

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

	<b><i>Educational Studies Major with Secondary Chemistry Teacher Certification</i></b>	<b><i>Course Major: Chemistry and Educational Studies (without certification)</i></b>
Chemistry Requirements (CHEM)	<b>Total: 7 credits</b> – CHEM 010/010H: General Chemistry – CHEM 022: Organic Chemistry I – CHEM 032: Organic Chemistry II – CHEM 038: Biological Chemistry – CHEM 042: Physical Chemistry I – 2 additional courses of choice numbered above 040	<b>Total: 7 credits</b> – CHEM 010/010H: General Chemistry – CHEM 022: Organic Chemistry I – CHEM 032: Organic Chemistry II – CHEM 038: Biological Chemistry – CHEM 042: Physical Chemistry I – 1 credit numbered above 040 – 1 credit of choice
Thesis (EDUC/CHEM)	<b>Total: 1 credit</b> – Topic: Chemistry pedagogy	<b>Total: 1 credit</b> – Topic: Chemistry pedagogy
Additional 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: 4 credits</b> – PHYS 003: General Physics I – PHYS 004: General Physics II* – MATH 015 – MATH 025  *or equivalent course
Educational Studies Requirements	<b>9.5 credits in Educational Studies</b> Refer to description of general Educational Studies <a href="#">Secondary Certification Requirements</a> .	<b>Total: 5 credits in Educational Studies</b>
Strongly Recommended	– EDUC 075 Introduction to Science Pedagogy	

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

	<b>Major: <i>Chemistry and Educational Studies</i> with Secondary Chemistry Teacher Certification</b>	<b><i>Chemistry Major and Educational Studies Minor</i> with Secondary Chemistry Teacher Certification</b>	<b><i>Biochemistry Major &amp; Educational Studies Minor</i> with Secondary Chemistry Teacher Certification</b>
Chemistry Requirements (CHEM)	<b>Total: 7 credits</b> – CHEM 010/010H: General Chemistry – CHEM 022: Organic Chemistry I – CHEM 032: Organic Chemistry II – CHEM 038: Biological Chemistry – CHEM 042: Physical Chemistry I – 2 additional courses of choice numbered above 040	<b>Total: 9 credits</b> – CHEM 010/010H: General Chemistry – CHEM 022: Organic Chemistry I – CHEM 032: Organic Chemistry II – CHEM 038: Biological Chemistry – CHEM 042: Physical Chemistry I – CHEM 043: Analytical Methods and Instrumentation – CHEM 052: Physical Chemistry II – CHEM 056: Inorganic Chemistry – CHEM 065: Advanced Experimental Chemistry: Physical <u>or</u> 1 single-credit 100-level seminar	<b>Total: 8 credits</b> – CHEM 010/010H: General Chemistry – CHEM 022: Organic Chemistry I – CHEM 032: Organic Chemistry II – CHEM 038: Biological Chemistry – CHEM 042: Physical Chemistry I – CHEM 048: Biological Chemistry II – CHEM 058: Advanced Experimental Biological Chemistry <u>or</u> CHEM 058B: Computational/Experimental Biochemistry – 1 biochemically-related 100-level seminar (e.g., 106, 108, 110, 112, 118, 120)
Thesis (EDUC/CHEM)	<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	<b>Total: 5 credits</b> – PHYS 003: General Physics I – PHYS 004: General Physics II* – MATH 015 – MATH 025 – MATH 033, 034, or 035 – Assist in Intro. Chem. lab once a week for 2 semesters	<b>Total: 7 credits</b> – PHYS 003: General Physics I – PHYS 004: General Physics II* – MATH 015 – MATH 025 – 2 intermediate-level biology courses (with labs) <u>or an</u> intermediate-level biology course (with lab) and a 100-level biology seminar. – Assist in Intro. Chem. lab once a week for 2 semesters

Strongly Recommended	– EDUC 075 Introduction to Science Pedagogy	– EDUC 075 Introduction to Science Pedagogy	– EDUC 075 Introduction to Science Pedagogy
Educational Studies Requirements	<b>9.5 credits in Educational Studies</b> Refer to description of general Educational Studies <a href="#">Secondary Certification Requirements</a> .	<b>9.5 credits in Educational Studies</b> Refer to description of general Educational Studies <a href="#">Secondary Certification Requirements</a> .	<b>9.5 credits in Educational Studies</b> Refer to description of general Educational Studies <a href="#">Secondary Certification Requirements</a> .

\*or equivalent course

### Additional Notes:

1. Please note that this chart contains 3 pages.
2. This chart lists only the requirements for majors in *Chemistry & Educational Studies* and/or for Chemistry secondary certification. The required Educational Studies courses for certification 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.

Revised January 15, 2025