

# CHEMISTRY AND EDUCATIONAL STUDIES: *DEPARTMENT-SPECIFIC REQUIREMENTS CHART*

<b><i>Chemistry and Educational Studies Course Special Major</i></b>	
Chemistry Requirements (CHEM)	<b>Total: 7 credits</b> — CHEM 010/010HN: General Chemistry — CHEM 022: Organic Chemistry I — CHEM 032: Organic Chemistry II — CHEM 038: Biological Chemistry — CHEM 044: Phys. Chem.: Atoms, Molecules, and Spectro. — 1 credit numbered above 040 — 1 credit of choice
Thesis (EDUC/CHEM)	<b>Total: 1 credit</b> — Topic: Chemistry pedagogy
Additional Departmental Requirements	<b>Total: 4 credits</b> — PHYS 003: General Physics I0 — PHYS 004: General Physics II* — MATH 015 — MATH 025  *or equivalent course
Educational Studies Requirements	<b>Total: 5 credits in Educational Studies</b>

## Additional Notes:

1. Please note that this chart contains 2 pages.
2. This chart lists only the Chemistry Department requirements for special majors and/or secondary certification. The required Educational Studies courses are described elsewhere.
3. Occasionally departments have special offerings that may fulfill the required content. Please discuss such possibilities with your advisor or the department chair.
4. The Department of Educational Studies works closely with each individual student to determine a semester-by-semester plan.
5. Please see the Chair of the Department of Educational Studies to design a plan that includes Honors.

## 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: *DEPARTMENT-SPECIFIC REQUIREMENTS CHART*; [ELEMENTARY CERTIFICATION IS ANOTHER OPTION](#)

	<b>Special Major <i>Chemistry and Educational Studies</i>, Secondary Teacher Certification</b>	<b><i>Chemistry Major and Educational Studies Minor</i>, Secondary Teacher Certification</b>	<b><i>Biochemistry Special Major and Educational Studies Minor, Secondary Teacher Certification</i></b>
Chemistry Requirements ( <i>CHEM</i> )	<b>Total: 7 credits</b> — CHEM 010/010HN: General Chemistry — CHEM 022: Organic Chemistry I — CHEM 032: Organic Chemistry II — CHEM 038: Biological Chemistry — CHEM 044: Phys. Chem.: Atoms, Molecules, and Spectro. — 2 additional courses of choice numbered above 040	<b>Total: 9 credits</b> — CHEM 010/010HN: General Chemistry — CHEM 022: Organic Chemistry I — CHEM 032: Organic Chemistry II — CHEM 038: Biological Chemistry — CHEM 043: Analytic Methods and Instrumentation — CHEM 044: Phys. Chem.: Atoms, Molecules, and Spectro. — CHEM 045: Physical Chemistry: Energy and Change — CHEM 046: Inorganic Chemistry — 1 single-credit seminar (numbered 102-110)	<b>Total: 10 credits</b> — CHEM 010/010HN: General Chemistry — CHEM 022: Organic Chemistry I — CHEM 032: Organic Chemistry II — CHEM 038: Biological Chemistry — CHEM 043: Analytic Methods and Instrumentation — CHEM 044: Phys. Chem.: Atoms, Molecules, and Spectro. — CHEM 045: Physical Chemistry: Energy and Change — CHEM 046: Inorganic Chemistry — CHEM 106: Topics in Bioinorganic Chemistry — CHEM 108: Topics in Biochemistry <i>or</i> CHEM 110: Topics in Modern Biophysical Chemistry
Thesis ( <i>EDUC/CHEM</i> )	<b>Total: 1 credit</b> — Topic: Chemistry pedagogy	Thesis/examination details provided by Major Department	Thesis/examination details provided by Major Department
Additional Departmental Requirements	<b>Total: 4 credits</b> — 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	<b>Total: 5 credits</b> — 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	<b>Total: 7 credits</b> — PHYS 003: General Physics I — PHYS 004: General Physics II* — MATH 015 — MATH 025 — MATH 033 — 2 biochemically related sophomore-level biology courses <i>or</i> 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	<b>Total: 9.5 credits in Educational Studies</b> Refer to description of general Educational Studies Secondary Certification Requirements.	<b>Total: 9.5 credits in Educational Studies</b> Refer to description of general Educational Studies Secondary Certification Requirements.	<b>Total: 9.5 credits in Educational Studies</b> Refer to description of general Educational Studies Secondary Certification Requirements.