

Chemistry Secondary Education Typical Four-Year Sequence

Freshman Year			
Fall Term		Spring Term	
Course	Units	Course	Units
SEMS110 Introduction to STEM Teaching I: Inquiry Approaches to Teaching	1	SEMS 120 Introduction to STEM Teaching II: Inquiry-Based Lesson Design	1
CHEM 131 General Chemistry I and CHEM 131L General Chemistry I Laboratory (Core Category 7)	3 1	CHEM 132 General Chemistry II and CHEM 132L General Chemistry II Laboratory	3 1
GEOL 121 Physical Geology or ASTR 161 Astronomy (Core Category 8)	4	BIOL190/BIOL190L or BIOL 200?BIOL200L or	4
MATH 211 Calculus for Application or MATH 273 Calculus I (Core Category 3)	3 – 4	ENGL 102 (Core Category 2)	3
TSEM 102 (Core Category 1)	3	Core Curriculum	3
Total	15 – 16	Total	15

Sophomore Year			
Fall Term		Spring Term	
Course	Units	Course	Units
SEMS 230 Knowing and Learning	3	SEMS 240 Classroom Interactions	3
CHEM 220/CHEM 220L Introduction to Analytical Chemistry w Lab	5	CHEM 332 Organic Chemistry II	5
PHYS 211 General Physics I Non Calculus-Based or PHYS241 General Physics I Calculus-Based	4	PHYS 212 General Physics II Non Calculus-Based or PHYS242 General Physics II Calculus-Based	4
CHEM 331 Organic Chemistry I	5	Core Curriculum	3
Total	17	Total	15

Junior Year			
Fall Term		Spring Term	
Course	Units	Course	Units
SEMS 250 Perspectives on Science and Math (Core Category 5)	3	SEMS 370 Project-Based Instruction	3
CHEM 323 Inorganic Chemistry or CHEM 351 Biochemistry	3 – 4	CHEM 345 Principles of Physical Chem	3
SCED 460 Using Reading & Writing in the Secondary Schools	4	Chemistry Elective(s)	4
SEMS 260 Diversity/Difference (Core Category 13)	3	SCED 461 Teaching Reading in the Secondary Content Areas	3
Core Curriculum	3	Core Curriculum	3
Total	16 – 17	Total	16

Senior Year			
Fall Term		Spring Term	
Course	Units	Course	Units
CHEM 401 Chemistry Seminar	1	SCIE 393 Student Teaching in Secondary Education – Science	12
CHEM 372 Physical Chemistry Lab	2		
SCIE 380 Teaching Science in the Secondary School	3		
SEMS 498 Internship in Mathematics and Science Secondary Education	3		
Core Curriculum (Core Category 9)	3	SCIE 430 Seminar in Student Teaching – Science	1
Core Curriculum	3		
Core Curriculum	3		
Total	18	Total	13

The total number of units required for graduation is 125-127.