

# CHEMISTRY 7-12 TEACHING SUBJECT ENDORSEMENT, BACHELOR OF SCIENCE IN EDUCATION

Offered by Department of Chemistry (<http://catalog.unk.edu/undergraduate/departments-programs/chemistry/>)

Code	Title	Credit Hours
<b>General Studies</b>		
<i>Foundational Requirements (LOPERs 1-4)</i>		14
Including		
LOPER 2: Writing Skills		
ENG 101	Introduction to Academic Writing	
LOPER 3: Oral Communication Skills		
SPCH 100	Fundamentals of Speech Communication	
LOPER 4: Mathematics, Statistics, and Quantitative Reasoning		
MATH 115	Calculus I with Analytic Geometry <sup>1</sup>	
<i>Broad Knowledge Requirements (LOPERs 5-8)</i>		13
Including:		
LOPER 7: Social Sciences		
PSCI 110	Introduction to American Politics	
LOPER 8: Natural Sciences		
BIOL 106	Biology II	
<i>Dispositional Requirements (LOPERs 9-10) <sup>2</sup></i>		6
Including:		
LOPER 10: Respect for Human Diversity		
TE 100	Teaching in a Democratic Society	
<b>Program Specified Requirements</b>		3
ENG 102	Special Topics in Academic Writing and Research	
<b>Professional Sequence <sup>3</sup></b>		
Select 25 credit hours including the following:		25
TE 206	Instructional Technology and the Preservice Teacher	
TE 306	Reading and Inclusion in K-12 Classrooms	
TE 319	Management and Assessment in K-12/ Secondary Classrooms	
TE 320	Field Experience in Secondary Classroom	
<b>Endorsement</b>		
Complete all required courses		42-45
<b>Unrestricted electives</b>		
Needed to reach 120 credit hour minimum		17-14
<b>Total Credit Hours</b>		<b>120</b>

## Endorsement

Code	Title	Credit Hours
<b>Chemistry Subject Endorsement Requirements</b>		
CHEM 160	General Chemistry	3
CHEM 160L	General Chemistry Laboratory	1
CHEM 161	General Chemistry	3
CHEM 161L	General Chemistry Laboratory	1
CHEM 169	Chemistry Foundations and Careers	1
CHEM 301	Analytical Chemistry	3
CHEM 301L	Analytical Chemistry Lab	1
CHEM 310	Safety in Chemistry	1
CHEM 351	Biochemistry I	4
CHEM 351L	Biochemistry Lab	1
CHEM 469	Advanced Seminar in Chemistry	1
CHEM 480	Physical Chemistry	3
	or CHEM 482 Survey of Physical Chemistry	
CHEM 490L	Advanced Chemistry Laboratory	2
Select one of the following:		5
CHEM 250 & 250L	Fundamentals of Organic Chemistry and Fundamentals of Organic Chemistry Lab	
	or CHEM 360 & 360L Organic Chemistry and Organic Chemistry Laboratory	
<b>Chemistry Subject Endorsement Other Science Requirements</b>		
<i>Earth Science</i>		
PHYS 201	Earth Science	4
	or GEOG 201 Earth Science	
<i>Biology</i>		
Fulfilled by General Studies requirements above.		0
<i>Physics</i>		
PHYS 205 & 205L	General Physics I and Physics I Laboratory	5
	or PHYS 275 & 275L General Physics I (Calculus) and General Physics I (Calculus) Laboratory	
<b>Chemistry Subject Endorsement Methodology Requirement</b>		
BIOL 471	Methods in Secondary Science Teaching	3
	or PHYS 471 Methods in Secondary Science Teaching	
<b>Electives</b>		<b>0-3</b>
CSP 417	Counseling Skills	
Total Credit Hours		42-45

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Students without sufficient preparation will also need to take the following courses, increasing the total credit hours needed:

- MATH 102
- MATH 103

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Designated courses with the appropriate content may be approved to satisfy one of the Broad Knowledge requirements plus LOPER 9 or Broad Knowledge plus LOPER 10. Courses may be approved to satisfy LOPER 9 or LOPER 10 alone. (*Courses satisfying LOPER 9 or LOPER 10 alone must be 3 credit hours.*) Students applying this option will need to take additional hours in other categories to meet the required GS hours.

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Students must apply for admission to all Teacher Education programs (<http://catalog.unk.edu/undergraduate/departments-programs/teacher-education/professional-sequence-education-degrees/>)

This document represents a sample 4-year plan for degree completion with this major. Actual course selection and sequence may vary and should be discussed individually with your academic advisor. Advisors can also help you plan other experiences to enrich your undergraduate education such as internships, education abroad, undergraduate research, learning communities, and service learning and community-based learning.

Code	Title	Credit Hours
<b>Semester 1</b>		
CHEM 160	General Chemistry	3
CHEM 160L	General Chemistry Laboratory	1
TE 100	Teaching in a Democratic Society	3
PSCI 110	Introduction to American Politics <sup>1</sup>	3
LOPR 126	First Year Seminar	3
SPCH 100	Fundamentals of Speech Communication	3
Total Credit Hours		16

Code	Title	Credit Hours
<b>Semester 2</b>		
CHEM 161	General Chemistry	3
CHEM 161L	General Chemistry Laboratory	1
ENG 101	Introduction to Academic Writing	3
MATH 115	Calculus I with Analytic Geometry	5
PHYS 201	Earth Science	4
or GEOG 201	Earth Science	
CHEM 169	Chemistry Foundations and Careers	1
Total Credit Hours		17

Code	Title	Credit Hours
<b>Semester 3</b>		
CHEM 250	Fundamentals of Organic Chemistry	4
or CHEM 360	Organic Chemistry	
CHEM 250L	Fundamentals of Organic Chemistry Lab	1
or CHEM 360L	Organic Chemistry Laboratory	
ENG 102	Special Topics in Academic Writing and Research	3
LOPER 5: Visual or Performing Arts		3
TE 204	Growth & Development/Introduction to Exceptionalities	4
Total Credit Hours		15

Code	Title	Credit Hours
<b>Semester 4</b>		
BIOL 106	Biology II	4
CHEM 301	Analytical Chemistry	3
CHEM 301L	Analytical Chemistry Lab	1

CHEM 310	Safety in Chemistry	1
TE 206	Instructional Technology and the Preservice Teacher	3
LOPER 6: Humanities		3
Total Credit Hours		15

Code	Title	Credit Hours
<b>Semester 5</b>		
CHEM 351	Biochemistry I	4
CHEM 351L	Biochemistry Lab	1
TE 306	Reading and Inclusion in K-12 Classrooms	2
PHYS 205	General Physics I <sup>2</sup>	4
PHYS 205L	Physics I Laboratory <sup>2</sup>	1
CHEM 480	Physical Chemistry	3
or CHEM 482	Survey of Physical Chemistry	
Total Credit Hours		15

Code	Title	Credit Hours
<b>Semester 6</b>		
TE 319	Management and Assessment in K-12/ Secondary Classrooms	2
TE 320	Field Experience in Secondary Classroom	2
Unrestricted Elective		3
Unrestricted Elective		3
Unrestricted Elective		3
Unrestricted Elective		3
Total Credit Hours		16

Code	Title	Credit Hours
<b>Semester 7</b>		
CHEM 469	Advanced Seminar in Chemistry	1
CHEM 490L	Advanced Chemistry Laboratory	3
PHYS 471	Methods in Secondary Science Teaching	3
or BIOL 471	Methods in Secondary Science Teaching	
Unrestricted Elective		3
Unrestricted Elective		3
Total Credit Hours		13

Code	Title	Credit Hours
<b>Semester 8</b>		
TE 400	Student Teaching	12
Total Credit Hours		12

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Some courses count for 2 LOPER Requirements, which reduces number of General Education courses needed. PSCI 110 counts for both LOPER 7 and LOPER 9. Course List Meeting 2 LOPER General Education Requirements can be found at: <https://catalog.unk.edu/undergraduate/general-studies/courses-satisfy-broad-knowledge-dispositional/>

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PHYS 275/PHYS 275L can be taken also. It is a spring only course.