Mission Statement for Secondary Chemistry Certification Program

The Secondary Chemistry certification program engages students in the investigation of educational theory, policy, research and practice. Candidates for certification develop their pedagogical content knowledge in chemistry as well as their general knowledge of the subject. The program encourages undergraduates to think critically and creatively about the processes of teaching and adolescent learning and about the place of education in society. The program is committed to preparing students to employ evidence-based practice. Instructional practice, including the use of technology and assessments, are designed to enable preservice teachers to meet the needs of all students, including those with learning differences, and with consideration for racial, ethnic, linguistic and/or social economic diversity.
## Chemistry and Educational Studies

### Special Major Chemistry and Educational Studies, Secondary Teacher Certification

- **Chemistry Requirements (CHEM)**
  - Total: 7 credits
    - CHEM 010/010H: General Chemistry
    - CHEM 022: Organic Chemistry I
    - CHEM 032: Organic Chemistry II
    - CHEM 038: Biological Chemistry
    - 2 additional courses of choice numbered above 040

- **Thesis (EDUC/CHEM)**
  - Total: 1 credit
    - Topic: Chemistry pedagogy

- **Additional Departmental Requirements**
  - Total: 4 credits
    - PHYS 003: General Physics I
    - PHYS 004: General Physics II*
    - MATH 015
    - MATH 025
    - Assist in Intro. Chem. lab once a week for 2 semesters
    *or equivalent course

- **Educational Studies Requirements**
  - Total: 9.5 credits in Educational Studies
    - Refer to description of general Educational Studies Secondary Certification Requirements.

### Chemistry Major and Educational Studies Minor, Secondary Teacher Certification

- **Chemistry Requirements (CHEM)**
  - Total: 9 credits
    - CHEM 010/010H: General Chemistry
    - CHEM 022: Organic Chemistry I
    - CHEM 032: Organic Chemistry II
    - CHEM 038: Biological Chemistry
    - CHEM 043: Analytic Methods and Instrumentation
    - CHEM 045: Physical Chemistry: Energy and Change
    - CHEM 046: Inorganic Chemistry
    - 1 single-credit seminar (numbered 102-110)

- **Thesis (EDUC/CHEM)**
  - Thesis/examination details provided by Major Department

- **Additional Departmental Requirements**
  - Total: 5 credits
    - PHYS 003: General Physics I
    - PHYS 004: General Physics II*
    - MATH 015
    - MATH 025
    - MATH 034
    - Assist in Intro. Chem. lab once a week for 2 semesters
    *or equivalent course

- **Educational Studies Requirements**
  - Total: 9.5 credits in Educational Studies
    - Refer to description of general Educational Studies Secondary Certification Requirements.

### Biochemistry Special Major and Educational Studies Minor, Secondary Teacher Certification

- **Chemistry Requirements (CHEM)**
  - Total: 10 credits
    - CHEM 010/010H: General Chemistry
    - CHEM 022: Organic Chemistry I
    - CHEM 032: Organic Chemistry II
    - CHEM 038: Biological Chemistry
    - CHEM 043: Analytic Methods and Instrumentation
    - CHEM 045: Physical Chemistry: Energy and Change
    - CHEM 046: Inorganic Chemistry
    - CHEM 106: Topics in Bioinorganic Chemistry
    - CHEM 108: Topics in Biochemistry or CHEM 110: Topics in Modern Biophysical Chemistry

- **Thesis (EDUC/CHEM)**
  - Thesis/examination details provided by Major Department

- **Additional Departmental Requirements**
  - Total: 7 credits
    - PHYS 003: General Physics I
    - PHYS 004: General Physics II*
    - MATH 015
    - MATH 025
    - MATH 033
    - 2 biochemically related sophomore-level biology courses or a biochemically related sophomore-level biology course and a biochemically related advanced biology seminar
    - Assist in Intro. Chem. lab once a week for 2 semesters
    *or equivalent course

- **Educational Studies Requirements**
  - Total: 9.5 credits in Educational Studies
    - Refer to description of general Educational Studies Secondary Certification Requirements.