Measurement, Evaluation, Statistics, and Assessment

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Program Codes:
20FS5106MED (on campus)
2PFS5106MEDU (online)

The MEd in Measurement, Evaluation, Statistics, and Assessment (MESA) is designed to address the current industry-wide shortage of individuals who can function effectively in educational research and other applied research settings by providing rigorous training in quantitative and qualitative methodologies. The MEd in MESA will address this pressing need for more trained professionals in these critical areas and will service the student population interested in upgrading their quantitative and qualitative skills without having to complete a dissertation.

The primary objective of the program is to produce graduates who are well prepared to draw upon the specialized knowledge and skills acquired in the measurement, evaluation, statistics, and assessment courses they have taken, and function effectively in a variety research settings. Two versions, one delivered online and the other on campus, are offered.

The Interdepartmental Graduate Concentration in Survey Research Methodology is available to students in this program.

Admission and Degree Requirements
- MEd in Measurement, Evaluation, Statistics, and Assessment (http://catalog.uic.edu/gcat/colleges-schools/education/mesa/med)

Educational Psychology Courses
EPSY 400. Print-based Instructional Materials: Design and Development. 3 hours.
Focuses on the design and development process for creating and presenting print-based instructional materials for various learning contexts, to include basic analysis, design, layout, and development guidelines. Course Information: Extensive computer use required. Prerequisite(s): EPSY 380.

EPSY 405. Educational Assessment and Evaluation. 3 hours.
Design, administration and scoring of assessments and evaluations useful in educational contexts for measuring different types of learning, program and developmental outcomes, from simple to complex. Course Information: Prerequisite(s): EPSY 255; or junior standing or above; or consent of the instructor.

EPSY 413. Youth Development Colloquium. 1 hour.
Focuses on current issues and trends in the field of youth development. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Junior standing or above.

EPSY 414. Developing Programs for Youth in Urban Contexts. 3 hours.
Survey, evaluation, and development of models and programs designed to facilitate growth, development and learning for diverse youth. Specific focus will be on the urban context. Course Information: Previously listed as CI 416. Prerequisite(s): Consent of the instructor or enrollment in the Youth Development Program.

EPSY 415. Fieldwork in Human Development and Learning in Urban Contexts. 3 hours.
Experience working with programs that foster the developmental needs of young people in urban contexts. Students will design, implement and evaluate programs that promote personal development and independent action among youth. Course Information: May be repeated to a maximum of 6 hours. Previously listed as CIE 415. Field work required. Prerequisite(s): EPSY 363; and junior standing or above. Recommended background: EPSY 414. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

EPSY 416. Systematic Approaches to Program Quality. 3 hours.
An overview of theories and methods in exploring the system of program development, quality implementation, and evaluation. Relevant for those working in diverse settings and with diverse youth. Course Information: Recommended background: coursework in psychology or educational psychology. Prerequisite(s): EPSY 363 or EPSY 414; or junior standing or above; or consent of the instructor.

EPSY 420. Social Development of Urban Children. 3 or 4 hours.
General principles of social development and how these principles need to be modified for this population of children. Course Information: Same as PSCH 420. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to a graduate program in education or psychology; or consent of the instructor.

EPSY 424. Family Diversity and Film: A Resilience Framework. 3 hours.
Examines diverse families through the use of films as "case studies". Using classic/contemporary films that depict diverse family structures, social-classes, and experiences within families, internal dynamics of family life are explored. Course Information: Extensive computer use required. Prerequisite(s): EPSY 100; or consent of the instructor. Recommended Background: EPSY 100, Sociology 100, Psychology 100.
EPSY 426. Development, Health and Wellness: Conception to age 8. 4 hours.
Focuses on the developmental processes in cognitive, social/emotional, language, and physical domains. Special consideration will be given to the interaction: health, wellness, social, cultural, and interpersonal environments of children. Course Information: Previously listed as EPSY 526. Field work required. Prerequisite(s): EPSY 255 or the equivalent. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

EPSY 429. Constructivist Approaches to Development: Piaget and Vygotsky. 3 or 4 hours.
Piaget's and Vygotsky's theories of development of knowledge. Empirical and logico-mathematical forms of knowledge. Thought and action. Thought and language. Course Information: Same as PSCH 429. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): EPSY 255; or ED 422; or EPSY 426; or consent of the instructor or equivalent.

EPSY 430. Interactive Online Instruction: Design and Development. 3 hours.
Focuses on the design and development process for creating interactive e-learning for various learning contexts. Course Information: Extensive computer use required. Prerequisite(s): EPSY 380.

EPSY 440. Engaging Multimedia Instruction: Design and Development. 3 hours.
Focuses on the design and development of interactive instructional animations that may stand-alone or be integrated as part of a learning program. Course Information: Extensive computer use required. Prerequisite(s): EPSY 380.

EPSY 446. Characteristics of Early Adolescence. 3 hours.
Physiological, social, emotional and cognitive development of early adolescence. The relationship between these developmental characteristics and success in the middle grades. Course Information: Same as PSCH 423. Prerequisite(s): Admission to a program in psychology or education; or approval of the College of Education or consent of the instructor, EPSY 210 or EPSY 255 or ED 421 or ED 422.

EPSY 449. Early Childhood/Early Childhood Special Education: Perspectives, Policies and History. 3 hours.
Perspectives, policies, history, and foundations of Early Childhood Education and Early Childhood Special Education. Emphasis on the effects of changing economic, political, legal, social, and views of human development. Course Information: Same as SPED 449 and EDPS 449.

EPSY 450. Assessment and Evaluation of Learning Outcomes and Instructional Products. 3 hours.
Designed to develop knowledge and skills in systematically evaluating student learning and instructional technology product outcomes related to program goals and standards. Course Information: Extensive computer use required. Prerequisite(s): EPSY 380.

EPSY 451. Staff Management and Human Relations for Leaders in Early Childhood Education. 3 hours.
Designed for directors, supervisors and managers in early childhood programs. Focuses on the administrator's role in staff development and human relations, including recruitment, hiring, retaining, training, support and evaluation of personnel.

EPSY 452. Legal, Fiscal and Program Management for Leaders in Early Childhood Education. 3 hours.
Provides students with opportunities to learn and apply current theories of administration in order to improve their skills in managing early childhood education programs.

EPSY 453. Educational Programming and Community Relations for Leaders in Early Childhood Education. 3 hours.
Designed for directors and managers in early childhood programs. Focuses on development and implementation of a program philosophy, curriculum for typically and atypically developing children; and promoting a positive image to the public.

EPSY 461. Seminar and Fieldwork in Human Development and Learning. 3 hours.
The culminating course for students in the Child and Youth Development and Early Childhood Education concentration of the Human Development and Learning BA program. Students have opportunities to bridge theory and research with professional practice. Course Information: Field work required. Prerequisite(s): ECE 426 and ECE 427 and ECE 455 and ECE 456 or equivalent. For CYD concentration: EPSY 385, 420, 445, 414 or equivalent. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Practice.

EPSY 465. Understanding Students with High Incidence Disabilities. 3 hours.
Uses major theoretical frameworks of human development to examine the characteristics and development of students with high incidence disabilities, ages 3-21. Course Information: Same as SPED 465. Field work required. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

EPSY 466. Language Development, Diversity, and Disabilities. 3 hours.

EPSY 467. Understanding Students With Low Incidence Disabilities. 3 hours.
Explores characteristics and development of children and youth with low incidence disabilities, ages 3-21, as well as how schools address their instructional needs. Course Information: Same as SPED 467.

EPSY 471. Facilitating Healthy Development in the Context of Trauma. 3 hours.
Examines the impact of trauma on youth and ways to facilitate healthy development among youth who have experienced trauma. Course Information: Prerequisite(s): EPSY 100 or PSCH 100 or EPSY 255 or EPSY 256 or EPSY 363; or graduate standing.

EPSY 472. Justice, Discipline, and Human Development and Learning. 3 hours.
Explores several disciplinary frameworks and how these frameworks affect human development and learning and how structural oppression is connected to discipline disparities across a variety of contexts (e.g., school-to-prison pipeline). Course Information: Prerequisite(s): EPSY 100 or PSCH 100 or EPSY 255 or EPSY 256 or EPSY 363; or graduate standing.

EPSY 482. Collaborating with Families, Community, and Professionals. 3 hours.
Explores the dynamics of professional collaboration with families, addressing characteristics, structures, and processes of collaboration for children and youth with and without disabilities. Course Information: Same as SPED 482. Previously listed as EPSY 582. Field work required. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.
EPSY 494. Topics in Educational Psychology. 1-4 hours.
Seminar on a pre-announced topic focusing on methodology, research and educational implications of recent models of learning, problem solving, and thinking. Course Information: May be repeated to a maximum of 12 hours. Prerequisite(s): Consent of the instructor.

EPSY 496. Independent Study. 1-4 hours.
Students carry out independent study under the direction of educational psychology faculty member. Course Information: Prerequisite(s): Junior standing or above; and consent of the instructor.

EPSY 500. Proseminar in Educational Psychology I: Socialization into The Field. 2 hours.
Socializes students into Educational Psychology, and covers professional development (e.g., importance of CV, presenting at a conference, IRB, grant proposals), and areas of emphasis (e.g., learning, assessment, statistics, measurement). Course Information: Same as PSCH 551. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Ph.D. in Educational Psychology or Education programs; or consent of the instructor.

EPSY 501. Theories of Educational Psychology. 4 hours.
Covers critical theories that drive the research and practice of educational psychology, including theories and research that pertain to student achievement, motivation, beliefs, assessments, teaching, and learning across the life span. Course Information: Same as PSCH 551. Prerequisite(s): EPSY 500 and admission to the Ph.D. in Education program or the Ph.D. in Psychology program; or consent of the instructor.

EPSY 502. Social Psychology of Education. 4 hours.
Social psychological factors influencing academic and social outcomes in schools. Achievement motivation, peer relations, social values in relation to student characteristics and school practice. Course Information: Same as PSCH 517. Prerequisite(s): Admission to the Ph.D. in Education program or the Ph.D. in Psychology program; or consent of the instructor.

EPSY 503. Essentials of Quantitative Inquiry in Education. 4 hours.
Introduces theory and assumptions behind parametric statistics. Also provides hands-on experience in conducting basic quantitative research (t-test, correlation, regression, analysis of variance). Course Information: Same as ED 503. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

EPSY 505. Advanced Analysis of Variance and Multiple Regression. 4 hours.
Detailed coverage of the principles of ANOVA models, multiple correlation, and multiple regression techniques as tools for the analysis and interpretations of educational and behavioral science data. Course Information: Extensive computer use required. Prerequisite(s): EPSY 503; or consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in a Lecture/Discussion and a Laboratory/Discussion.

EPSY 507. Approaches to Analyzing Rating Data. 1-4 hours.
An introduction to various statistical approaches for detecting rater effects and monitoring rater performance. Course Information: Extensive computer use required. Prerequisite(s): ED 501 and ED 503 or the equivalent; or consent of the instructor. Recommended background: EPSY 504 and EPSY 505 and EPSY 506 and EPSY 512 and EPSY 546; and EPSY 547.

EPSY 508. Proseminar in Educational Psychology II: Discourses in the Field. 3 or 4 hours.
Covers proper scientific writing, including the process of scientific argumentation, crafting research questions and ideas, how to write all components of a scientific article, dissertation, conference presentations, and grant proposal. Course Information: Prerequisite(s): ED 503 and ED 505 and ED 506 and enrollment in the PhD program in Educational Psychology or approval of instructor. Recommended background: ED 502.

EPSY 509. Research Design in Education. 4 hours.
Emphasis is placed on discriminating theoretical and program evaluation research, distinguishing the parts of the study, and designing a research proposal. Course Information: Prerequisite(s): Admission to a graduate program.

EPSY 516. Institutional Research, Data, and Evaluation in Urban Higher Education. 4 hours.
Intro to institutional research, data collection and usage. Emphasis on evaluating and using data in institutional practices, including strategic planning, assessment, accreditation, financial planning, budgeting, enrollment management and learning. Prerequisite(s): Admission to MEd in Urban Higher Education OR consent of instructor.

EPSY 517. Seminar in Urban Youth Development. 4 hours.
In-depth analysis of topics and issues in the field of youth development and its relation to youth program development, with special attention to the urban context. Course Information: Previously listed as CIE 517. Prerequisite(s): Consent of the instructor.

EPSY 518. Introduction to Professional Practice in Urban Youth Development. 3 hours.
Students will be engaged in bridging theory and research to their professional practice with young people in an urban context. The first in a two-course sequence. Course Information: Prerequisite(s): EPSY 517. Recommended background: EPSY 414 and EPSY 416. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

EPSY 519. Curriculum, Instruction and Assessment in Early Primary Grades. 5 hours.
Language arts, mathematics, science, social studies and fine arts curriculum development and instruction in the primary grades. Course Information: Prerequisite(s): EPSY 429 and EPSY 520; and consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

EPSY 520. Introduction to Curriculum and Practice in Early Childhood Education. 6 hours.
Focuses on creating curriculum, designing learning environments, curriculum and instruction, and developing sensitive and responsive interactions with young children (ages birth- 8) in community and school-based settings. Course Information: Field work required. Prerequisite(s): EPSY 426 or ED 422; and consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.
EPSY 521. Student Teaching in Early Childhood Education. 1-12 hours.
This is a required course for students opting to add an initial PEL with endorsements in ECE and ECSE. The course focuses on planning, curriculum, instruction, assessment and collaborating with families and staff. Course Information: Field work required. Meets Illinois State requirement for PEL with endorsements in ECE and ECSE by providing supervised student teaching experiences. Prerequisite(s): Grade of B or better in EPSY 520; and consent of the instructor. Recommended Background: Candidacy in PEL program.

EPSY 522. Internship in Early Childhood. 0-12 hours.
Instructional methods in curricula in Early Childhood Education. Course Information: May be repeated. Full-time fieldwork required in early childhood education classroom. Prerequisite(s): Consent of the instructor. Co-Requisites: Requires concurrent registration in EPSY 523. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

EPSY 523. Advanced Curriculum and Practice in Early Childhood Education. 3 hours.
This is a required course for students opting to add an initial PEL with endorsements in ECE and ECSE. This course focuses on planning, curriculum, instruction, assessment and collaborating with families and staff. Course Information: Prerequisite(s): Grade of B or better in EPSY 520.

EPSY 525. Advanced Adolescent Development. 3 hours.
Examines current theory and research on physiological, intellectual, emotional, and social development during the adolescent years. Examines relationship amongst individual, interpersonal, and contextual factors related to adolescent development. Course Information: Prerequisite(s): EPSY 446 or EPSY 502 or ED 421 or ED 422 or ED 445; or consent of the instructor. Recommended background: Coursework in Educational Psychology or Psychology.

EPSY 528. Advanced Professional Practice in Urban Youth Development II. 4 hours.
Students will be engaged in implementing their designed field work project in an urban youth development organization. The second in a two-course sequence. Course Information: Field work required. Prerequisite(s): EPSY 517 and EPSY 518. Recommended background: EPSY 414 and EPSY 416. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

EPSY 530. Achievement Motivation. 4 hours.
The psychology of achievement motivation will be explored from the perspectives of personality, social, and educational psychology. Course Information: Same as PSCH 525. Prerequisite(s): Graduate standing in education or psychology or consent of the instructor.

EPSY 531. Gender, Sexuality, and Adolescent Development. 4 hours.
Focuses on the development of gender and sexuality in adolescence, the ways in which this development impacts growth in other areas, and the impact that social, contextual, and cultural factors have on these processes. Course Information: Prerequisite(s): Consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Discussion.

EPSY 535. Human Development for School Leaders. 4 hours.
Deepens school leaders’ understanding of human development across the lifespan, from birth to adult learning in schools; includes attention to differentiated instruction, SpEd inclusion, and ELL learners in all age groups. Course Information: Same as EDPS 535. Prerequisite(s): Consent of the instructor.

EPSY 543. Advanced Analysis of Variance in Educational Research. 4 hours.
A continuation of the topics covered in introductory statistics. Focuses on experimental design and analysis of variance (ANOVA) techniques as tools for analysis and interpretation of educational and behavior science data. Course Information: Previously listed as EPSY 563. Prerequisite(s): EPSY 503.

EPSY 546. Educational Measurement. 4 hours.
Contemporary models for the analysis of data arising from multiple-choice tests, rating-scale questionnaires, or experts’ judgments of examinee performance. Test equating is also covered. Course Information: Prerequisite(s): ED 501, and ED 503 or EPSY 503 or the equivalent or consent of the instructor.

EPSY 547. Multiple Regression in Educational Research. 4 hours.
Introduction to multiple correlation and regression techniques as tools for the analysis and interpretation of educational and behavioral science data. Course Information: Prerequisite(s): EPSY 503.

EPSY 550. Rating Scale and Questionnaire Design and Analysis. 4 hours.
Development and administration of rating scales and questionnaires, analysis of data, and reporting of results. The focus is on rating scales. Course Information: Previously listed as EPSY 504. Extensive computer use required. Prerequisite(s): EPSY 503 or the equivalent or consent of the instructor.

EPSY 551. Item Response Theory/Rasch Measurement. 4 hours.
Statistical inference with item response theory models, useful to measure an individual's performance on a test or questionnaire. Models include parametric, non-parametric, unidimensional, multidimensional, and cognitive. Course Information: May be repeated for a maximum of 8 hours. Previously listed as EPSY 506. Extensive computer use required. Prerequisite(s): EPSY 503 and EPSY 546 or the equivalent. Graduate or professional standing required or consent of the instructor.

EPSY 553. Assessment for Teachers. 4 hours.
Plan, construct, administer, score, and report on classroom assessments that measure a wide variety of learning outcomes, from simple to complex; select and use standardized achievement tests; developing defensible grading procedures. Course Information: Prerequisite(s): EPSY 421 and EPSY 422; or consent of the instructor.

EPSY 556. Educational Program Evaluation. 4 hours.
An introduction to concepts, approaches, techniques, and practices of educational program evaluation. Students work toward acquiring knowledge and skills to plan and conduct evaluations of programs, projects, curriculum and institutions. Course Information: Prerequisite(s): EPSY 503; or consent of the instructor.

EPSY 561. Assessment for Measurement Professionals. 4 hours.
Plan, construct, administer, score, and report on classroom assessment; select and use standardized achievement tests; develop defensible grade procedures; measure issues in classroom assessment; validity and reliability of classroom assessments. Course Information: Prerequisite(s): ED 421 and ED 422; or consent of the instructor.

EPSY 562. Large-Scale Testing. 4 hours.
An introduction to large-scale assessments, including planning, constructing, administering, scoring, and reporting on large-scale tests. Course Information: Prerequisite(s): EPSY 503 or the equivalent; or consent of the instructor. Recommended background: EPSY 553 or EPSY 561. Prior experience in designing, administering, scoring, and/or reporting on large-scale tests.
EPSY 583. Multivariate Analysis of Educational Data. 4 hours.
Multivariate analysis: data screening, multivariate analysis-variance (MANOVA), multivariate analysis of covariance (MANCOVA), discriminant function analysis (DFA), profile analysis (PA), principal component analysis (PCA), EFA, CFA and SEM. Course Information: Prerequisite(s): EPSY 505 or EPSY 547 or EPSY 563.

EPSY 584. Hierarchical Linear Models. 4 hours.
Parametric and semiparametric approaches to hierarchical linear modeling, for the analysis of continuous and categorical multivariate data. These approaches extend on classical linear regression analysis. Course Information: Previously listed as EPSY 512. Extensive computer use required. Prerequisite(s): EPSY 546 or EPSY 547 or EPSY 543; and graduate or professional standing; or consent of the instructor or equivalent.

EPSY 585. Non-Parametric Modeling. 4 hours.
Contemporary nonparametric and semiparametric models that make minimal assumptions about the data-generating process, in order to permit more accurate conclusions in data analysis. Course Information: Previously listed as EPSY 514. Prerequisite(s): EPSY 546 or EPSY 547 or EPSY 543; and graduate or professional standing; or consent of the instructor or equivalent.

EPSY 586. Theory of Statistics. 4 hours.
The foundations of statistical analysis and probability modeling, including probability theory, parameter estimation, axioms and principles of rational decision-making, and large-sample theory. Course Information: Previously listed as EPSY 510. Prerequisite(s): EPSY 546 or EPSY 547 or EPSY 543; and graduate or professional standing; or consent of the instructor or equivalent.

EPSY 593. Ph.D. Research Project. 1-8 hours.
Students design, implement, and analyze results of a research problem in this area of specialization. Completed study is reviewed by faculty. Course Information: May be repeated to a maximum of 8 hours. Prerequisite(s): Admission to the Ph.D. in Education program.

EPSY 594. Special Topics in Educational Psychology. 1-4 hours.
Seminar on a preannounced topic focusing on methodology, research, and educational implications of recent models of learning, problem solving, and thinking. Course Information: May be repeated to a maximum of 12 hours. Prerequisite(s): EPSY 546 or EPSY 547 or EPSY 543; and graduate or professional standing; or consent of the instructor.

EPSY 596. Independent Study. 1-4 hours.
Students carry out independent study in educational psychology under the direction of a faculty member. Course Information: May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): ED 421 and ED 422, or consent of the instructor.

EPSY 598. Masters Research. 0-16 hours.
Research on the topic of the student's Master's thesis. Course Information: May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the thesis instructor.

EPSY 599. Thesis Research. 0-16 hours.
Research on the topic of the student's dissertation. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the dissertation advisor.

Education Courses

ED 402. Philosophy of Education and Urban School Policy. 3 hours.
Selected social and education philosophies and their impact on urban school curriculum design, school organization and control.

ED 403. Policy Issues in the History of American Education. 3 hours.
Political, economic, and cultural influences shaping the development of American education policy; emphasis on issues of education theory and practice in their historical settings.

ED 416. Practical Inquiry I: Teacher Competencies and Performance-Based Assessment. 3 hours.
Introduction to examining teaching through practitioner inquiry, including teacher performance assessment, as a way of learning to teach and beginning a lifelong process of professional development.

ED 417. Practical Inquiry II: Teacher Competencies and Performance-Based Assessment. 3 hours.
A developing examination of teaching through practitioner inquiry, including teacher performance teacher assessment, as a way of learning to teach and fostering a lifelong process of professional development.

ED 421. Advanced Educational Psychology. 3 hours.
Examines current theory and research on the teaching-learning process with particular attention to general learning and curriculum-relevant problem solving skills. Course Information: Prerequisite(s): EPSY 210; or graduate standing.

ED 422. Advanced Developmental Psychology and Educational Processes. 3 hours.
Focuses on cognitive and social development from birth to early adolescence. Examines relations between development, learning, and educational processes. Course Information: Same as PSCH 422. Prerequisite(s): PSCH 100 and any one from EPSY 210, PSCH 259, PSCH 320 and consent of the instructor; or graduate standing.

ED 424. Social and Emotional Learning: Research, Practice, and Policy. 3 or 4 hours.
Research, theory, educational practices, and federal/state policies that promote the social, emotional, and academic competence of students who are in preschool, middle school, or high school. Course Information: Same as PSCH 424. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PSCH 343 or equivalent; or consent of the instructor. Recommended background: Experience working with children or adolescents.

ED 425. Curriculum, Instruction, and Assessment in the Urban Secondary Classroom. 4 hours.
Developing professional practice that meets the diverse learning needs of students from different backgrounds and experiences. Course Information: Previously listed as ED 330. Field experience in urban schools is required. Prerequisite(s): Admission to an approved teacher licensure program in secondary education, and ED 200, ED 210 and SPED 410, and consent of the instructor and Council of Teacher Education. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 430. Curriculum and Teaching. 3 hours.
Introduction to curriculum and teaching as areas of inquiry; implications of these areas of inquiry for educational practice; related contemporary problems and issues. Course Information: Credit is not given for ED 430 if the student has credit for CI 428. Prerequisite(s): Admission to graduate study in Education, or consent of the instructor.
ED 431. Improving Learning Environments. 3 hours.  
Analysis of structural, normative, and social dimensions of learning environments and their relationships to student learning. Exploration of change processes to improve those environments. Course Information: Prerequisite(s): Graduate standing or consent of the instructor.

ED 432. Instruction and Assessment in the Urban Secondary Classroom. 5 hours.  
Learning to teach, how to plan for diverse learners, design differentiated instruction, assess student learning and develop classroom discipline. Course Information: Field experience in urban schools is required. Prerequisite(s): Completion of education core courses in Graduate Teacher Certification Program: Ed 402 or ED 403 and ED 445. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 445. Adolescence and the Schools. 3 hours.  
Physiological, intellectual, and social development of adolescence. Relations between aspects of adolescent development and the academic and social demands of secondary schools. Course Information: Prerequisite(s): EPSY 210, or the equivalent, or graduate standing.

ED 450. Pre-Student Teaching in the Urban Elementary Classroom, Fieldwork III: Arts, Health, and Physical Ed. 1-12 hours.  
This pre-student teaching experience immerses teacher candidates in classrooms in a supervised experience of learning to teach; and develop effective practices with an emphasis in arts, health and physical education. Course Information: May be repeated. Field work required. Field work: total of 180 hours, coordinated by the program director and in collaboration with field instructors. Prerequisite(s): Senior standing or above and admission to the Bachelor of Arts in Urban Education, Concentration in Elementary Education.

ED 451. Student Teaching in the Urban Elementary Classroom: Fieldwork IV. 0-12 hours.  
Student teaching is a full-time experience of learning to teach in a classroom with university mentoring and supervision. Course Information: May be repeated. Field work required. Prerequisite(s): ED 450 and admission to the Bachelor of Arts in Urban Education, Concentration in Elementary Education and senior standing. Class Schedule Information: To be properly registered, students must enroll in one Discussion and one Practice.

ED 461. Political and Socio-Cultural Perspectives on Special Education. 3 hours.  
Students will examine issues of access and equity through legislation, litigation, and socio-cultural perspectives and be introduced to major theoretical frameworks that influence special education programs. Course Information: Same as SPED 461. Field work required. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 470. Educational Practice with Seminar I. 0-12 hours.  
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Course Information: Graduate credit only with approval of the college. 1 to 12 hours. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the college or department of specialization. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 471. Educational Practice with Seminar II. 0-12 hours.  
The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Course Information: Graduate credit only with approval of the college. 1 to 12 hours. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in ED 470, and approval of the college or department of specialization. Class Schedule Information: To be properly registered, students must enroll in one Conference and one Practice.

ED 472. Promoting Academic and Prosocial Behavior I. 3 hours.  
The importance of school-wide and classroom structure and climate in the educational process. Strategies to promote academic success and desired social behavior. Course Information: Same as SPED 472. Field work required. Prerequisite(s): ED 461 or ED 461 or the equivalent or consent of the instructor.

ED 473. Teaching Math and Science with Adaptations. 3 hours.  
Provides prospective teachers with assessment strategies and a range of adaptations, modifications, and interventions in math and science for students with disabilities. Course Information: Same as SPED 473. Field work required. Prerequisite(s): SPED 461. Course Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.

ED 500. Philosophical Foundations of Educational Inquiry. 4 hours.  
Philosophical foundations of various forms of educational inquiry. Epistemological and ethical dimensions of different research approaches. Course Information: Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

ED 501. Data and Interpretation in Educational Inquiry. 4 hours.  
Data, interpretation, reliability, validity, accuracy, stability, and generalizability from different methodological perspectives; how research design, data collection, and interpretation vary with different philosophical approaches. Course Information: Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

ED 502. Essentials of Qualitative Inquiry in Education. 4 hours. 
Surveys methods for conceptualizing, gathering, managing, and interpreting qualitative data. Various ethnographic, historical, and narrative forms of inquiry are reviewed, as are the corresponding methods associated with each. Course Information: Extensive computer use required. Field work required. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

ED 503. Essentials of Quantitative Inquiry in Education. 4 hours. 
Introduces theory and assumptions behind parametric statistics. Also provides hands-on experience in conducting basic quantitative research (t-test, correlation, regression, analysis of variance). Course Information: Same as EPSY 503. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.

ED 504. Urban Contexts and Educational Research. 4 hours.  
A multidisciplinary approach for understanding research on learners and learning, schools and schooling, families, and communities in urban contexts. Course Information: Extensive computer use required. Prerequisite(s): Admission to one of the PhD programs in the College of Education or consent of the instructor.
ED 505. Introduction to Educational Research: Paradigms and Processes. 4 hours.
Offers a survey introduction to the history, contexts, paradigms and orientations, ethics, and processes of educational research. Course Information: Extensive computer use required. Prerequisite(s): Admission to one of the PhD programs in the College of Education or consent of the instructor.

ED 506. Introduction to Educational Research: Designs and Analyses. 4 hours.
Offers researchers an introduction to research in the field of education. It is the second of a two-course sequence and will introduce students to different types of research designs and analyses in the field of education. Course Information: Extensive computer use required. Prerequisite(s): ED 505 and admission to one of the PhD programs in the College of Education or consent of the instructor.

ED 543. Research on Teaching. 4 hours.
Review and analysis of history, paradigms, methods, and findings of research on teaching. Focus on the development of research questions and strategy. Course Information: Prerequisite(s): ED 490 or ED 503 or CIE 578; and consent of the instructor.

ED 580. Colloquium on Diversity in Secondary Education. 2 hours.
Designed to provide candidates with opportunities to interact with experts who deal with various issues of diversity in education, to discuss those issues with their cohorts, and to explore ways of meeting students’ diverse needs. Course Information: Satisfactory/Unsatisfactory grading only.

ED 594. Special Topics in Education. 1-4 hours.
Exploration of a topic not covered in existing course offerings. Course Information: May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

ED 596. Independent Study. 1-4 hours.
Students independently study related topics not covered by course, under faculty supervision. Course Information: May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the advisor.