

Teaching and Learning, PhD

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 Graduate College program grade-point average (GPA) 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 PhD 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 PhD Research Requirements on the college's Graduate Student Resources 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.

Course #	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 PhD Required Research Courses [p.] in this section of the catalog.

Science Education

Course #	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

Course #	Title	Hours
Three courses chosen in consultation with advisor		9

Research in Science Education

Course #	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.

Comprehensive Examination

Students take three written comprehensive examinations, one in science education and two in other fields of education or science; an oral examination follows the written examinations.

Dissertation

Course #	Title	Hours
This course:		
EDTL:7493	PhD 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; and have a cumulative GPA of at least 3.00 on undergraduate and graduate work.