Teaching and Learning, PhD

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 Graduate College program grade-point average 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 PhD program in teaching and learning with a mathematics education subprogram requires the following coursework.

Required Courses

Students must 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 PhD Research Requirements on the college's Graduate Student Resources website.

Core Course

Course #	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 the "Additional Requirements" section.

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 must also complete at least six courses 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.

Course #	Title	Hours
EDTL:7493	PhD 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.