EDUCATIONAL PSYCHOLOGY (EDPSY)

EDPSY 502: Data Analysis Workshop
3 Credits
This course is designed to increase conceptual understanding of basic statistics and proficiency with analytic techniques. EDPSY 502 Data Analysis Workshop (3) This course is designed for students with a desire to increase their conceptual understanding of basic statistics and their proficiency with analytic techniques using educational data sets. Through this course students will increase their knowledge of research methods and analytic strategies. An emphasis is placed on the connections among research design, research questions, analysis strategy, and interpretation of findings to supplement their statistics coursework. The course will be held in a computer lab so students can access a statistical analysis package. This course draws on students' knowledge and skills from research methods and statistics courses. In this elective workshop-style class, students are provided a conceptual review of quantitative statistical analysis. In each session hands-on activities and practice with provided educational data sets allow students to learn techniques and interpretation of conducted analysis. Through this course students become more comfortable with analyzing quantitative data sets. The data sets used in the course include segments of large scale educational data sets as well as smaller data sets that include relevant variables for education or educational psychology. These data sets are either portions of actual sets, or fictitious sets with variables labeled with relevant constructs. There are no general data sets included in the course. Each session starts with a teacher-directed review, followed by a model analysis, and guided practice. Students then practice analyzing and interpreting with provided example data sets. Students exit the course with a set of models to reference in their future work.

Prerequisite: EDPSY406 and EDPSY475

EDPSY 505: Statistical Applications in Educational Research
3 Credits
Statistical techniques for education research including multiple regression, one-way, two-way, and repeated measures ANOVA. Use computer software for statistical analyses.

Prerequisite: EDPSY406

EDPSY 506: Advanced Techniques for Analyzing Educational Experiments
3 Credits
Analytical and experimental control considerations for designs involving nested and/or crossed subjects. Analysis of variance and multiple comparisons via computers. EDPSY 506 Advanced Techniques for Analyzing Educational Experiments (3) The main purpose of this course is to introduce a variety of experimental designs that are used in education and the social and behavioral sciences. Experimental designs involve plans for choosing experimental units, assigning treatments, and collecting measurements. The goal is to design informative studies and carry out powerful analyses to answer research questions within practical constraints. For each design, appropriate statistical analyses including the mathematical model, underlying assumptions, computational routines, and the statistical tests of hypotheses will be covered.

Relative advantages and disadvantages of the different designs will be discussed. The course will provide hands-on opportunities to practice data analysis and result interpretation. In light of likely differences in students' academic backgrounds, the course emphasizes conceptual understanding rather than mathematics of the statistical methods.

Prerequisite: EDPSY505 or PSYCH400

EDPSY 507: Multivariate Procedures in Educational Research
3 Credits
Introduction to matrix algebra, computer programming, multiple regression analysis, multiple and canonical correlation, multiple discriminant analysis, classification procedures, factor analysis. EDPSY 507 Multivariate Procedures in Educational Research (3) This course covers analytical techniques in the analysis of variable relationships. It focuses on regression-based statistical techniques in explaining or predicting outcome variables from other relevant measured variables. Simple and multiple regression analysis of continuous outcome variables and logistic regression analysis of categorical outcome variables will be discussed along with model diagnostics. Other topics considered include applications of discriminant analysis for classification problems, exploratory factor analysis for data reduction and discovering the number of latent dimensions, and if time permits, cluster analysis for identifying patterns of individual responses. The course will provide hands-on opportunities to practice data analysis and result interpretation. The course emphasizes conceptual understanding rather than mathematics of the statistical methods.

Prerequisite: EDPSY505 or PSYCH400

EDPSY 512: Group Processes in the Classroom
3 Credits
Basic concepts and perspectives in the study of group processes; instructional group interaction; analysis of classroom behavior.

EDPSY 513: Individual and Group Differences
3 Credits
Description, causes, and interpretation of individual variation over the life-span, with application to school and institutional practices.

Prerequisite: EDPSY400 or EDPSY450

EDPSY 515: Foundations of Educational Research
3 Credits/Maximum of 999
Students read the philosophical foundations of education research, study how philosophies influence methodologies, and analyze current educational problems. This course is designed for students entering doctoral programs in the College of Education. Our students are studying to become education researchers within a highly politicized environment. For example, particular definitions of education research and government policies that favor some types of research practices over others provide opportunities for and set limits upon the work of education researchers. Public controversies likewise contribute to challenges faced by education researchers who find their work affirmed or discounted by particular definitions and policies. In order to explore these controversies and to allow students to begin identifying their own 'positionality' with regard to research, this course begins with a reading of the history and philosophies of education research (primarily focusing on the United
Learning from behaviorism to situated cognition through the reading of...
EDPSY 530: Achievement Motivation
3 Credits
Within a seminar format, this course addresses both theoretical and empirical approaches to motivation and other related affective constructs.
Prerequisite: EDPSY421

EDPSY 550: Design and Construction of Psychological Measures
3 Credits
Lecture-practicum involving planning, construction, administration, and analysis of a psychological test; lectures stress construct validity, item analysis, and predictive validity.
Prerequisite: EDPSY450

EDPSY 554: Theories of Psychological Measurement
3 Credits
Basic true-score and error models; their extensions to test reliability and test validity; problems of item analysis and weighting.
Prerequisite: EDPSY450

EDPSY 555: Validation of Assessment Results
3 Credits
Concepts, issues, and methods of validation of educational and psychological assessment including models and approaches to validation, bias, and utility. EDPSY (CI ED) 555 Validity of Assessment Results (3) The goal of this course is to enable the student to acquire a broad perspective on issues and considerations in the process of validating interpretation and uses of tests, scales, assessment procedures, or protocols. Issues of validity are examined from many perspectives including a review of current dominant and alternative validity theories, of known threats to validity, of some advanced specialized statistical techniques; and of test bias, legal issues, psychological/behavioral issues, social/consequential considerations, and philosophical considerations. Additionally, applications are provided through in-depth cross-cultural and historical studies, technical reviews of published commercial tests, and in-depth examinations of controversies.
Prerequisite: EDPSY406, EDPSY450
Cross-listed with: CIED 555

EDPSY 556: Foundations and Applications of Item Response Theory
3 Credits
Unidimensional models for dichotomously scored and polytomously scored items and their applications in instrument/test development.
Prerequisite: EDPSY450 and EDPSY507

EDPSY 557: Hierarchical Linear Modeling in Educational Research
3 Credits
Statistical techniques for the analysis of multilevel data such as in nested designs or hierarchical data. EDPSY 557 Hierarchical Linear Modeling in Education Research (3) Hierarchical Linear Modeling (HLM) models

EDPSY 558: Foundations and Applications of Structural Equation Modeling
3 Credits
Model specification, identification, estimation, evaluation, and modification for measurement models, path models, and full structural models. EDPSY 558 Foundations and Applications of Structural Equation Modeling (3) Structural Equation Modeling (SEM) is considered an advanced multivariate statistical tool. It subsumes general linear models such as ANOVA and regression and can model binary, ordinal, or count data like logistic and Poisson regression. SEM is multi-disciplinary and most widely used in Social and Behavioral sciences. This course covers foundational issues in Structural Equation Modeling. Path analysis, confirmatory factor analysis, and full structural models will be discussed in terms of model specification, identification, estimation, evaluation, and modification. Students will learn how to specify models of theoretical interest, recognize identification problems, perform model estimation and modification using an SEM software of choice, and defend the final model selected. Examples of model fitting will be illustrated in class with the LISREL program. However, students are encouraged to explore other SEM programs that best suit their skills and research interests. A class project involving the application of the newly acquired techniques is required.
Prerequisite: EDPSY406, EDPSY507, and STAT 505

EDPSY 560: Contemporary Issues in the Evaluation of Educational Programs
3 Credits
Practical and theoretical issues in the planning, execution, and interpretation of program evaluations.
Prerequisite: EDPSY450, EDPSY475

EDPSY 575: Seminar in Educational Psychology
1-6 Credits/Maximum of 6
A seminar dealing with specific topics in educational psychology. Open to advanced students in the behavioral sciences.
EDPSY 576: Research Methods in Teacher Education
3 Credits
A basis in theory, findings from research, research design, and methodologies related to teacher education.
Cross-listed with: C-S 576

EDPSY 578: Contemporary Issues in Interdisciplinary Educational Intervention Sciences
2-3 Credits
Proseminar exploring contemporary issues in the design and evaluation of educational interventions from an interdisciplinary perspective.
Cross-listed with: HDFS 578, PSY 578

EDPSY 596: Individual Studies
1-9 Credits/Maximum of 9
Creative projects, including nonthesis research, which are supervised on an individual basis and which fall outside the scope of formal courses.

EDPSY 597: Special Topics
1-9 Credits/Maximum of 9
Formal courses given on a topical or special interest subject which may be offered infrequently.

EDPSY 600: Thesis Research
1-15 Credits/Maximum of 999
No description.

EDPSY 601: Ph.D. Dissertation Full-Time
0 Credits/Maximum of 999
No description.

EDPSY 602: Supervised Experience in College Teaching
1-3 Credits/Maximum of 6
Teaching of Educational Psychology classes under senior faculty supervision.

EDPSY 610: Thesis Research Off Campus
1-15 Credits/Maximum of 999
No description.

EDPSY 611: Ph.D. Dissertation Part-Time
0 Credits/Maximum of 999
No description.