

Appendix F

Required Courses in the School Psychology Program

Brief Descriptions and Relevant NASP Standards

All courses in the program are consistent with the University of Delaware Conceptual Framework, which provides the goals and outcomes for the candidates in professional education programs. The University prepares educators with the knowledge, skills, and dispositions that are required to fulfill the responsibilities of an uncompromised commitment to serving the needs and interests of students, families, and communities. The candidates in our programs will implement best practices and recognize students and professionals as whole persons who are developing across the cognitive, social, emotional, and physical domains within families, communities, cultural, and economic contexts. Candidates will embody three qualities as they move on their trajectory to become professionals: knowledge and skills, leadership and commitment to equity. The framework describes these qualities and is available online at:

<http://www.dcte.udel.edu/wp-content/uploads/2012/01/Conceptual-Framework-2012.pdf>

Each required course is described briefly below, along with the relevant NASP Standards addressed in each course. *NOTE: The Standards are referenced below as they appear in the Standards for Graduate Preparation of School Psychologists (2010); the numbering system for CAEP is different.*

EDUC 618: Introduction to School Psychology

This course provides an overview of the roles and functions of school psychologists and exploration of related critical issues. Primary attention is given to:

- Current issues pertaining to the assessment, classification, and education of children with disabilities (Standards 2.1, 2.10, 2.5).
- Current, historical and foundational, and professional issues in school psychology (Standard 2.10).
- Cultural diversity, the organization and operation of special services in the schools, and professional, legal, and ethical standards in school psychology (Standard 2.8).

Applied experience includes interviewing and shadowing a school psychologist.

EDUC 623: Applied Human Development

This course is designed for school psychologists and educators who will teach learners with exceptionalities or learners who are learning English as a second language. Students will understand the research and theory in child and adolescent development with an emphasis on applications in the classroom. Primary attention is given to:

- Social, moral, affective, cognitive and biological domains of development (Standards 2.3, 2.4, 2.8)
- Understanding individual differences children's and adolescents' learning, motivation, and behaviors, including those related to culture and developmental contexts (Standards 2.3, 2.4, 2.8)

EDUC 651: School-Based Family Issues and Interventions

This course is designed to provide school psychologists and other educators with an understanding of diverse family systems and processes from an eco-systemic perspective. It is

also intended to increase understanding of the relationships between families and the school system, as well as the application of family-school collaboration theory and skills. Primary attention is given to:

- Understanding the processes that govern family functioning and the multiple influences (e.g., culture, SES) that affect families' functioning (**Standards 2.7, 2.8**)
- Learning basic principles of ecosystemic theory and their application to family-school collaboration (**Standard 2.7, 2.8**)
- Learning multiple strategies that are successful in enhancing family-school collaboration by improving interpersonal relationships between educators and families (**Standards 2.2, 2.7, 2.8**)
- Developing skills in identifying school-based challenges that relate to family engagement, analyzing existing family engagement strategies, and developing evidence-based strategies that will more effectively connect families and schools (**Standards 2.5, 2.7, 2.8**)

Applied experience includes researching a family-school collaboration challenge in one of your school placements, collecting data, and planning an intervention to address the challenge.

EDUC 663: Counseling Skills Laboratory

This course assists students in developing the skills necessary to accomplish and facilitate a "helping relationship." Students observe, participate in, and critique a variety of role playing exercises and actual counseling sessions as a means of mastering counseling skills. Primary attention is given to:

- Foundational skills including –
 - Interpersonal & collaborative skills (**Standard 2.2**)
 - Diversity awareness and culturally competent service delivery (**Standard 2.8**)
 - Professional, legal, ethical, and social responsibility, including self-analysis and self-growth, and ethical use of technology (**Standard 2.10**)
- Functional competencies including –
 - Individual counseling skills and approaches, including the microskills hierarchy (**Standard 2.4**)
 - Basic interviewing, observation and assessment skills (**Standard 2.1**)
 - Interventions to enhance clients' wellness, social skills, mental health, and life competencies (**Standard 2.4**)

Applied experience includes producing video of counseling sessions.

EDUC 671: Practicum in School Psychology - I

This practicum focuses on increasing students' familiarity with the organization and operation of schools and on developing skills in assessment for intervention. Students will learn to conduct psychoeducational assessments as a collaborative problem-solving process. The goal is to inform the development of empirically valid interventions that will remediate identified academic, social, and behavioral difficulties and prevent further difficulties from arising. Primary attention is given to:

- Developing knowledge of the organization and operation of school systems, including the roles and functions of personnel from varying disciplines and the operation of both regular and special education programs. Students will learn the processes by which children become eligible for special education services and the processes districts use to monitor children's

- progress in preparation for statewide assessment. (Standard 2.10)
- Developing assessment skills through planning and implementing psychoeducational assessments as assigned at their sites. Students will develop skills in using multiple methods to gather data, in interpreting and reporting data, and in use of technology in assessment (Standards 2.1, 2.2)
- Developing students' understanding of the implications of individual client's sociocultural and family background in planning and implementing assessment activities. They will develop their ability to utilize a social justice framework to analyze and intervene with school-based challenges. (Standard 2.8)
- Developing an understanding of how effective instruction is delivered in the classroom setting through observation and analysis of exemplary practices. Students will increase their understanding of the relationship between prevention efforts, such as effective instruction, and the special education referral process. (Standard 2.5)
- Increasing students' understanding of the broader roles of school psychologists through observation of school psychologists engaging in consultation and intervention activities at their practicum sites. (Standards 2.2, 2.3, 2.4, 2.5, 2.6, 2.7)
- Developing students' professional behaviors and knowledge and implementation of professional ethics. (Standard 2.10)

EDUC 671: Practicum in School Psychology – II

In this course students have the opportunity to apply the knowledge and skills attained in the first year of the program. Particular attention is given to counseling skills. The course includes two major parts: 1) two days per week supervised field experience and 2) university-based supervision through individual meetings and group seminar meetings. The course addresses multiple NASP Standards in an integrative fashion. Students are expected to:

- Demonstrate assessment skills through planning and implementing complete psycho-educational assessments as assigned at their sites (Standard 2.1)
- Demonstrate progress toward proficiency in 1) their knowledge of school organization, policies, and procedures; 2) use of multiple measures to gather data; and 3) interpreting and reporting data (see skills included on the School Psychology Field Experience Checklist and Evaluation Form). During this semester, emphasis is given to conducting planful assessments and writing timely, informative reports that guide effective interventions for learning and behavior problems. (Standards 2.1, 2.2, 2.3, 2.4, 2.5)
- Develop their understanding of problem solving and intervention planning at all three tiers of intervention through observation of and participation in school-based problem solving teams. (Standards 2.2, 2.3, 2.4, 2.5, 2.6, 2.7)
- Develop and refine intervention skills, particularly individual counseling with children and adolescents in conjunction with other course work (Standards 2.1, 2.3, 2.4, 2.6)
- Refine their knowledge of the legal, ethical, and professional practice issues most relevant to counseling and other direct interventions in schools. (Standard 2.10)
- Demonstrate knowledge of counseling skills and their application to school-age populations from diverse backgrounds. (Standards 2.4, 2.8)

EDUC 671: Practicum in School Psychology - III

The primary purpose of the third and final (for specialist students) practicum is to provide you with opportunities to refine your skills in assessment, counseling, and other areas covered in your previous classes and field experiences. Primary attention is given to:

- Practicing skills obtained through course work in consultation and intervention. Students are required to consult with diverse teachers, parents, and others in selecting, designing, implementing, and evaluating interventions for children. Few, if any, of your cases this semester should involve only assessment. Instead, you are expected to link assessment to consultation and intervention. (Standards 2.1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.10)
- Practicing skills obtained through course work in other areas of training, including research, evaluation, and counseling. For example, students should provide teachers, parents, and other consultees with summaries of research on timely topics and design simple procedures to evaluate intervention programs for individuals or small groups of students. (Standards 2.5, 2.6, 2.9)
- Help implement a group counseling or social problem-solving program. You have to teach at least 3 sessions. (Standards 2.1, 2.2, 2.4, 2.9)

EDUC 679: Instructing Elementary/Middle Schoolers with Mild Disabilities

This course addresses instructional methods and curricula for elementary and middle school learners with mild disabilities. It focuses on using assessment to identify students' learning needs, planning effective instruction using models of learning and teaching, and monitoring student learning. Instructional accommodations and modifications are also included. The course includes development of Individualized Education Plans and collaboration with professionals. Primary attention is given to helping students:

- Become knowledgeable about different models of instruction and their application to learners with mild disabilities (Standard 2.3)
- Implement a process of curriculum-based assessment in reading, writing, math, and content areas (Standards 2.1, 2.3)
- Analyze and modify learning environments to meet the needs of students with mild disabilities (Standards 2.3, 2.5)
- Identify evidence-based instruction strategies and translate those strategies into lessons and units in reading, writing, math, and content area instruction (Standard 2.3)
- Work effectively with other professionals (Standard 2.2)

Applied experience includes implementing and evaluating a direct academic intervention with a student.

EDUC 688/867: Internship in School Psychology

Internship is not a course in the traditional sense. Interns develop and enhance skills and professional characteristics needed to provide effective services that integrate the goals of the school psychology program across the 10 domains of practice delineated by the National Association of School Psychologists (NASP). As such, interns provide a full-range of school psychology services under close supervision. They are expected to analyze the services they provide and, with the assistance of their supervisors, evaluate the effectiveness of those services. Students prepare a portfolio of their work to demonstrate competence across the domains of practice. The portfolio includes:

- Comprehensive psycho-educational assessment report (Standards 2.1, 2.2)

- Comprehensive consultation and counseling case studies demonstrating positive impact of their work for academic and social-emotional/behavioral goals (Standards 2.1, 2.2, 2.3, 2.4)
- Program development/evaluation project demonstrating skills in assessing and addressing specific needs at the school or district level (Standards 2.1, 2.2, 2.5, 2.9)
- Documentation of on-going professional development activities and the application of theory and research to professional activities (Standard 2.9).
- Log of activities and evaluation by supervisors that demonstrate competence in:
 - Effective problem-solving thorough assessment, consultation, intervention, prevention, and program development (Standards 2.1, 2.2, 2.3, 2.4, 2.6, 2.9)
 - The ability to collaborate effectively with students, teachers, families, and administrators as partners in the problem-solving process while working with individuals, teams, and at the systems levels (Standards 2.2, 2.7, 2.5).
 - The ability to apply these skills with a diverse community of learners; interns are expected to work effectively with students of varying ages, ethnicities, economic status, and developmental levels (Standards 2.8, 2.10).
- *NOTE: Doctoral students complete the same portfolio requirements as specialist students but complete additional hours of training.*

EDUC 691: Applied Statistics and Research Design

The statistics and research designs taught in this course will enable students to comprehend the "Results" sections of studies using univariate statistical methods. The course spans three, integrated units. The first covers basic statistics. The second introduces students to program evaluation and research designs. The third unit is the largest. It provides instruction on how to perform statistical tests and how to apply statistics to answer questions related to research studies and/or program evaluations.

Each statistics lecture will contain the following elements: (1) an introduction to a specific technique such as the analysis of variance (ANOVA), (2) discussion of assumptions underlying application of the statistical technique, (3) step-by-step instructions on how to use SPSS (or other programs) to calculate the statistic, (4) presentation of how to interpret output from the program, (5) how to conduct an a priori power analysis for the technique, and (6) provision of a template write-up showing how to incorporate the output into the "Data Analysis" and "Results" sections of a research paper. (Standards 2.1, 2.2, 2.9)

EDUC 744: Educational Measurement and Progress Monitoring

This course is designed to introduce students to educational assessment and diagnosis using both norm-referenced measures and curriculum-based Response to Intervention approaches. Primary attention is given to:

- Measurement issues related to academic assessment such as norms, reliability and validity as applied to both standardized and curriculum-based assessment practices (Standard 2.9)
- Administration and interpretation of norm-referenced and curriculum-based measures and their application to determination of disability status (Standard 2.1)
- Communicating assessment results in psychoeducational reports (Standard 2.2)

- The use of curriculum-based measures in progress monitoring as part of a Response to Intervention model (Standards 2.3, 2.5)

Applied experience includes administration, interpretation, and report writing for norm references and curriculum based measures.

EDUC 813: Child Psychopathology

This course is designed to introduce students to theory and research on psychological and behavioral disorders of childhood and adolescence. The course emphasizes reading and understanding the research into the pathways by which psychopathology develops as well as understanding empirically supported treatment strategies. Emphasis will be given to critiquing what is read and integrating information across diverse sources. Students are expected to:

- Become familiar with the DSM-5 classification system as it applies to disorders of childhood and adolescence as well as understanding relevant recent changes from the DSM-IV TR and their impact on diagnosis and treatment (Standards 2.1, 2.4).
- Learn how to assign DSM-5 diagnoses according to information obtained from case studies (Standards 2.1, 2.4)
- Increase knowledge of the etiology, development, and treatment of psychological and behavioral disorders of childhood and adolescence (Standard 2.4)
- Increase understanding of the roles of biological factors, sociocultural and environmental influences, and individual differences in childhood psychiatric disorders (Standards 2.4, 2.8).
- Develop in-depth knowledge of intervention approaches for a particular problem area in childhood psychopathology (Standard 2.4).
- Become familiar with several first-hand accounts of childhood disorders (Standard 2.4)
- Improve scholarly writing skills (Standard 2.9)

EDUC 814: Psychological Assessment of Children

This course covers techniques for evaluating the psychological adjustment and well-being of children and adolescents. Primary attention is given to:

- Essential measurement concepts that underlie personality assessment, including basic statistics for tests, norm-referenced versus criterion-referenced assessment, methods of norming tests, reliability, and validity (Standard 2.9)
- Administration and interpretation of parent-rating scales, teacher-rating scales, observation methods used by psychologists in classroom situations, child developmental histories obtained from parents, and interviews with students, parents and teachers (Standards 2.1, 2.2, 2.7).
- Appropriate use of data in planning interventions related to vocational aspirations, academic attainment, and emotional adjustment of children and adolescents (Standards 2.5, 2.6)

Applied experience includes administration, interpretation, and report writing for several rating scales and other assessments.

EDUC 817: Individual Intelligence Testing

This course covers the administration and interpretation of the major individually administered intelligence tests, in the context of current theories of cognitive ability and learning. Primary attention is given to:

- The structure and score composition of individually-administered intelligence tests (Standard 2.1)
- Theories addressing the nature and acquisition of intelligence (Standard 2.8)
- Common practices regarding the interpretation of ability profiles (Standard 2.1)
- The administration and scoring of major intelligence tests, especially the Wechsler Scales for children and adults (with coverage also including the Woodcock-Johnson, Stanford Binet, DAS, KABC, and others as assigned) (Standard 2.8)
- How to observe and interpret test-session behavior (Standard 2.1)
- Report writing (Standard 2.2)

Applied experience includes administration, scoring, and interpretation of multiple cognitive assessments.

EDUC 830: Consultation and Intervention: School Discipline

This course focuses on the role of school psychologists as consultants to teachers and schools on issues of school discipline. This includes applying a collaborative, problem solving model of consultation when working with teachers, students, and parents in the prevention and correction of behavior problems (Standard 2.2). Primary attention is given to:

- Classic models of classroom discipline (Standard 2.5)
- The social/emotional/learning (SEL) and the school-wide positive behavioral supports (SWPBS) approaches to school-wide discipline (Standard 2.5)
- Individual and environmental factors that mediate or contribute to behavior problems in the classroom (Standard 2.8)
- Principles of social learning theory, applied behavior analysis, and social, emotional, and moral development in the contexts of understanding, preventing, and correcting misbehavior (Standard 2.6)
- Conducting functional behavioral assessments (FBA) and developing behavior intervention plans (Standard 2.1)
- Reviewing practical strategies and techniques for preventing and correcting behavior problems and for developing self-discipline (Standards 2.3, 2.4, 2.6)

Applied experience includes a taped consultation session and conducting a functional behavioral assessment linked to behavioral intervention plan.

EDUC 831: Advanced Counseling Techniques

This course provides students the opportunity to extend and expand skills learned in EDUC663 Counseling Skills Lab. The course focuses on the "nuts and bolts" of counseling with child and adolescent clients from diverse backgrounds, including skills in assessment, treatment planning, evaluating outcomes, and termination. Attention is given to short-term, strength-based (solution-oriented) perspectives, with an emphasis on presenting problems encountered frequently in schools. Primary attention is given to:

- Increasing students' knowledge of the principles of counseling with children and adolescents. They will understand the unique aspects of children and adolescents as clients and increase their appreciation of the importance of developmental, contextual,

and cultural variables in counseling. (Standards 2.4, 2.8)

- Developing skills in conceptualizing client problems from a variety of perspectives, including solution-oriented, behavioral, cognitive, and systemic views (Standard 2.1)
- Demonstrating ethical best practices in the delivery of counseling services (Standard 2.10)
- Developing skills in planning and selecting specific treatment strategies, monitoring and documenting outcomes, and planning/ implementing healthy termination of services (Standards 2.1, 2.4)
- Understanding and applying specific counseling techniques, including modeling, problem solving strategies, self-monitoring strategies, relaxation, and use of imagery, games, and play within the brief, solution-oriented framework (Standard 2.4)
- Increasing students' knowledge of counseling issues associated with grief and loss, disclosure of sexual abuse, and suicidal ideation/behavior and develop their skills in responding to these student needs (Standard 2.6, 2.7, 2.10)

Applied experience includes work with at least three clients over the course of the semester and receiving feedback on at least five videos of sessions.

EDUC 841: Consultation and Intervention: Mental Health

This course builds upon EDUC 830, a prerequisite, presenting additional consultation and intervention skills in the schools related to behavior problems of students. Much greater focus is devoted to problem analysis and intervention phases of consultation and to system change at the school level. Research and various models of preventing mental health problems in the schools are studied and applied to systems. Primary attention is given to:

- Integrating theory and research related to the major approaches to school-based consultation (Standard 2.2, 2.9)
- Applying research and theory in consultation, prevention, and intervention in a collaborative problem-solving fashion to improve the social, emotional, and academic functioning of children (Standards 2.1, 2.2, 2.3, 2.4, 2.5, 2.6)
- Developing interpersonal skills related to effective consultation, including sensitivity to differences in individuals, cultures, organizations, and systems. (Standards 2.2, 2.8)
- Understanding the determinants of conduct problems and linking such understanding to help teachers implement evidence-based interventions that address specific behavior problems (Standards 2.2, 2.4, 2.6)
- Studying research on systems change and applying it to a proposed systems change plans for the prevention of behavior problems in the schools (Standards 2.1, 2.5, 2.6, 2.9)
- Developing familiarity with resources, materials, recommendations, and programs associated with a variety of individual, classroom, and school-wide interventions for children with conduct problems (Standards 2.3, 2.4, 2.5)
- Developing familiarity with resources, materials, recommendations, and programs for crisis prevention and response, especially crises concerning school violence (Standard 2.6)

Applied experience includes a taped consultation session and school-level needs assessment and program intervention plan.

EDUC 842: Assessment of Special Populations

This course emphasizes methods of assessing the needs and strengths of young children (birth to 5 years of age), and children with low incidence disabilities (including physical, cognitive, and sensory disabilities). Attention is given to planning school-based interventions that include progress monitoring within a response to intervention model, and developing behavior support plans based on functional behavior assessment. Students will demonstrate their knowledge through an examination, homework assignments, and participation in class discussions.

Objectives:

- Students will develop skills in the evaluation, selection, administration, and interpretation of psychological tests that address cognitive, social, emotional, and behavioral areas of development for young children and children with low incidence disabilities (Standards 2.1, 2.8).
- Students will identify best practices in educational planning and programming for young children and children with low-incidence disabilities (Standards 2.3).
- Students will develop skills in utilizing assessment information to develop empirically-based recommendations useful to parents and teachers (Standards 2.2, 2.7).
- Students will become familiar with best practices in prevention and intervention for learning and behavioral difficulties commonly found in young children and children with low incidence disabilities (Standards 2.3, 2.4, 2.6).
- Students will understand how information gathered as part of the assessment process contributes to special education eligibility under Delaware law (Standard 2.10).

EDUC 870: Child Neuropsychology

This course examines approaches to child neuropsychological assessment and interpretation, including applications to childhood learning and neurodevelopmental disorders. Primary attention is given to:

- Reviewing the basic foundations of human and child neuropsychology (Standard 2.8)
- Learning specific assessment techniques and approaches to interpretation (Standard 2.1)
- Increasing understanding of childhood and adolescent disorders (including: acquired neurological disorders and diseases, neuropsychiatric disorders, genetic/metabolic disorders, and developmental disorders, and psychopharmacology) (Standard 2.8)
- Learning the application of neuropsychological assessment results to practical educational remediation (Standards 2.3, 2.4)

Required Courses for the PhD Only

NOTE: All of the above courses are required for the PhD, with the exception of EDUC 623; PhD students typically take an 800-level development course instead.

EDUC 805: Proseminar I

This course introduces first year doctoral students to topics in educational research and policy,

along with the ways in which educational researchers use qualitative methods to examine these issues. Students will also develop and evaluate scholarly writing in the qualitative tradition. Students will:

- Improve understanding of the role of qualitative research in studying education. (Standard 2.9)
- Strengthen scholarly dispositions and research interests through investigating several topics in depth relevant to education practices. Topics include school reform, social contexts of education, teacher education, learning and development, and curriculum and instruction. (Standards 2.3, 2.4, 2.5, 2.8)
- Improve writing, speaking, listening, and research skills to facilitate participation in education scholarship (Standards 2.2, 2.9)

EDUC 806: Proseminar II

In this proseminar, students learn how to review research with a quantitative focus and to assess the evidence critically. Students read and evaluate a range of studies that employ experimental research designs as well as ones that are correlational in nature. Additionally, students practice framing their own research questions and proposing a research project that addresses the questions. (Standard 2.9) More generally, scholarly and practical communication are emphasized, both orally and in writing, along with APA publication standards and style. (Standard 2.2)

The course is organized around substantive topics that are being investigated in the field and by faculty members at SOE. The topics include math, language, literacy, educational interventions for high-risk students, school climate, motivation, and educational leadership. (Standards 2.3, 2.4, 2.5, 2.8)

EDUC 832: Practicum in School Psychology IV

In this practicum, doctoral students are expected to reflect on their training and practicum experiences to this point in the program and, based on this reflection, identify goals and objectives for this practicum. Thus, each student's plan is expected to be individualized and designed to enhance the applied skills that the student identifies as important for his/her continued professional development. The course includes two major parts: 1) two days per week field experience and 2) individual or small group supervision provided by the site supervisor and the University supervisor. Students will develop greater depth and breadth in their assessment, counseling, consultation, and program evaluation skills, as needed, to support their professional development (Standards 2.1, 2.2, 2.8, and 2.10 addressed for all students; Standards 2.3, 2.4, 2.5, 2.6, 2.7, and 2.9 addressed as needed for individual student goals).

EDUC 840 Research Colloquium in Education (1 credit per semester; minimum of 4 credits required)

A detailed analysis of the research currently under way at the University of Delaware and other institutions, including doctoral dissertations, that has application to human learning in an educational environment. Students attend weekly lectures and follow-up discussion sessions with expert speakers. (Standards 2.1 and 2.9)

EDUC 850: Methods of Educational Research I (Qualitative)

This course introduces students to the purposes and nature of qualitative research, the kinds of questions pursued through qualitative inquiry, and the different types of research designs used to address qualitative questions (**Standard 2.9**). Students will be exposed to various data collection methods such as observation, interviewing, and focus groups; and they will develop skills and dispositions needed to conduct qualitative research studies as they practice these methods (**Standard 2.1**). Students will learn the characteristics that make qualitative research a valid and reliable form of research for addressing educational phenomena.

EDUC 856: Methods of Educational Research II (Quantitative)

The statistics and research designs taught in this course will enable students to comprehend and perform analyses shown in the "Results" sections of studies using univariate statistical methods. The course spans two, integrated units. The first unit introduces students to research designs and discusses both internal and external validity threats. The second unit is the largest. It provides instruction on how to perform univariate statistical tests. Each statistics lecture will contain the following elements: (1) an introduction to a specific technique such as the analysis of variance (ANOVA), (2) discussion of assumptions underlying application of the statistical technique, (3) step-by-step instructions on how to use SPSS (or other programs) to calculate the statistic, (4) presentation of how to interpret output from the program, (5) how to conduct an a priori power analysis for the technique, and (6) provision of a template write-up showing how to incorporate the output into the "Data Analysis" and "Results" sections of a research paper. (**Standards 2.1, 2.2, 2.9**)

Quantitative Methods Core

NOTE: Students may choose between the qualitative and quantitative methods core; however, students are strongly encouraged to take the quantitative core.

EDUC 812: Regression and Structural Equation Modeling

The emphasis of this course is on familiarizing graduate students in with the language, logic, and implementation of Structural Equation Modeling (SEM).

SEM refers to a family of methods that all involve tests of a priori statistical models of covariances. These models typically feature observed or latent variables, error terms, and hypothesized relations—directional or nondirectional—among them. Specific techniques included in the SEM family include path analysis (PA), confirmatory factor analysis (CFA), and the evaluation of "hybrid" models with features of both path analytic and factor models. SEM is increasingly used in many areas of the social sciences to test a wide variety of hypotheses, including those about causality, measurement, and change over time. About three-quarters of the course will cover the fundamental techniques of Regression (linear, multiple and logistic), Path Analysis, and Confirmatory Factor Analysis, and the rest of the time will be spent on basic SEM hybrid models. (**2.1, 2.9**)

EDUC 865: Educational Measurement Theory

This course deals with the psychometric issues concerning the construction of an

educational/psychological instrument or questionnaire on a domain of interest. The course provides the technical knowledge necessary for test construction and responsible test use (Standards 2.1, 2.10). The topics to be covered in this course include principles of test construction, classical true-score theory, reliability, validity, Rasch measurement scaling, and procedures to identify biased items.

The main emphasis of the course will be on the conceptual understanding of the theoretical concepts and the logic that underlie standard test construction and their applications to real data. In this regard, each of these conceptual concerns of high quality of assessment and measurement will be applied and explored in the context of real data collection situations of interest to the students (Standard 2.1). As part of the course, students will construct a test, refine it, collect data, and analyze the data to produce a psychometrically sound instrument including a Rasch scale for items (Standard 2.9).

EDUC 874: Applied Multivariate Data Analysis

The purpose of this course is to provide students with an introduction to a variety of widely-used multivariate techniques. This is not a course in statistics per se; we do not emphasize statistical formulas and mathematical derivatives. Instead, focus will center on the *applied use* of multivariate techniques in the analysis of data (Standards 2.1, 2.9).

The statistics taught in this course will enable students to comprehend the "Results" sections of studies using multivariate statistical methodologies. Each unit of instruction will contain the following elements: (1) an introduction to a specific statistical technique under consideration (e.g., multivariate analysis of variance), (2) discussion of assumptions underlying application of the statistical technique, (3) step-by-step instructions on how to use SPSS (or other programs) to perform the analysis, (4) presentation of how to interpret output from the program, (5) how to conduct an a priori power analysis for the technique, and (6) provision of one or more template write-ups showing how to incorporate the output into the "Data Analysis" and "Results" sections of a research paper using the format of the American Psychological Association.