

B.S. IN CHEMISTRY AND EDUCATION WITH ENDORSEMENT IN SECONDARY EDUCATION IN PHYSICAL SCIENCE

Code	Title	Credits
Major Requirements/Chemistry (36 credits)¹		
CE-111	General Chemistry I	3
CE-111L	General Chemistry Laboratory I	1
CE-112	General Chemistry II	3
CE-112L	General Chemistry Laboratory II	1
CE-221	Analytical Chemistry I Quantitative Analysis	3
CE-221L	Analytical Chemistry I Laboratory Quantitative Analysis	1
CE-241	Organic Chemistry I	3
CE-241L	Organic Chemistry Laboratory I	2
CE-242	Organic Chemistry II	3
CE-242L	Organic Chemistry Laboratory II	2
CE-311	Chemical Literature	1
CE-322	Analytical Chemistry II Instrumental Analysis	3
CE-322L	Analytical Chemistry II Laboratory Instrumental Analysis	2
CE-341	Physical Chemistry I	3
CE-341L	Physical Chemistry I Laboratory	1
CE-410	Seminar	1
Select 3 credits from Chemistry 400+ level (excluding CE-499)		3
<i>(CE courses satisfy Natural Science (NS) requirement in General Education)</i>		
Major Requirements/Education (24 credits)²		
ED-250	Psychological and Philosophical Foundations of Education	3
EDS-330	Foundations of Special Education: Development Across the Lifespan	3
EDS-336	Classroom Management	3
ED-319	Content Literacy	3
ED-320	Teaching English Language Learners in Mainstream Classroom	3
<i>(Satisfies Reasoned Oral Discourse (RD) in General Education)</i>		
Select 9 credits as follows: ³		
ED-416 & 416S	Clinical Practice and Clinical Practice Seminar	9
Interdisciplinary Requirements/Chemistry (24 credits)		
MA-125	Calculus with Analytic Geometry I	4
MA-126	Calculus with Analytic Geometry II	4
<i>(MA-125 or MA-126 satisfy Mathematics in General Education)</i>		

PH-211	General Physics with Calculus I	4
PH-211L	General Physics with Calculus Laboratory I	1
PH-212	General Physics with Calculus II	4
PH-212L	General Physics with Calculus Laboratory II	1
PH-301	Modern Physics ⁴	3
PH-302	Theoretical Physics ⁴	3
Education Methods Requirements (6 credits)		
ED-369	Methods of Teaching Science for the Secondary Teacher Part I	3
ED-370	Methods of Teaching Science for the Secondary Teacher Part II	3
Free Electives (0 credits)		0
Complete up to 0 free electives credits. ⁶		0
General Education Requirements (33 credits)⁶		
Complete 33 credits as outlined on the General Education table. ⁶		33
Total Credits		123

¹ Students desiring certification by the ACS should enroll in the BS CE ACS program

² Minimum grade of "C" required for Education Courses

³ Students must complete the appropriate test requirement(s) with a passing score PRIOR to Clinical Practice.

⁴ These courses are offered in alternatives years, care in scheduling is required.

Additional Endorsements Available

- TSD - Teacher of Students with Disabilities - Secondary
- ESL - English as a Second Language - Secondary

Notes

- 54 credits must be completed at the 200 level or higher.
- Education majors are required to have an overall GPA of 3.00 for State Certification.
- By state regulation, all Education Majors seeking content area endorsement must complete 30 content credits (12+ credits at the 300+ level).

B.S. in Chemistry and Education with Endorsement in Secondary Education in Physical Sciences Sequence Chart

First Year		Credits	
Fall	Credits	Spring	Credits
CE-111 General Chemistry I	3	CE-112 General Chemistry II	3
CE-111L General Chemistry Laboratory I	1	CE-112L General Chemistry Laboratory II	1
EN-101 College Composition I	3	MA-126 Calculus with Analytic Geometry II	4
MA-125 Calculus with Analytic Geometry I	4	EN-102 College Composition II	3
IT-102 Information Technology for Scientists	3	Gen*Ed Social Science Survey	3

	ED-250 Psychological and Philosophical Foundations of Education	3
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Semester Credits	14 Semester Credits	17
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Second Year

Fall	Credits	Spring	Credits
CE-241 Organic Chemistry I		3 CE-242 Organic Chemistry II	3
CE-241L Organic Chemistry Laboratory I	2	CE-242L Organic Chemistry Laboratory II	2
PH-211 General Physics with Calculus I	4	PH-212 General Physics with Calculus II	4
PH-211L General Physics with Calculus Laboratory I	1	PH-212L General Physics with Calculus Laboratory II	1
ED-320 Teaching English Language Learners in Mainstream Classroom	3	EDS-330 Foundations of Special Education: Development Across the Lifespan	3
Gen*Ed Aesthetics	3	CE-221 Analytical Chemistry I Quantitative Analysis	3
		CE-221L Analytical Chemistry I Laboratory Quantitative Analysis	1

Semester Credits	16 Semester Credits	17
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Third Year

Fall	Credits	Spring	Credits
CE-311 Chemical Literature		1 CE-410 Seminar	1
PH-301 Modern Physics	3	PH-302 Theoretical Physics	3
CE-341 Physical Chemistry I	3	CE-4xx Chemistry 400-Level Elective	3
CE-341L Physical Chemistry I Laboratory	1	ED-319 Content Literacy	3
Gen*Ed Historical Perspectives	3	Gen*Ed Literature	3
EDS-336 Classroom Management	3	Gen*Ed World Language	3
Gen*Ed Cultural Diversity or Global Understanding	3		

Semester Credits	17 Semester Credits	16
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Fourth Year

Fall	Credits	Spring	Credits
ED-369 Methods of Teaching Science for the Secondary Teacher Part I		3 ED-416 Clinical Practice	8
ED-370 Methods of Teaching Science for the Secondary Teacher Part II		3 ED-416S Clinical Practice Seminar	1
CE-322 Analytical Chemistry II Instrumental Analysis	3		
CE-322L Analytical Chemistry II Laboratory Instrumental Analysis	2		
Gen*Ed Historical Perspectives or Social Science Survey	3		
Gen*Ed Interdisciplinary Studies	3		

Semester Credits	17 Semester Credits	9
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Total Credits 123