

**5920-5930. Research Problems in Lieu of Thesis.** 3 hours each. Required of Master of Science candidates majoring in economic research or labor and industrial relations who choose not to take the exit exam (Option 1). A problem in lieu of thesis with an emphasis on empirical studies will be written and submitted. Prerequisite(s): consent of department.

**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. Required for Master of Arts and Master of Science in economics.

**5960-5970. Economics Institute.** 1–6 hours each. For students accepted by the university as participants in special institute courses. May be repeated for credit, but not to exceed a total of 6 hours.

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## Education, Music

see Music

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## Educational Administration and Supervision

see Teacher Education and Administration

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## Educational Curriculum and Instruction

see Teacher Education and Administration

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## Educational Foundations

see *Undergraduate Catalog*

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## Educational Psychology

### **Development and Family Studies, DFST**

**5030. Practicum, Field Experience, or Internship.** 3, 6 or 9 hours each. Supervised professional activities in development and family studies. Registration is on an individual basis and student must have prior consent of professor.

**5113. Developmental and Family Theory.** 3 hours. Survey of classic and contemporary theories in the fields of human development and family studies, including the role of theory in empirical investigation, conceptual frameworks, strategies of theory building, and an examination of theoretical perspectives useful in the study of behavior.

**5123. Human Development Across the Life Span.** 3 hours. The processes and stages that individuals undergo as they progress from birth through old age and death are studied from a human ecological perspective. Developmental tasks and concepts are explored.

**5133. Infant and Child Development.** 3 hours. Findings and implications of current theory and research in emotional, social, cognitive, language, physical and perceptual development from birth through infancy and older childhood.

**5143. Cognitive and Language Development.** 3 hours. Comprehensive developmental sequence of cognitive development and language acquisition from birth through adulthood, focusing on theories and research related to cognitive, perceptual and language development, as well as relationships between language and thought.

**5153. Social-Emotional Development.** 3 hours. Comprehensive developmental sequence of social and emotional development from birth through adulthood. Course content focuses on both theory and research pertaining to the development of emotions and temperament as well as intra- and interpersonal issues of social development.

**5163. Diversity in Individuals and Families.** 3 hours. Readings considering the mutual effects of children and families and their diverse contexts. A wide variety of individual strengths and needs are identified and examined. Diversity issues discussed include cultural, ethnic, gender, sexuality, language and developmental differences. Examination of personal and societal attitudes is emphasized.

**5313. Parent-Child Interaction.** 3 hours. Study of parent development and relationships with children throughout the family life cycle. Focus on empirical studies related to dynamics of parent-child interaction. Impact of parenting upon development and socialization of children.

**5323. Parent and Family Education.** 3 hours. Empirical knowledge and skills required for education and leadership of parents and families. Overview of major theoretical and programmatic approaches to parent and family education. Application of models and techniques.

**5333. The Changing Family.** 3 hours. Highlights the major changes and current trends in family structure and the resulting implications of these changes and trends. Topics include single-parent families, cohabitation, non-marital fertility, etc.

**5413. Family Relationships.** 3 hours. An analysis of the influences that affect modern family life; consideration of variant family forms.

**5433. Partnerships: Family, School and Community.** 3 hours. The reciprocal responsibilities of the family, school and community for a child's welfare and education are stressed. Strategies to improve communication and collaboration are emphasized with a focus on family types, cultures, economic conditions, school systems, community services, political forces, advocacy groups and other factors that impact young children and their families.

**5443. Family Economics and Management.** 3 hours. Theories, models and research related to family resource management. Family economic issues, public policy, consumer issues, work/life issues. Consideration of diverse family cultures, values and attitudes as factors in family resource management.

**5800. Special Topics in Developmental and Family Studies.** 1–3 hours. Organized classes designed to accommodate the needs of students and demands of program development not met by regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand. May be repeated for credit.

**5900-5910. Special Problems.** 1–3 hours. Open to graduate students capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

**5920. Problems in Lieu of Thesis.** 1 hour. Professional paper and oral presentation/defense of that paper under the mentorship of development and family studies graduate faculty member. Pass/no pass only.

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

### **Educational Psychology, EPSY**

**5000. Introduction to Educational Psychology.** 3 hours. Educational implications and applications of research on child development, cognition, learning, motivation and assessment to improve the teaching and learning process.

**5010. Human Learning and Motivation.** 3 hours. Exploration of the theoretical and applied basis for how the mind processes information in order to facilitate the development of instructional materials. Examination of the impact of motivation and beliefs on the acquisition of information. Prerequisite(s): EPSY 5000.

**5030. Practicum.** 3–6 hours. Supervised professional activities in educational psychology. Registration is on an individual basis and student must have prior consent of instructor. May be repeated for credit.

**5031. Internship.** 3–6 hours. Supervised professional internship in educational psychology. Registration is on an individual basis and student must have prior consent of instructor.

**5050. Educational Research and Evaluation.** 3 hours. Methods and limitations of educational research. Procedures, strengths and limitations of the research process.

**5100. Action Research for Multicultural Education.** 3 hours. Provides graduate students with opportunities to review the literature on action research and multicultural populations and to develop basic skills in action research methodology related to multicultural education.

**5210. Educational Statistics.** 3 hours. Descriptive and inferential statistical concepts and techniques commonly used in educational research. Organization of data, graphical representation, measures of central tendency and variability, normal distribution curve, sampling theory and tests of significant differences between related and independent samples.

**5220. The Evaluation of Educational Programs.** 3 hours. Models for program evaluation with emphasis on design, instrumentation, information processing and data interpretation. The content and methodology of the course are appropriate for educators working in elementary and secondary schools as well as colleges and universities.

**5230. Cognitive and Performance Evaluations.** 3 hours. Introduction to cognitive and performance measurement and evaluation. Course covers development of knowledge-based tests, development of performance-based tests and the evaluation of training. Measurement strategies for cognitive and performance testing are combined with evaluation strategies.

**5240. Survey Research Methods in Education.** 3 hours. History of surveys, information needs, sampling design, instrumentation data collection, data processing and report generation.

**5250. Grant Proposal Writing Techniques.** 3 hours. Investigation of state and federal grant funding sources. Introduction to and application of grant proposal writing techniques.

**5350. Educational Evaluation and Assessment.** 3 hours. Instrumentation and procedures for evaluating and assessing learning in elementary, secondary and higher education settings, including planning for instruction and assessment, designing and using classroom tests, utilizing performance-based assessment strategies and communicating student progress. Specifics include test specifications, item-writing strategies, item analysis, test construction, test score characteristics, alternative assessment strategies, interpretation of data from standardized tests and grading systems.

**5550. Learning Theories in Education.** 3 hours. Examination of theories of learning relevant to educational environments. In-depth comparison of principles and theories.

**5700. Introduction to School Psychology.** 3 hours. Introduction to the history, laws, ethics and roles of school psychology. Prerequisite(s): admission to the school psychology program or consent of instructor.

**5800. Studies of Educational Psychology.** 3 hours. Organized class specifically designed to accommodate the needs of students and the demand of program development that are not met by regular offerings. May be repeated for credit. Prerequisite(s): consent of department.

**5900-5910. Special Problems.** 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor. Prerequisite(s): consent of program.

**5920. Research Problem in Lieu of Thesis.** 3–6 hours. Research dealing with a significant problem in educational psychology. Prerequisite(s): consent of department.

**5950. Master's Thesis.** 3–6 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.

**6005. Statistical Theory and Simulations.** 3 hours. Statistical theory and simulation of statistical distributions. Topics include factors affecting sampling distributions, sampling from different distributions, Chebyshev's theorem, Central Limit Theorem, probability distributions, statistical distributions (normal, t, chi-square, correlation, regression), Power (sample size, Type I error, Type II error, confidence interval, effect size), Monte Carlo, meta-analysis, bootstrap and jackknife techniques.

**6010. Statistics for Educational Research.** 3 hours. The application of statistical techniques to research in education; the development of skills in interpreting statistical concepts. Analysis of variance and covariance, multiple comparisons, non-parametric statistics and multiple correlation. Prerequisite(s): EPSY 5210 or equivalent. Required of all doctoral candidates in education.

**6020. Research Methods in Education.** 3 hours.

Introduction to quantitative (survey, experimental design, correlation, causal-comparative, evaluation) and qualitative (case study, observation, action, participant-observation, historical, ethnograph, phenomenology) research methods used in conducting educational research. Prerequisite(s): EPSY 5210 and 6010 or equivalents.

**6030. Practicum, Field Problem or Internship.** 3 or 6 hours. Assignments may be made in stations either on or off campus. Activities include consultation in research design, data analysis, preparation of data for computer analysis and writing of research reports.

**6040. Foundations of Educational Psychology.** 3 hours. History of educational foundations, philosophical perspectives, scientific themes and grand theories that give rise to modern educational psychology.

**6100. Cognition and Instruction.** 3 hours. Understanding the principles of cognition and applying them to instruction and curriculum design. Participants study research on how students' thought processes develop and function. Investigation of the role of belief structures in cognition and exploration of strategies for fostering cognitive growth. Participants devise procedures to use cognition structures and functions to achieve classroom goals in reading, writing, mathematics and science instruction. Prerequisite(s): EPSY 5010

**6110. Individual Differences, Creativity and Problem Solving.** 3 hours. Focus on how to teach and instruct from examining theories, models, and research of creativity and problem solving and their applications to the development of individuals. Individual differences that result from an interaction among personality, creativity and ecological factors are related to the design of learning environments that meet the changing abilities and needs of learners.

**6210. Multiple Regression Analysis and Related Methods.** 3 hours. Introduction to and application of multiple regression and related methods to analysis of data from correlational and experimental studies in education and related disciplines. Topics include introduction to the general linear model, simple and multiple linear regression analysis, data inspection and transformation, non-linear regression, trend analysis, cross validation procedures and utilization of statistical software for conducting regression analyses. Prerequisite(s): EPSY 6010 and 6020 or equivalents; EPSY 6240 or equivalent is also recommended.

**6220. Classical and Modern Educational Measurement Theory.** 3 hours. A comparison of norm-referenced and criterion-referenced reliability, validity, item analysis and test construction. Specifics include classical true score, generalizability and latent trait (Rasch and IRT) theoretical development and applications. Prerequisite(s): EPSY 5350 or equivalent measurement course.

**6230. Advanced Research Design.** 3 hours. Analysis of data and interpretation of results in various experimental research designs, including factorial, repeated measures, nested and Latin square designs. Prerequisite(s): EPSY 6010 and 6020 or equivalents; EPSY 6240 or equivalent is also recommended.

**6240. Technology in Research.** 3 hours. Use of data analysis in the planning and implementation of research projects in the disciplines of educational psychology. Emphasis on statistical packages, organization and collection of data, computing hardware and software, and various data display and reporting techniques. Prerequisite(s): EPSY 6010 and 6020.

**6250. Advanced Educational Measurement Applications.** 3 hours. Advanced measurement theory, item analysis, test construction, reliability and validity. Classical, generalizability, Rasch and IRT techniques are used to provide experience in analyzing and interpreting test data. Prerequisite(s): EPSY 5350 or 6220 or equivalent.

**6260. Advanced Seminar in Educational Psychology.** 3 hours. Capstone course for doctoral students in the Department of Educational Psychology. Study and discussion of issues related to dissertation research, contemporary issues and new advances in research and theory, and the beginning of dissertation proposal development. Prerequisite(s): students must have completed the departmental research cognate and be in the last 12 hours of course work.

**6270. Structural Equation Modeling.** 3 hours. Multiple regression, path analysis and factor analysis methods are reviewed. Structural Equation Modeling (SEM) approaches using AMOS, EQS, LISREL, MPLUS and other personal computer application software are presented. The basic SEM approaches include path models, factor models, interaction models, MIMIC models, multi-level models, latent growth curve models and multiple group models. Prerequisite(s): EPSY 6290 or equivalent multivariate statistics course.

**6280. Qualitative Research in Education.** 3 hours. Focus on the knowledge and skill necessary for naturalistic research; observation, interviewing and other data collection procedures, as well as data retrieval, analysis techniques and reporting procedures. Prerequisite(s): EPSY 6010 and 6020, or equivalents.

**6285. Qualitative Data Analysis in Education.** 3 hours. Data collection, analysis and interpretation using qualitative methodology such as participant observation and interviewing for data gathering; constant comparative/grounded theory and modified analytic induction for data analysis. Use of computer software programs for qualitative data analysis. Students will complete a qualitative study consisting of at least 45 hours of field work during the term/semester. Prerequisite(s): EPSY 6280.

**6290. Multivariate Statistics in Education.** 3 hours. History of multivariate statistics, univariate vs. multivariate statistics, matrix algebra, multivariate analysis of variance, canonical correlation, discriminant analysis and multivariate analysis of contingency tables. Prerequisite(s): EPSY 6010 and 6210.

**6300. Applied Research in Education.** 3 hours. Design, implementation and presentation of research in education. Course will result in a completed research project suitable for presentation to an external audience of peers. Prerequisite(s): EPSY 6010 and 6020.

**6850. Selected Topics in Education.** 1–6 hours. Organized classes specifically designed to meet the needs of doctoral students in the College of Education. Intensive study of a selected timely topic.

**6900. Special Problems.** 1–3 hours. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

**6950. Doctoral Dissertation.** 3, 6 or 9 hours. To be scheduled only with consent of department. 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.

**Special Education, EDSP**

**5010. Characteristics of Individuals with Mental Retardation.** 3 hours. An overview of the field of mental retardation and developmental disabilities that includes an analysis of definitions, etiological factors, classification schemes and intervention models. Prerequisite(s): EDSP 5710 or consent of department.

**5105. Nature and Needs of the Gifted and Talented Student.** 3 hours. Introduction to the intellectual, social, emotional and educational characteristics and needs of gifted, talented and creative individuals. Includes study of varied conceptions of gifted, talented and creative research findings.

**5110. Social and Emotional Components of Giftedness.** 3 hours. Review of current research on affective growth and potential adjustment problems of gifted youth. Addresses vocational concerns, self-concept and self-esteem, the teacher's role in preventing or remediating affective problems related to giftedness, and potential parenting or family problems.

**5120. Program Planning for the Education of Gifted and Talented Students.** 3 hours. Instruments and procedures for identification of gifted, talented and creative students. Major curriculum and program models; evaluation of programs.

**5130. Methods and Curriculum for Teaching Gifted and Talented Students.** 3 hours. Curriculum theory, methods and materials to meet the special educational needs of gifted, talented and creative children. Strategies for individual assessment, modification of standard curriculum, design of instructional materials and classroom organization for grades K-12. Includes theories and models of creativity and higher-level thinking.

**5200. Characteristics of Individuals with Learning Disabilities.** 3 hours. Overview of the field of learning disabilities that includes an analysis of definitions, etiological factors, classification schemes and intervention models. Prerequisite(s): EDSP 5710 or consent of department.

**5210. Collaboration for Inclusion Settings.** 3 hours. Consultation models, practices and principles as applied in the education of exceptional and at-risk children and youth. Models advocating collaboration, cooperative learning and full inclusion are stressed. The applicability of consultation models to learning strategies curriculum is a focal point. Prerequisite(s): consent of department.

**5220. Learning Strategies for Individuals with Cognitive Disorders.** 3 hours. Focus on learning strategies designed for individuals with disabilities. Prerequisite(s): EDSP 5010, 5200 and 5600, or consent of department.

**5230. Advanced Seminar in Learning Disabilities: Educational Theories and Practices.** 3 hours. Focused analysis of the theoretical basis of learning disabilities and the instructional implications and applications of those theories. Prerequisite(s): EDSP 5200 and 5220, or consent of department.

**5240. Collaboration with Parents, Paraeducators and Professionals.** 3 hours. Communication and collaboration models and strategies in working with parents, caregivers and professionals concerned about exceptional learners. Emphasis on the changing definition of families and changing demographics and the implications these changes have for effectively involving others in the decision-making for exceptional learners. Analysis made of legal mandates and availability of resources to ensure quality services for exceptional learners.

**5320. Introduction to Functional Assessment.** 3 hours. Focuses on various dimensions of functional assessment of behavior and academic performance of children and youth with disabilities and/or at-risk for academic and social failure. Emphasis on a process for conducting functional assessments and gathering information applicable to the development of effective positive behavioral supports and intervention plans. Prerequisite(s): EDSP 5710 or equivalent; EDSP 5600 or 5730; consent of department.

**5321. Authentic Assessment.** 3 hours. Focus on the development of knowledge and the practical skills necessary for the effective administration and interpretation of authentic assessment. Focus on the use of authentic assessment to document student achievement gains among diverse and exceptional learners. Prerequisite(s): EDSP 5510 and 5710.

**5330. Classroom and Behavioral Management Strategies for Exceptional Learners.** 3 hours. Focus on a variety of classroom-based approaches to aid in the behavioral management of exceptional learners. Students learn how to implement individualized techniques including applied behavioral analysis, as well as larger-group strategies, to foster positive behavioral, social and emotional growth. Special attention is given to the development of behavioral intervention plans and positive behavioral supports for students with challenging behaviors.

**5350. Educational Programming for Students with Autism Spectrum Disorders.** 3 hours. Focus on the unique programming needs of students with autism spectrum disorders. Specific educational and behavioral interventions are discussed as well as several of the more controversial therapies. Characteristics associated features of students with autism and Asperger's Syndrome are presented. Prerequisite(s): EDSP 5710 or equivalent, or consent of department.

**5360. Assessment of Autism Spectrum Disorders.** 3 hours. Focuses on the assessment needs of children with autism spectrum disorders. The various components of a complete education evaluation are discussed as well as how to apply assessment information in planning the programming needs for children with autism spectrum disorders. Various evaluation tools and procedures are reviewed and demonstrated. Prerequisite(s): EDSP 5710 or equivalent; EDSP 5510, consent of department.

**5370. Autism Across the Life Span.** 3 hours. Examination of the needs of children and youth with autism spectrum disorders across the life span. Numerous issues are examined in depth along with the implications that each issue has for maximizing individual potential. Prerequisite(s): EDSP 5710 or equivalent; EDSP 5350 and 5360; or consent of department.

**5410. Advanced Practicum: Gifted and Talented.** 3 hours. (1;5; other-30 hours of supervised experience per week) Demonstration in a gifted and talented educational setting of professional competencies during a minimum 110 hours of supervised practicum experiences. Responsibility for development and implementation of educational plans for gifted and talented learners. Teacher role identification and relationships are examined in structured seminars. Prerequisite(s): EDSP 5105, 5110, 5120 and 5130, or consent of instructor.

**5420. Field Experience with Children and Youth with Learning Disabilities.** 3 hours. Supervised field experience with children and youth with learning disabilities. Typically, placement will be within a minimum of two educational settings. Prerequisite(s): EDSP 5200, 5210, 5220, 5230 and consent of department. Students must apply for consent to take this course at least six weeks prior to enrollment. Students may enroll for 1 to 6 hours credit in any given term/semester; field experience of 2.5 hours per week required for each hour of enrollment.

**5430. Advanced Practicum: Special Education.** 3 hours. Demonstration in a special education setting of professional competencies during a minimum 110 hours of supervised practicum experiences. Responsibility for development and implementation of individualized plans for the exceptional learner. Special education teacher role identification and relationships are examined in structured seminars.

**5510. Educational Appraisal of Exceptional Learners.** 3 hours. Examinations of basic testing procedures and terminology as related to the exceptional learner. Analysis of statistics used in test development and interpretation of test data. Utilization of test data in developing individual education plans. Examination of curriculum-based assessment issues. Field experiences include administration of academic and teacher-made assessments.

**5520. Special Education Law.** 3 hours. Provides teachers, educational diagnosticians and school administrators the opportunity to examine the legal requirements for educating special populations, particularly individuals with disabilities. A course fee of \$600 per term/semester is assessed for IMPACT candidates.

**5530. Individualized Diagnostic Assessment I: Practicum.** 3 hours. Demonstration of competency in developing test batteries for students with different handicapping conditions and in administering and interpreting the batteries. Development of an individual plan for each battery administered. Prerequisite(s): EDSP 5510.

**5540. Individualized Diagnostic Assessment II: Practicum.** 3 hours. Demonstration of competency in administration, scoring and interpreting test instruments appropriate for students with different types of handicapping conditions. Development of test batteries for students at varying age levels. Prerequisite(s): EDSP 5510 and 5530.

**5560. Assistive Technology.** 3 hours. Review of recent legislation governing the need and use for assistive technology for individuals with IEP or 504 plans. Issues concerning assessment, ownership, costs and availability are reviewed. Prerequisite(s): EDSP 5710.

**5600. Characteristics of Children/Youth with Emotional and Behavioral Disorders.** 3 hours. Overview of topics related to children and youth with emotional and behavioral disorders, including characteristics, assessment, diagnosis and evaluation. Investigation of risk factors for the development of severe behavioral problems and classroom-based interventions. Prerequisite(s): EDSP 5710 or consent of department.

**5610. Educational Theories and Practices Relative to Children/Youth with Emotional and Behavioral Disorders.** 3 hours. Analysis of various theoretical approaches that includes the psychodynamic, ecological and behaviorist theories utilized in designing intervention programs for individuals with emotional and behavioral disorders. Emphasis upon the application and effectiveness of approaches in a variety of educational and therapeutic environments. Prerequisite(s): EDSP 5600 or equivalent.

**5615. Positive Behavioral Interventions in Educational and Related Settings.** 3 hours. Examination of the positive behavioral interventions and supports (PBIS) philosophy and its underlying assumptions regarding delivery of services to children and youth. Approaches for implementation are highlighted with a focus on school-wide, classroom-wide, and individual interventions, along with the implementation of PBIS for development of systems-of-care, wraparound, and full-service schools. Prerequisite(s): EDSP 5600, EDSP 5710, or EDSP 5730, or consent of department.

**5620. Educational Programming for Children/Youth with Emotional and Behavioral Disorders.** 3 hours. Emphasis is upon designing effective and efficient intervention programs for children/youth with emotional and behavioral disorders that are applicable to a variety of educational settings to include hospitals, mental health centers, and public and private schools. Prerequisite(s): EDSP 5600; EDSP 5610 (may be taken concurrently).

**5630. Field Experience with Children/Youth with Emotional and Behavioral Disorders I.** 3 hours. Supervised field experience with children and youth with emotional and behavioral disorders. Placement is in a minimum of two educational settings. Prerequisite(s): EDSP 5600 and consent of department. Students must apply for consent to take this course at least six weeks prior to enrollment. Field experience of 2.5 hours per week required for each hour of enrollment.

**5640. Field Experience with Children/Youth Emotional and Behavioral Disorders II.** 3 hours. Supervised field experience with children and youth with emotional and behavioral disorders. Placement is in educationally related environments. Prerequisite(s): EDSP 5600 and 5630, and consent of department. Students must apply for consent to take this course at least six weeks prior to enrollment. Field experience of 2.5 hours per week required for each hour of enrollment.

**5650. Special Education in Juvenile Correctional Facilities.** 3 hours. An overview of the juvenile justice system and correctional education with emphasis on the role of the special educator in meeting the needs of the handicapped juvenile offender.

**5660. Transition of Youth with Emotional and Behavioral Disorders.** 3 hours. An examination of all aspects of the transition of secondary school-aged youth from educational to community-based environments. Includes the rationale for transition programming, practices and procedures, interagency cooperation, school-based vocational preparation and work-study activities. Emphasis is placed on the role of the special education teacher in the transition process. Prerequisite(s): EDSP 5600 and consent of instructor.

**5665. Advanced Transition Planning for Students with Emotional/Behavioral Disorders.** 3 hours. Focuses on the taxonomy of transition as a model for planning, implementing and evaluating transition-focused education for students with disabilities. Emphasis on student-focused planning, student development, interagency collaboration, family involvement and program structures. Prerequisite(s): EDSP 5660.

**5670. Teaching Social Skills to Children and Youth with Disabilities.** 3 hours. An examination of theories underlying the acquisition of social skills by children and youth with disabilities. Specific teaching strategies, materials development and program implementation will be emphasized.

**5684. Traumatic Brain Injury I.** 3 hours. General overview of concepts and issues related to traumatic brain injury (TBI) in children/youth. Content is designed to provide professional educators with foundational knowledge and skills necessary to proactively support students with TBI and their families. Focus is on the definition of TBI, historical perspective of brain injury, basics of typical brain functioning, types of brain injury and their effects, issues related to school re-entry, rehabilitation, family issues, and transition. Prerequisite(s): consent of department.

**5685. Traumatic Brain Injury II.** 3 hours. Gives students the opportunity to work as part of a collaborative team to analyze case studies, formulate school re-entry plans, and develop instructional and behavioral strategies for working with children and youth with traumatic brain injury. Included are a review of the common cognitive and psychosocial effects of traumatic brain injury, reintegration into school following the injury, individualized education planning, and transition plans for children and youth recovering from brain injury. Assessment, classroom strategies and the use of effective collaborative and teaming techniques will be emphasized. Prerequisite(s): EDSP 5684 and consent of department.

**5710. Special Education Programs and Practices.** 3 hours. Presentation of special education roles, placement alternatives, legal implications, current status and trends in special education. Analysis of categories of exceptionality, characteristics and terminology.

**5720. Analysis of Research and Research Design in Special Education.** 3 hours. Interpretation, analysis, synthesis and application of research with exceptional populations. Demonstration of oral and written competence in specialization field and related areas.

**5730. Educational Aspects of Students with Mild to Moderate Disabilities.** 3 hours. Examination of historical, theoretical and learning of students with mild to moderate disabilities, including learning disabilities, mental retardation and emotional/behavioral disorders. A life span view of intervention models, as well as curricular adaptations across content areas is explored.

**5740. Learning Strategies for Promoting Proficiency in Reading and Language Arts for Exceptional Learners.** 3 hours. Educational strategies and interventions that promote academic performance of individuals with mild to moderate disabilities in English language arts and reading.

**5750. Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners.** 3 hours. Educational strategies and interventions that promote academic performance of individuals with mild to moderate disabilities in mathematics and in content areas across a variety of settings and situations.

**5755. Adapting Curriculum to Meet Special Learning Needs.** 3 hours. Instructional strategies and curriculum modifications for working with special needs and diverse learners in the inclusion classroom. Topics include curriculum based assessment, adapting materials for special needs learners, appropriate interpretation of inclusion legislation, effective use of technology in an inclusion classroom, legal rights of special needs learners, strategies that facilitate learning and culture fair assessment practices. Prerequisite(s): admission into graduate program.

**5760. Multicultural Theory and Best Practice in Special Education.** 3 hours. Focuses on learners with special needs from a multicultural perspective. Students explore the impact of an individual's interactions and learning when a diverse cultural or linguistic background coexists with a disability or giftedness. Attention is given to multicultural theories and best teaching practices.

**5800. Studies in Special Education.** 3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

**5900-5910. Special Problems.** 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

**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.

**6030. Practicum, Field Problem or Internship.** 3–6 hours. Supervised professional activities in special education. Registration is on an individual basis. Required of all doctoral candidates.

**6270. Analysis of Trends, Issues and Research in Special Education.** 3 hours. Investigation and analysis of recent trends, issues and research in special education. Emphasis on how these will affect special education programs. Special attention to competency-based programs, accountability and individualized programming.

**6280. Program Analysis in Special Education.** 3 hours. Focus is upon the role and responsibility of leadership personnel in special education and the issues and trends relative to the administration and supervision of special education programs.

**6290. Special Education and Public Policy.** 3 hours. Examination of the current social, political and economic factors influencing the public policy decisions affecting special education programs and practices. Major historical public policy decisions affecting special education are used to examine current and proposed public policy decisions. Prerequisite(s): EDSP 6270 or consent of department.

**6300. Program Development for Providing Quality Services to Children and Youth with Emotional and Behavioral Disorders.** 3 hours. From the perspective of leadership personnel, emphasis is on examining and designing components required to ensure quality services for children and youth with emotional and behavioral disorders within educational and therapeutic environments. Development of formal proposals for research and practice are a part of the course.

**6310. Current Research and Best Practices in the Education and Treatment of Children/Youth with Emotional and Behavioral Disorders.** 3 hours. Focus on the analysis of current research and best practices in the field of emotional and behavioral disorders.

**6320. Computing Applications for Special Populations.** 3 hours. Focus on instructive and adaptive applications of computer technology to the educational and life needs of individuals with exceptional learning, cognitive and/or behavioral characteristics. Issues related to equity and accessibility are discussed. Prerequisite(s): consent of department.

**6410. Theoretical Issues in Learning Disabilities.** 3 hours. Analysis of the theoretical issues surrounding a life-span approach to learning disabilities. Emphasis is on the cognitive, social and neuropsychological research applicable to learning disabilities. Educational implications of the research also are addressed.

**6440. Research Issues in Special Education.** 3 hours. Analysis of current research issues and problems unique to exceptional populations. Content includes design, methodology and statistical topics. Prerequisite(s): EDSP 6270, 6310, 6410; EPSY 6010 and 6210, or consent of department.

**6800. Topics in Special Education.** 3 hours. Organized seminars designed to accommodate the needs of post-master's level students and the demands of program development that are not met by regular course offerings. Examples of topics that may be covered include: issues related to aggression and violence; implications for prevention and treatments; and strategies to address the needs of diverse learners with special needs and their families. Short courses and special seminars on specific topics organized on a limited-offering basis. May be repeated for credit.

**6900-6910. Special Problems.** 1-3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

**6950. Doctoral Dissertation.** 3, 6 or 9 hours. To be scheduled only with consent of department. 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.

### **Special Education Courses Offered at Texas Woman's University**

Students wishing to enroll in the following TWU courses will do so through a cross-registration mechanism administered by the School of Graduate Studies at UNT.

**EDUC 6023. Practicum in Assessment and Evaluation of Individuals with Disabilities.** Required of all doctoral students in special education; administration and interpretation of educational, communicative, audiological and psychological tests given to individuals with disabilities. 7 laboratory hours a week. Prerequisite(s): proficiency in tests and measurements and permission of instructor. May be repeated for credit.

**EDUC 6103. Social, Psychological and Educational Aspects of Mental Retardation and Developmental Disabilities.** Advanced study of etiology, remediation and education of individuals with mental retardation and developmental disabilities. 3 lecture hours a week. Prerequisite(s): EDUC 5103 or equivalent courses in the area and permission of instructor.

**EDUC 6333. Seminar in Emotional and Behavioral Disorders.** Study of adjustment and emotional problems in individuals assigned to various least restrictive environments. Research related to etiology, conceptual models and interventions. 3 lecture hours a week. Prerequisite(s): EDUC 5303 or equivalent courses and permission of instructor.

**EDUC 6403. Seminar in Learning Disabilities.** Advanced study of physical, psychological and environmental causes of learning disabilities, and interrelationships among the causes. 3 lecture hours a week. Prerequisite(s): EDUC 5443 or equivalent courses in the area and permission of instructor.

**EDUC 6423. Seminar in Policies and Procedures of Special Education Administration.** Theory, research and practices related to special education administration. Analysis of administrative behavior, the process of decision making, special education leadership and organization changes, models of state and federal funding, budgeting, litigation procedures and program evaluation. 3 lecture hours a week. Prerequisite(s): EDUC 5603 or equivalent courses in the area and permission of instructor.

**EDUC 6723. Practicum.** 3-12 hours. Field placement. Type of placement will vary with student's area of major concentration and past experiences. Prerequisite(s): 12 semester hours of doctoral credit or permission of instructor.

**EDUC 6903. Special Topics.** Variable content; topics selected as needed. 3 lecture hours a week.

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## **Electrical Engineering**

### **Electrical Engineering , EENG**

**5310. Control Systems Design.** 3 hours. Control systems analysis, modeling and design constraints, goals, and performance specifications, state-space analysis of linear systems; Root-locus, frequency response and state-space design methods; MATLAB simulations; system stability-introduction to Lyapunov methods; controllability; observability; canonical forms and minimal realizations, fundamentals of feedback control dynamic programming and the Hamilton-Jacobi-Bellman equation; synthesis of optimum state regulatory systems; introduction to the minimum principle, necessary conditions for optimal trajectories; minimum principle for bounded controls, and time-optimal control of linear systems. Prerequisite(s): EENG 2620 or equivalent.

**5520. Design and Testing of Digital Systems.** 3 hours. Review of combinational logic, testing combinational circuits, sequential circuit synthesis, state minimization, state assignment, and structure of sequential circuits; state identification and fault detection experiments; testing of sequential circuits and design for testability. Prerequisite(s): EENG 2710 or equivalent.

**5530. Analog Integrated Circuit Design.** 3 hours. This course thoroughly investigates the fundamentals in design and analysis of analog and mixed-signal integrated circuits. Topics include analog MOS transistor models, current sources and sinks, circuit reference, amplifier, feedback amplifiers, differential amplifiers and operational amplifiers. Prerequisite(s): EENG 3520 or equivalent.