



DEPARTMENT OF CHEMISTRY AND
BIOCHEMISTRY

**Bachelor of Arts in Chemistry:
Chemical Education concentration**

INTRODUCTORY COURSES REQUIREMENTS

	Pre-requisite courses (C or better required)
<input type="checkbox"/> CHEM 113.4. General Chemistry I <input type="checkbox"/> CHEM 113.1. Introduction to Lab Techniques	<input type="checkbox"/> MATH 115. College algebra or equivalent*
<input type="checkbox"/> CHEM 114.4. General Chemistry II <input type="checkbox"/> CHEM 114.1. Quantitative and Qualitative Analysis	<input type="checkbox"/> MATH 122. Precalculus or equivalent** <input type="checkbox"/> CHEM 113.4 and 113.1

*Placement into MATH 122, MATH 141, or MATH 151 fulfills this requirement.

**Placement into MATH 141 or MATH 151 by achieving a grade of 80 or better on MATH B Regents, a grade of 600 or better on the SAT Mathematics exam, or a grade of C- or better in MATH 122.

INTERMEDIATE COURSES REQUIREMENTS

	Pre-requisite or <i>co-requisite</i> courses. (C or better required in all pre-requisite courses.)
<input type="checkbox"/> CHEM 211. Thermodynamics and Kinetics	<input type="checkbox"/> MATH 151. Calculus I (or MATH 141 and MATH 142) <input type="checkbox"/> MATH 152. Calculus II (or MATH 143) <input type="checkbox"/> <i>PHYS 145.4. Principles of Physics I</i> <input type="checkbox"/> <i>PHYS 145.1. Principles of Physics I Lab</i>
<input type="checkbox"/> CHEM 251.4. Organic Chemistry I <input type="checkbox"/> CHEM 251.1. Organic Chemistry I Lab	<input type="checkbox"/> CHEM 114.4. and 114.1.
<input type="checkbox"/> CHEM 252.4. Organic Chemistry II <input type="checkbox"/> CHEM 252.1. Organic Chemistry II Lab	<input type="checkbox"/> CHEM 251.4 and 251.1.

ADVANCED COURSE REQUIREMENTS

	Pre-requisite or <i>co-requisite</i> courses. (C or better required in all pre-requisite courses.)
<input type="checkbox"/> CHEM 331.3. Inorganic Chemistry (Fall only) <input type="checkbox"/> CHEM 331.1*. Physical Inorganic Chemistry (Fall only)	<input type="checkbox"/> CHEM 252.4. and 252.1. <input type="checkbox"/> MATH 151 (or MATH 141 and 142).
<input type="checkbox"/> CHEM 341.3. Instrumental Methods (Spring only) <input type="checkbox"/> CHEM 341.1*. Instrumental Methods Lab (Spring only)	<input type="checkbox"/> CHEM 252.4 and 252.1. <input type="checkbox"/> CHEM 211. <i>(can be taken as a co-req with permission of dept)</i> <input type="checkbox"/> <i>PHYS 145.4 and 145.1.</i> <input type="checkbox"/> <i>PHYS 146.4. and 146.1.</i>
<input type="checkbox"/> CHEM 371. Biochemistry I	<input type="checkbox"/> CHEM 252.4 and 252.1. <input type="checkbox"/> BIOL 105. General Biology: Physiology and Cell Biology.
<input type="checkbox"/> CHEM 395*. Senior Thesis – Capstone course	<input type="checkbox"/> Departmental permission and Senior standing.

*Has been submitted as a writing intensive course. Check with department for status.

ADDITIONAL LABORATORY REQUIREMENTS

	Pre-requisite or <i>co-requisite</i> courses. (Grade of C or better required in pre-requisites unless otherwise stated).
CHEM 321*. Practicum in Chemical Education. <i>May be repeated for maximum of 9 credits.</i> <input type="checkbox"/> CHEM 321.1. (4 hr., 1 cr.) <input type="checkbox"/> CHEM 321.2. (8 hr., 2 cr.) <input type="checkbox"/> CHEM 321.3. (12 hr., 3 cr.)	<input type="checkbox"/> CHEM 251.4 and 251.1. <input type="checkbox"/> <i>CHEM 252.4 and 252.1.</i> <input type="checkbox"/> <i>Permission of the chemical education concentration advisor.</i>

*Has been submitted as a writing intensive course. Check with department for status.

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COURSES REQUIRED FOR SECONDARY EDUCATION AND YOUTH SERVICE MINOR

	Pre-requisite or <i>co-requisite</i> courses. (C or better required in all pre-requisite courses.)
<input type="checkbox"/> SEYS 201. Historical, Social and Philosophical Foundations in Education. (20 hr field work, 3 cr)	
<input type="checkbox"/> SEYS 221. Development and Learning in Education (20 hr field work, 3 cr)	
<input type="checkbox"/> SEYS 340. Language, Literacy and Culture in Education (20 hr field work, 3 cr.)	<input type="checkbox"/> SEYS 201
<input type="checkbox"/> SEYS 350. Cognition, Technology and Instruction for Diverse Learners (20 hr in middle school, 3 cr, Fall only) <input type="checkbox"/> SEYS 362. Teaching Science in Middle & High Schools. (20 hr field work, 3 cr, Fall only)	<input type="checkbox"/> SEYS 221 and 340
<input type="checkbox"/> SEYS 372.2. High School or Middle School Practicum (50 hr field work, 2 cr, Fall only)	<input type="checkbox"/> SEYS 350
<input type="checkbox"/> SEYS 372.4. Student Teaching in Science for High School and/or Middle School (4 cr, Spring only) <input type="checkbox"/> SEYS 382. Curriculum and Assessment in Science (3 cr, Spring only)	<input type="checkbox"/> SEYS 362
These two courses represent 16 weeks of student teaching.	

To complete the SEYS requirements, students must take three State Teacher Certification Examinations:

- Liberal Arts and Science Test (LAST)
- Assessment of Teaching Skills Written Test (ATS-W)
- Chemistry Content Test

Students must also take 4 seminars given through Continuing Education and have credit for one year of language other than English.

Students must maintain a minimum GPA of 2.75 in all chemistry courses and a minimum of 3.00 in all SEYS courses.