

# CHEMISTRY: CHEMISTRY TEACHING, BSLAS

for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Chemistry, Chemistry Teaching Concentration

This concentration fulfills state certification requirements to teach high school (grades 9-12) chemistry through the AP/honors level and biology, earth and space science, environmental science and physics up to but not including the AP/honors level.

Students in this concentration must complete the Teacher Education Minor in Secondary School Teaching (39 hours). See the College of Education section for requirements of the minor (<http://catalog.illinois.edu/undergraduate/education/minors/teacher-education-secondary-school/>).

Time to degree completion varies. Minimum time to completion is 8 semesters. Some students require 10 semesters. Transfer students may need 10 total semesters combined to complete the program. Please see the LAS section in the transfer handbook ([https://admissions.illinois.edu/Content/docs/Handbook\\_LAS.pdf](https://admissions.illinois.edu/Content/docs/Handbook_LAS.pdf)) for more information.

To remain in good standing in this program and be recommended for certification, candidates are required to maintain UIUC, cumulative, content area, and professional education, grade-point averages of 2.5 (A= 4.0). Candidates should consult their advisor or the Council on Teacher Education for the list of courses used to compute these grade-point averages.

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**Departmental distinction:** Students qualify for graduation with distinction by exhibiting superior performance in both course work and in senior thesis research. To be eligible, a student must have a UIUC coursework major grade point average of 3.25, must take CHEM 499 (normally for two semesters) and submit a senior thesis for evaluation, and must have their undergraduate research advisor submit to the department Head a letter of support attesting to the effort invested by the student. The minimum major GPAs for Distinction, High Distinction, and Highest Distinction are 3.25, 3.5, and 3.75, respectively. Students in the Chemistry Teaching Concentration may submit their final teaching portfolio for evaluation in lieu of taking CHEM 499 and submitting a senior thesis. Final decisions on awarding Distinction honors will be made by the Head or designee.

**General education: Students must complete the Campus General Education** (<https://courses.illinois.edu/gened/DEFAULT/DEFAULT/>) requirements including the campus general education language requirement.

**Minimum required major and supporting course work: Minimum required major and supporting course work normally equates to 48-51 hours including at least 30 hours in Chemistry or Biochemistry courses. Twelve hours of 300- and 400-level in in Chemistry and/or Biochemistry must be taken on this campus. Transfer credit in chemistry must be approved by an adviser in chemistry in order to be included in the 30 hours.**

**Minimum hours required for graduation: 120 hours.**

Code	Title	Hours
Chemistry and biochemistry courses including: <sup>1, 2</sup>		22-26
CHEM 150	First Semester Success in Chemistry <sup>3</sup>	
CHEM 440	Physical Chemistry Principles	
or CHEM 442	Physical Chemistry I	
Two other 300- or 400-level courses, at least one of which must be outside physical chemistry.		4-8
MATH 220	Calculus	4-5
or MATH 221	Calculus I	
MATH 231	Calculus II	3
MATH 241	Calculus III	4
Select one of the following:		8-10
PHYS 101 & PHYS 102	College Physics: Mech & Heat and College Physics: E&M & Modern	
PHYS 211 & PHYS 212	University Physics: Mechanics and University Physics: Elec & Mag	

<sup>1</sup> Excluding CHEM 101, CHEM 108, and CHEM 199.

<sup>2</sup> No more than 10 hours of the following courses may count toward the 22-26 hours in Chemistry: CHEM 197, CHEM 199, CHEM 297, CHEM 397, CHEM 496, CHEM 497, and CHEM 499.

<sup>3</sup> On- and off-campus transfer students in the BSLAS curriculum may substitute CHEM 152 for CHEM 150. Alternatively, transfer students may elect to take an additional 1 hour of 200 level or higher Chemistry, including CHEM 297, CHEM 397, CHEM 496, CHEM 497, or CHEM 499 as long as no more than 10 total hours of the total 22-26 required Chemistry hours come from CHEM 297, CHEM 397, CHEM 496, CHEM 497, CHEM 499.

## Chemistry Teaching Option Concentration

Code	Title	Hours
<b>Foundation Courses</b>		
The following courses must be completed or in progress when students apply to the Secondary Education minor.		
Select one group of courses (Accelerated or General Chemistry):		10-12
CHEM 202 & CHEM 203 & CHEM 204 & CHEM 205	Accelerated Chemistry I and Accelerated Chemistry Lab I and Accelerated Chemistry II and Accelerated Chemistry Lab II	
or		
CHEM 102 & CHEM 103 & CHEM 104 & CHEM 105 & CHEM 222 & CHEM 223	General Chemistry I and General Chemistry Lab I and General Chemistry II and General Chemistry Lab II and Quantitative Analysis Lecture and Quantitative Analysis Lab	

Select one of the following Organic Chemistry course groups: 5-6

CHEM 236 & CHEM 237	Fundamental Organic Chem I and Structure and Synthesis	
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or

CHEM 232 & CHEM 233	Elementary Organic Chemistry I and Elementary Organic Chem Lab I	
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MATH 220 or MATH 221	Calculus Calculus I	4-5
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MATH 231	Calculus II	3
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#### Additional Required Coursework

Teacher Education Minor in Secondary School Teaching ( <a href="http://catalog.illinois.edu/undergraduate/education/secondary/">http://catalog.illinois.edu/undergraduate/education/secondary/</a> )		39
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CHEM 495	Teaching Secondary Chemistry	4
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CHEM 150	First Semester Success in Chemistry <sup>1</sup>	1
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CHEM 440 or CHEM 442	Physical Chemistry Principles Physical Chemistry I	4
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At least four additional hours of 300- or 400-level chemistry and/or biochemistry course work.		4
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ASTR 100	Introduction to Astronomy	3
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GEOL 107	Physical Geology	4
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IB 100	Biology in Today's World	3
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MATH 241	Calculus III	4
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PHYS 211	University Physics: Mechanics	4
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PHYS 212	University Physics: Elec & Mag	4
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PHYS 214	Univ Physics: Quantum Physics	2
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<sup>1</sup> On- and off-campus transfer students in the BSLAS curriculum may substitute CHEM 152 for CHEM 150. Alternatively, transfer students may elect to take an additional 1 hour of 200 level or higher Chemistry, including CHEM 297, 397, 496, 497, or 499 as long as no more than 10 total hours of the total 22-26 required Chemistry hours come from CHEM 297, CHEM 397, CHEM 496, CHEM 497, CHEM 499.

### Requirements for the Teacher Education in Secondary School Teaching Minor

Code	Title	Hours
<b>Professional Education Required Courses</b>		
EDUC 201	Identity and Difference in Education <sup>1</sup>	3
EDUC 202	Social Justice, School and Society <sup>1</sup>	3
CI 401	Introductory Teaching in a Diverse Society	3
CI 403	Teaching a Diverse High School Student Population	3
CI 404	Teaching and Assessing Secondary School Students	3
CI 473	Disciplinary Literacy	3
EPSY 201	Educational Psychology <sup>1,2</sup>	3
EPSY 485	Assessing Student Performance	3
SPED 405	General Educator's Role in Special Education	3
EDPR 442	Educational Practice in Secondary Education	12
<b>Total Hours</b>		<b>39-40</b>

<sup>1</sup> EDUC 201, EDUC 202 and EPSY 201 can be completed at any time during the degree and are not pre-requisites to apply for the minor.

<sup>2</sup> PSYC 100 is a pre-requisite for EPSY 201.

### Undergraduate Degree Programs in Chemistry

For the Degree of Bachelor of Science in Liberal Arts and Sciences

- Major in Computer Science & Chemistry, BSLAS ([http://catalog.illinois.edu/undergraduate/eng\\_las/computer-science-chemistry-bslas/](http://catalog.illinois.edu/undergraduate/eng_las/computer-science-chemistry-bslas/))
- Major in Chemistry (Sciences and Letters) (<http://catalog.illinois.edu/undergraduate/las/chemistry-bslas/#degreerequirementstext>)
- Major in Chemistry (Sciences and Letters), Chemistry Teaching Concentration (p. 1)

For the Degree of Bachelor of Science in Chemistry

- Major in Chemistry (Specialized Curriculum) (<http://catalog.illinois.edu/undergraduate/las/chemistry-bs/#degreerequirementstext>)
- Major in Chemistry (Specialized Curriculum), Environmental Chemistry Concentration (<http://catalog.illinois.edu/undergraduate/las/chemistry-bs/environmental-chemistry/>)

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### Chemistry

Chemistry website (<https://chemistry.illinois.edu>)  
 Chemistry Faculty (<https://chemistry.illinois.edu/directory/faculty-by-type/>)  
 SCS Academic Advising (<http://advising.scs.illinois.edu/>)

### College of Liberal Arts & Sciences

Liberal Arts & Sciences College & Admissions requirements (<http://catalog.illinois.edu/schools/las/>)  
 LAS website (<https://las.illinois.edu/>)