Psychological and Quantitative Foundations, PhD

Educational Measurement and Statistics

The Doctor of Philosophy program in psychological and quantitative foundations with an educational measurement and statistics subprogram requires a minimum of 90 s.h. of graduate credit. Students are expected to maintain a UI cumulative grade-point average of at least 3.00.

The program prepares students for senior professional positions in educational measurement, evaluation, and statistical methods. Graduates find employment in colleges and universities, state and federal agencies, large public and private school systems, test publishing firms, and research centers.

During the first year of graduate study, a student and the advisor plan a program of study that is appropriate for the student's interests and vocational objectives. The typical program involves advanced work in educational measurement, data analysis methods, research methodology, and educational psychology. Work in other University of Iowa departments is encouraged.

Students who concentrate in statistics and intend to teach at the college level take courses in the mathematical theory of statistics. Those who concentrate in educational measurement and evaluation take appropriate courses in curriculum, counseling, or higher education. All students are required to develop familiarity with computer programming techniques and equipment.

Students who enter the program without completing an MA thesis must complete a substitute project before taking the PhD comprehensive examinations.

After completing most of their coursework, students take the comprehensive examination, which typically consists of three 3-hour written examinations on educational measurement, applied statistics, and program evaluation or approved substitute areas, such as educational psychology or mathematical statistics, in which a student has completed at least 9 s.h. of coursework. In place of a written examination, the student's committee may assign a project involving analytical and evaluative skills, or research creativity. The written examinations are followed by an oral examination in which the committee seeks further evidence of the student's command of the three fields. A single decision is made on all aspects of the comprehensive examination.

Work for the PhD concludes with the dissertation, which is included in the 90 s.h. required for the degree.

Research Requirement

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>One of these:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSQF:6220</td>
<td>Quantitative Educational Research Methodologies</td>
<td>3</td>
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An equivalent course comparable in content and level of rigor, such as EALL:5150

Quantitative Requirements

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>This course:</td>
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<tr>
<td>PSQF:6243</td>
<td>Intermediate Statistical Methods</td>
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Two of these:

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<th>Course #</th>
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<tbody>
<tr>
<td>PSQF:6244</td>
<td>Correlation and Regression</td>
<td>4</td>
</tr>
<tr>
<td>PSQF:6246</td>
<td>Design of Experiments</td>
<td>3</td>
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<tr>
<td>PSQF:6247</td>
<td>Nonparametric Statistical Methods</td>
<td>3</td>
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<tr>
<td>PSQF:6249</td>
<td>Factor Analysis and Structural Equation Models</td>
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<tr>
<td>PSQF:6252</td>
<td>Introduction to Multivariate Statistical Methods</td>
<td>3</td>
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<tr>
<td>EPLS:6206</td>
<td>Research Process and Design</td>
<td>3</td>
</tr>
<tr>
<td>EPLS:6209</td>
<td>Survey Research and Design</td>
<td>3</td>
</tr>
<tr>
<td>EPLS:6370</td>
<td>Quantitative Methods for Policy Analysis</td>
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Qualitative Requirements

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<th>Course #</th>
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<th>Hours</th>
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<tr>
<td>One of these (may be taken on a nongraded basis with approval of student's program and advisor):</td>
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<tr>
<td>PSQF:7331</td>
<td>Qualitative Educational Research Methods</td>
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<tr>
<td>CSED:7338</td>
<td>Essentials of Qualitative Inquiry</td>
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<tr>
<td>EDTL:7070</td>
<td>Qualitative Research Methods in Teaching and Learning</td>
<td>3</td>
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<tr>
<td>EPLS:7373</td>
<td>Qualitative Research Design and Methods</td>
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An equivalent course comparable in content, level, or rigor (consult advisor)

<table>
<thead>
<tr>
<th>Course #</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>One of these:</td>
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<tr>
<td>PSQF:5165</td>
<td>Introduction to Program and Project Evaluation</td>
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<tr>
<td>PSQF:6265</td>
<td>Program Evaluation</td>
<td>3</td>
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<tr>
<td>PSQF:7371</td>
<td>Seminar in Learning Sciences and Educational Psychology (when topic is conducting research online)</td>
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<tr>
<td>CNW:6654</td>
<td>Forms of the Essay (when topic is the ethnographic essay)</td>
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<tr>
<td>CSED:7438</td>
<td>Advanced Qualitative Research Seminar in Counselor Education</td>
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<tr>
<td>EDTL:6267</td>
<td>Seminar: Current Issues in Art Education (when topic is qualitative methods)</td>
<td>3-4</td>
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<tr>
<td>EDTL:7071</td>
<td>Critical Discourse Analysis in Educational Research</td>
<td>3</td>
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<tr>
<td>EDTL:7072</td>
<td>Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting</td>
<td>3</td>
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<tr>
<td>EDTL:7073</td>
<td>Ethnographic Methods, Theories, and Texts</td>
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Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. They must have a combined verbal and quantitative score of at least 300 on the Graduate Record Examination (GRE) General Test and must hold an MA from an accredited institution. Applicants who do not hold an MA degree are automatically considered for admission to the MA program. At least one year of professional experience in teaching, research, or a related field is desirable. Applicants who expect to concentrate in statistics should have training in college mathematics through differential and integral calculus. Applicants who do not meet these requirements but who show offsetting evidence of superior ability may be granted conditional admission.