

# Teaching and Learning, Ph.D.

## 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. ] 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.