

# Teaching and Learning, Ph.D.

## Ph.D. Required Research Courses

Students admitted to doctoral programs must complete the program's research requirements.

## Required Core Courses

All Ph.D. students in the Department of Teaching and Learning must complete one or both of the following core courses, depending upon program requirements.

Code	Title	Hours
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

## Cognate Areas

The following list of cognates offered by program areas in the department is not exhaustive; students may select cognates from this list, or they may customize their own cognate areas in consultation with their advisors.

## Multilingual Education

Code	Title	Hours
This course:		
EDTL:6483	Multilingual Education and Applied Linguistics	3
Two of these, chosen in consultation with faculty:		
EDTL:6400	Fundamentals of Second Language Assessment	3
EDTL:6402	Second Language Program Management	3
EDTL:6403	Language Policy and Planning	3
EDTL:6409	Cultural Curriculum	3
EDTL:6480	Issues in Foreign Language Education	3
EDTL:6484	Reading in a Second Language	3
EDTL:6497	Principles of Course Design for Second Language Instruction	3

## Gifted Education

### Administrative Strand

Code	Title	Hours
Two of these, chosen in consultation with faculty:		
EPLS:4110	Administration and Policy in Gifted Education	2
EPLS:4111	Evaluation of Gifted Programs	1
EPLS:4113	Staff Development for Gifted Programs	1

## Programming Strand

Code	Title	Hours
Both of these:		
EDTL:4066	Curriculum Concepts in Gifted Education	3
EDTL:4199	Program Models in Gifted Education	3

## Psychology Strand

Code	Title	Hours
Two of these, chosen in consultation with faculty:		
RCE:4120	Psychology of Giftedness	3
RCE:4121	Identification of Students for Gifted Programs	3
RCE:4137	Introduction to Educating Gifted Students	3
RCE:5226	Assessment of Giftedness	3
RCE:5237	Seminar in Gifted Education	3

## Literacy, Culture, and Language Education

Code	Title	Hours
Both of these:		
EDTL:7008	Seminar: Research and Current Issues (topic chosen in consultation with advisor)	arr.
EDTL:7015	Ph.D. Seminar in Language, Literacy, and Culture (topic chosen in consultation with advisor)	arr.

## Mathematics Education

Code	Title	Hours
Both of these:		
EDTL:5535	Current Issues in Mathematics Education	1-3
EDTL:7535	Seminar: Research in Mathematics Education	arr.
Two of these:		
EDTL:6531	Technology in School Mathematics	2-3
EDTL:6534	Foundations of Mathematics Education	2-3
EDTL:6536	Teaching of Geometry	2-3
EDTL:6539	Teaching of Algebra	2-3

## Science Education

Code	Title	Hours
All of these:		
EDTL:6757	Learning in the Science Classroom	2-3
EDTL:6759	Advanced Pedagogy	3

## Special Education

Code	Title	Hours
All of these:		
EDTL:7945	Current Issues and Trends in Learning Disabilities	3

EDTL:7948	Contemporary Research in Behavioral Disorders	3
EDTL:7953	Seminar: Single Subject Design Research	3

## Literacy, Culture, and Language Education

The Doctor of Philosophy in teaching and learning with a literacy, culture, and language education (LCLE) subprogram requires a minimum of 73 s.h. of graduate credit. All students must maintain a program g.p.a. of at least 3.00. Students may be able to use some coursework completed for their master's degree toward the Ph.D.; most courses for the Ph.D. should be numbered 5000 or above.

This interdisciplinary program brings together scholarly traditions and contemporary theory in multilingual education and applied linguistics, literacy and cultural studies, and social studies education. The program provides students with the necessary content area knowledge and research skills for independent research, program administration, and varied leadership positions in LCLE education. In consultation with their advisor, students create a program of study that fits their interests and professional aspirations.

The Ph.D. in teaching and learning with a literacy, culture, and language education subprogram requires the following coursework.

### Required Courses

Code	Title	Hours
This course:		
EDTL:6015	Ph.D. Seminar: Literacy, Culture, and Language Education	3
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

### Disciplinary and Interdisciplinary Foundations

Students choose a disciplinary area in literacy education, multilingual education, or social studies education for their three foundational courses. They then select one or both of the other areas for their interdisciplinary foundation coursework.

Code	Title	Hours
All of these:		
At least three courses in a chosen area of concentration		9
At least two courses in other areas of concentration		6

### Research Methods

Code	Title	Hours
Both of these:		
EDTL:7070	Qualitative Research Methods in Teaching and Learning	3

EDTL:7405	Research Methods in Literacy, Culture, and Language Education	3
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One of these:

PSQF:6242	Selected Applications of Statistics	3
PSQF:6243	Intermediate Statistical Methods (for students who utilize quantitative methods in their dissertation)	3

And:

Two additional advanced research methods courses in quantitative, qualitative, or mixed methods in consultation with their advisor	6
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### Electives

Students choose 27 s.h. of elective coursework in consultation with their advisor. Courses may be taken in any department and can be partially or completely unified as a cognate area of study.

### Comprehensive Examination

Upon completion of their coursework, students take their comprehensive exam. This is an opportunity for students to show a comprehensive understanding of the scholarship in the field. Successful completion of the exam identifies candidates who are ready for dissertation work.

### Dissertation

After students pass their comprehensive exam, they consult with their advisor to choose a dissertation committee with at least five faculty members who approve the dissertation proposal. After a successful defense of their dissertation, students conduct dissertation research in the following course.

Code	Title	Hours
EDTL:7493	Ph.D. Thesis	10

### Admission

Applicants must meet the admission requirements of the Graduate College. They must have earned a bachelor's degree with an undergraduate g.p.a. of at least 3.00 on a 4.00 scale and earned a master's degree or have completed significant graduate coursework. It is recommended applicants have at least two years of teaching experience in a related field within or outside of the United States.

Application materials should include a statement of purpose, official transcripts from all institutions attended, a sample of academic writing, three current letters of recommendation, and the official report of Graduate Record Exam (GRE) General Test scores (however, the GRE requirement has been suspended for the 2021-22 admissions cycle). International applicants whose first language is not English, and do not meet the waiver requirements, must submit their Test of English as a Foreign Language (TOEFL) scores.

## Mathematics Education

The Doctor of Philosophy in teaching and learning with a mathematics education subprogram requires a minimum of 80-90 s.h. of graduate credit. Students must have a program g.p.a. of at least 3.00 or higher in all graduate work in mathematics, all University of Iowa graduate work in

mathematics, all graduate work, and all University of Iowa graduate work.

The program prepares supervisors, teacher education personnel, community college personnel, and researchers in mathematics education. It is administered by the College of Education. Students must update graduate coursework completed more than 10 years before admission to the program.

The Ph.D. program in teaching and learning with a mathematics education subprogram requires the following coursework.

## Required Courses

Students must complete EALL:5150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative coursework, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed under Ph.D. Research Requirements on the College of Education website.

## Core Course

Code	Title	Hours
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

In addition, students must complete an approved cognate area; see "Additional Requirements" below.

Students must complete a minimum of 24 s.h. of graduate work in the Departments of Computer Science, Mathematics, and Statistics and Actuarial Science, as approved by their advisor. Electives are encouraged in the pure mathematics and applied mathematics sequences.

Students who completed their mathematics requirement at another institution must complete at least 6 s.h. of additional coursework in mathematics at the University of Iowa, chosen with advisor approval. They also must complete at least six courses in mathematics education, including EDTL:5535 Current Issues in Mathematics Education and EDTL:7535 Seminar: Research in Mathematics Education.

## Additional Requirements

Students concentrate in two additional comprehensive examination areas in either the mathematical sciences or education. A minimum of three courses usually are required for a comprehensive examination area, but candidates should consult with faculty members in the areas selected to determine which courses they should take in order to adequately prepare for the examinations.

Students must complete a total of at least 36 s.h. in College of Education courses; this includes the coursework listed above. They must complete an approved cognate area; a partial list of potential cognate areas is available from the mathematics education program.

## Comprehensive Examination

Students take three written comprehensive examinations, one in mathematics education and two in other fields of education

or mathematics; an oral examination follows the written examinations.

## Dissertation

Candidates complete a dissertation on a research problem in mathematics education. A prospectus of the proposed research must be presented to the dissertation committee before candidates undertake the study. Upon completion of the dissertation, candidates defend the dissertation in an oral examination. Students must earn dissertation credit in the following course.

Code	Title	Hours
EDTL:7493	Ph.D. Thesis	10

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate major in mathematics or the equivalent, a current teaching license/certificate, and at least two years of teaching experience are strongly preferred. A faculty review committee makes admission decisions.

## Science Education

The Doctor of Philosophy in teaching and learning with a science education subprogram requires a minimum of 85 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed for individuals who aspire to positions as college and university science educators; major supervisors in national, state, and local systems; teachers in small liberal arts colleges; instructors of general education science courses at major universities; research directors in science education; and professionals in medical and/or allied health education.

The Ph.D. in teaching and learning with a science education subprogram requires the following coursework.

## Required Courses

Students in science education complete a minimum of 15 s.h. in qualitative and quantitative coursework, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed under Ph.D. Research Requirements on the College of Education website. Course selections must be consistent with other requirements for the degree.

## Core Courses

All doctoral students in science education complete one or both of the following core courses. Students may not substitute other courses for these.

Code	Title	Hours
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

In addition, all doctoral students in the Department of Teaching and Learning complete an approved cognate area; see "Cognate Areas" under Ph.D. Required Research Courses [p. 1] in this section of the Catalog.

## Science Education

Code	Title	Hours
All of these (15 s.h.):		
EDTL:6757	Learning in the Science Classroom	3
EDTL:6758	Writing in the Science Classroom	3
EDTL:6759	Advanced Pedagogy	3
Graduate-level science education courses chosen in consultation with advisor		6

## Education

Code	Title	Hours
Three courses chosen in consultation with advisor		9

## Research in Science Education

Code	Title	Hours
Both of these (21 s.h.):		
EDTL:7750	Seminar: Science Education (taken three times for 1 s.h. each)	3
EDTL:7755	Independent Study in Science Education Research (taken six times for 3 s.h. each)	18

## Science Area

Students complete a family of courses (total of 12 s.h.) in a major science area.

## Dissertation

Code	Title	Hours
This course:		
EDTL:7493	Ph.D. Thesis	10

## Admission

Applicants must meet the admission requirements of the Graduate College. They should have completed a bachelor's degree in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis; have a cumulative g.p.a. of at least 3.00 on undergraduate and graduate work; and have a combined score of at least 300 on the verbal and quantitative portions of the Graduate Record Exam (GRE) General Test (however, the GRE requirement has been suspended for the 2021-22 admissions cycle). Applicants must submit three letters of recommendation, a statement of purpose describing their reasons for pursuing graduate work and their goals for graduate study, and an example of their academic writing.

## Special Education

The Doctor of Philosophy in teaching and learning with a special education subprogram requires a minimum of 90 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program prepares students for teaching and research positions in higher education, and for curriculum, supervisory, and research positions in state and local education agencies. The program permits students to study and practice

extensively in their special education interest area and in an interest area outside of special education.

The Ph.D. curriculum includes an emphasis on research skills, all facets of special education, an approved cognate area, and at least one specialization area.

## Quantitative Research Requirements

Code	Title	Hours
Both of these:		
PSQF:4143	Introduction to Statistical Methods	3
PSQF:6243	Intermediate Statistical Methods	3
Two of these:		
EPLS:6206	Research Process and Design	3
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	4
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3

## Qualitative Research Requirements

Code	Title	Hours
This course:		
EDTL:7953	Seminar: Single Subject Design Research	3
One of these:		
EDTL:7410	Mixed Methods Research	3
EPLS:7373	Qualitative Research Design and Methods	3

## Core Course

Code	Title	Hours
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

## Proseminar Courses

Code	Title	Hours
Both of these:		
EDTL:7943	Proseminar: Issues, Trends, and Research in Special Education	3
EDTL:7944	Proseminar: Issues, Trends, and Research in Special Education II	3

## Seminar Requirements

Code	Title	Hours
Both of these:		
EDTL:7945	Current Issues and Trends in Learning Disabilities	3
EDTL:7948	Contemporary Research in Behavioral Disorders	3

## Practicum Requirement

Code	Title	Hours
This course:		
EDTL:7380	Practicum in College Teaching (taken twice for 3 s.h. each)	6

## Cognate

Students complete a cognate or specialty area for at least 9 s.h. in consultation with their advisor.

## Competencies

Students work with their advisor to ensure they meet two core competencies: one in teaching and one in supervision.

## Comprehensive Examination

Students complete a three-part comprehensive examination that includes a qualifying exam I, a qualifying exam II, and a major area paper.

## Dissertation

Students complete a doctoral dissertation for at least 10 s.h.

Code	Title	Hours
This course:		
EDTL:7493	Ph.D. Thesis	arr.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have a master's degree or equivalent in special education; those without an M.A. thesis must have completed an equivalent project. Applicants should have a graduate g.p.a. of at least 3.50 and a combined verbal and quantitative score of at least 300 on the Graduate Record Exam (GRE) General Test. Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants should have at least one year of full-time teaching experience with exceptional children; several years are preferred.

Application materials must include a completed Graduate College application form, copies of official transcripts for all college coursework, an official report of Graduate Record Exam (GRE) General Test scores, three current letters of recommendation, and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.