 hours. Research into current literature and practical applications in American and international art education.

5890. Politics and Advocacy in the Visual Arts. 3 hours. Examination of effective advocacy efforts and appropriate political actions needed to resolve issues in the field of art education.

5900-5910. Special Problems. 1–3 hours each. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Not to be registered for except when other graduate courses are not available. Registration permitted only with consent of school. A maximum of 3 semester hours of credit for each course.

5920-5930. Research Problems in Lieu of Thesis. 3 hours each. Research dealing with significant problems in the field of art. Courses open to MFA students who are doing a project in lieu of a thesis. Student must mount an MFA exhibition as part of course requirements for 5930.

5940. Creative Project. 3 hours. (3;3) Research and practice dealing with significant problems in the field of art. Should be taken with major professor. Prerequisite(s): consent of instructor.

5945. MFA Exhibition. 3 hours. (0;6) Professional practice in the planning and staging of an exhibition of creative works as a culmination of visual research. Should be taken with major professor. Prerequisite(s): consent of instructor.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of school. 6 hours credit required. No credit assigned until thesis has been completed and filed with graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5955. Research Project. 6 hours. Research and writing on a significant problem in the field of art history. Course open to MA students in art history. Prerequisite(s): successful completion of ART 5350, Research in Art; successful completion of at least 21 hours of master's degree program courses; department language requirement satisfied.

5960-5970. Art Institute. 1–3 hours each. For students accepted by the university as participants in special institute programs.

6900-6910. Special Problems. 1–3 hours each. Conference courses for doctoral students. Directed reading and research in fields of special interest.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of school. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Astronomy

see *Undergraduate Catalog*

Behavior Analysis

Behavior Analysis, BEHV

5000. Observation and Measurement of Behavior and Environment. 3 hours. An examination of the factors to be considered in observing and measuring behavior and environment; methods of recording data with emphasis on the conditions under which each method is most appropriate.

5010. Experimental Analysis of Behavior. 3 hours. Reviews classical experimental literature in behavior analysis. Compares methodology to that in natural and social sciences. Special emphasis on experimental analysis of human behavior.

5020. Theory and Philosophy in Behavior Analysis. 3 hours. Study of the conceptual framework of behavior analysis; studies epistemological issues and nature of scientific explanation; examines common misconceptions and provides theoretical foundations for applications and basic research.

5028. Autism I: Conceptual/Methodological Issues in Applied Behavior Analysis. 3 hours. Describes basic conceptual and methodological issues involved in behavioral treatment of children with autism. Topics studied include theories and controversies regarding etiology and assessment, distinctions between behavioral and alternative approaches to treatment, comparisons of treatment formats, and critical review of curriculum options. Behavior analysis majors must take BEHV 5810 concurrently with BEHV 5028.

5029. Autism II: Applied Behavior Analysis Research and Practice. 3 hours. Describes research and practice associated with the scientist-practitioner model of applied behavior analysis intervention for young children with autism. Students conduct comprehensive reviews of experimental literature in the three critical areas of autism intervention and learn to evaluate this literature according to accepted rules of scientific evidence. Students propose and implement an intervention that addresses at least one experimental question and extends existing scientist/practitioner literature. Students complete projects that translate research findings to practice. Behavior analysis majors must take BEHV 5815 (second Practicum) concurrently with BEHV 5029 and must have received an A in 5810 and 5028. Prerequisite(s): BEHV 5028 and 5810.

5030. Applied Behavior Analysis and Autism III: Supervision and Training. 4 hours. Describes behavioral intervention literatures as they relate to the change agents responsible for treatment implementation. Students design and implement change agent data collection systems, training packages and complete extensive practical training. Students also explore issues in the funding and systems involved in the provision of treatment. Prerequisite(s): BEHV 4000.

5100. Introduction to Behavior Analysis. 3 hours. Defines and delimits the subject matter of behavior analysis. Examines the principles that describe behavioral processes and distinguishes the learned and unlearned components of operant and respondent behavior. Relates behavior change procedures to the processes accounting for learned behavior.

5130. Basic Behavior Principles. 3 hours. First in a sequence of four courses in the certificate program for non-degree seeking graduate students. Everyday behavior is examined as part of the natural world, and behavior change is explained by behavioral principles derived from scientific research. Principles and procedures included in course content are reinforcement, extinction, differential reinforcement, punishment, discrimination training, generalization, shaping fading and programming. Definitions, reliability and validity and direct observation methods are also addressed. The four-course sequence has been designed to meet minimum course content specified by the Behavior Analysis Certification Board as part of the requirements for certification.

5140. Research Methods in Behavior Analysis. 3 hours. An overview of strategies and tactics of experimental design in behavior analysis. Includes strengths and weaknesses of single organism methodology in basic and applied research. Topics include issues of experimental logic, experimental control, variability, data analysis and display, and interpretation of experimental findings.

5150. Techniques in Applied Behavior Analysis. 3 hours. Analysis of problems in behavioral terms. Selection of management strategy and behavior change techniques,

including behavioral contracting, contingency management, programmed instruction, removal or reduction of environmental stressors. Consideration of ethical issues, including informed consent, need for non-coercive or at least restrictive intervention. Supervised practical experience.

5170. Research and Applications in Behavior Analysis. 3 hours. The third in a sequence of four courses in a certificate program for non-degree seeking graduate students. Features the use of scientific method in evaluating assessment and intervention techniques in applied behavior analysis. Topics include measurement techniques, single-subject experimental design, selection of dependent and independent variables, graphical presentation and evaluation of results, ethics pertaining to human subjects, and ways of communicating research results. Principles and procedures involved in the experimental analysis of reinforcement schedules, stimulus control and stimulus equivalence are included. The four-course sequence has been designed to meet minimum course content specified by the Behavior Analysis Certification Board as part of the requirements for certification. Prerequisite(s): BEHV 5130 and 5150.

5250. Topics in Behavior Analysis. 3 hours. In-depth analysis and discussion of significant topics in behavior analysis. Topics include but are not limited to the following: philosophy of measurement of behavioral phenomena; rule-governed vs. contingency-governed behavior; the creation of settings and interpersonal dynamics; legal, ethical and professional issues in behavior analysis.

5330. Verbal Behavior and the Analysis of Human Behavior. 3 hours. Use of behavior analysis in understanding the nature and development of human communication. Explores how and why communication fails; develops guidelines for enhancing communication through understanding of the underlying behavioral processes.

5540. Legal, Ethical and Professional Issues in Behavior Analysis. 3 hours. Addresses and reviews the effects of court decisions in development and implementation of behavioral interventions, ethical requirements of the Behavior Analysis Certification Board, and professional conduct in treatment, intervention and consultation settings. Topics include accountability, confidentiality, quality of services, quality of life, emergency management, research, professional collaborations and ethical safeguards.

5560. Development of Behavior Intervention Programs. 3 hours. Focus is on the integrated components of behavioral programming. Includes developing behavioral objectives, functional analysis, design of intervention procedures, evaluative criteria and the integration of these components into a readable document.

5570. Training and Supervision of Staff in Human Service Settings. 3 hours. Includes analysis of political and social contingencies existing in most institutional settings. Describes training considerations and ways to establish a positive work environment for staff and clients. Principles underlying effective supervisory practices are described.

5810. Practicum. 2 hours. (0;0;2) Students work in a small group in a field setting under the immediate supervision of a faculty member in the department. The purpose of this practicum is to provide experience in applying behavioral principles in a setting where faculty feedback is continuously available.

5815. Practicum. 1 hour. (0;0;1) Students work individually or in pairs on a project in any of a variety of applied settings. They are supervised by faculty through weekly meetings and occasional on-site observation. Project must be pre-approved, in writing, by faculty supervisor before registration. Practicum projects typically require about 100 clock hours (including time in the field and time meeting with supervisor). The purpose of this practicum is to provide the student with experience in planning and implementing behavior change. This course may be repeated for credit. Prerequisite(s): BEHV 5810.

5820. Internship. 3 hours. (0;0;3) Students work in the field, under the supervision of a qualified behavior analyst, in a setting of their choice for a period of 6 weeks. Internship settings include (but are not limited to) agencies serving persons with developmental disabilities, business and industry, consulting firms, research facilities, schools and offices of physicians, psychologists and other private practitioners. Prerequisite(s): BEHV 5810 and 5815.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of independent work in a specific area of interest. Outline of problem and proposed activities must be submitted in writing to faculty and approved in advance of registration.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit given until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6400. Behavioral Interventions in Health and Medicine. 3 hours. Course is constructed around a series of cases in which behavioral interventions are planned to improve health, prevent disease, or mitigate the effects of chronic health problems of individuals. A behavioral analysis of the problem in the context of individuals' overall repertoire and life circumstances is followed by design of an intervention plan based on behavioral principles. Problems likely to need resolution for successful intervention are identified and addressed.

Bilingual and English as a Second Language Education

see Teacher Education and Administration

Biochemistry

see Biological Sciences

Biological Sciences

Biochemistry, BIOC

5340. Molecular Biology. 3 hours. Mechanisms and regulation of genetic expression, chromosome replication, mutagenesis and DNA repair, and gene cloning in prokaryotic and eukaryotic systems. Prerequisite(s): BIOL 4570 and 4580, or BIOC 4570 and 4580, and at least two of the following: BIOC 4540, 4550 or 4560, or BIOL 3510 or 3520. (Same as BIOL 5340.)

5540. Biochemistry I. 3 hours. (3;0;1) Chemistry and biochemistry of carbohydrates, lipids, amino acids and proteins, and nucleic acids; biochemical energetics, enzyme catalysis, vitamins and coenzymes, and their inter-relationships

in energy-producing cycles and pathways. A recitation period is scheduled for problem-solving and student reports from the current biochemical literature. Prerequisite(s): CHEM 2380 or consent of department.

5550. Biochemistry II. 3 hours. (3;0;1) Continuation of BIOC 5540. Metabolic pathways in biosynthesis and degradation of lipids, nucleic acids, proteins and carbohydrates, photosynthesis, nitrogen cycle, biochemical genetics and metabolic regulation. A recitation period is scheduled for problem-solving and student reports from the current biochemical literature. Prerequisite(s): BIOC 5540 or consent of department.

5560. Biochemistry Laboratory. 2 hours. (1;3) Analysis and characterization of amino acids, peptides, enzymes, lipids, nucleic acids, carbohydrates, and metabolic pathways and processes. Techniques include a variety of chromatographic methods, electrophoresis, UV-vis spectroscopy and radiochemistry. Prerequisite(s): BIOC 5540 (may be taken concurrently). (Same as BIOC 4560.)

5580. Molecular Biology and Biotechnology Laboratory. 2 hours. Experiments in recombinant DNA techniques, gene regulation and other areas of molecular biology. Prerequisite(s): BIOC or BIOL 5340 (may be taken concurrently). (Same as BIOC 4580 and BIOL 5580.)

5680. Selected Topics in Biochemistry. 1–3 hours. Current research interests in the field of biochemistry. Prerequisite(s): consent of department. May be repeated for credit as topics vary.

5900-5910. Special Problems. 1–3 hours each. Independent study or laboratory research for the master's level. Problem must be approved by the major professor.

5940. Seminar in Current Biochemistry. 1 hour. A study of current literature; current research emphasized. May be repeated for credit.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit. Prerequisite(s): approved thesis proposal must be filed with department graduate office prior to enrollment.

6010. Seminar for Doctoral Candidates. 3 hours. Demonstration of competence in a specific area of biochemistry and/or molecular biology as evidenced by criteria established by the faculty. May be repeated for credit.

6600. Advanced Molecular Biology. 3 hours. Genetic structure and regulation of gene expression in prokaryotic and eukaryotic organisms; mechanisms of gene action, gene/enzyme relationships and metabolic control; biochemical manipulation and characterization of genetic macromolecules. Prerequisite(s): BIOL 4570 or 5340 or equivalent. (Same as BIOL 6600.)

6610. Advanced Metabolism. 3 hours. Advanced intermediary metabolism of carbohydrates, lipids, nitrogenous compounds and nucleic acids. Relevant new findings particularly regarding the regulation of these pathways are also covered. Prerequisite(s): BIOC 4550/5550 or consent of department.

6620. Advanced Cell Biology. 3 hours. Structure and function of animal and plant cells with emphasis on cell membranes, cytoplasmic organelles and the nucleus; readings in current literature. Prerequisite(s): biochemistry, BIOL 3510/3520 or equivalent, or consent of department. (Same as BIOL 6620.)