Biology 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
BIOL 200: Introduction to Cellular Biology and Genetics **And** BIOL 200L: Introduction to Cellular Biology and Genetics Lab **(Core Category 8)**	3 1	BIOL 202 Introduction to Ecology and Genetics	4
MATH 211 Calculus for Applications [or MATH 273, MATH 237] **(Core Category 3);** or PSYC 212	3	PAGS Elective [ASTR 161, GEOG 377, GEOL 121, or GEOL 123]	3–4
TSEM 102 **(Core Category 1)**	3	ENGL 102 **(Core Category 2)**	3
Core Curriculum	3	PHYS 211 General Physics I	4
Total	**14**	**Total**	**15-16**

Sophomore Year			
Fall Term		**Spring Term**	
Course	**Units**	**Course**	**Units**
SEMS 230 Knowing and Learning	3	SEMS 240 Classroom Interactions	3
BIOL 207 General Zoology	4	BIOL 205 General Botany	4
BIOL 204 Educational and Career Planning for the Biologist	1	CHEM 132 General Chemistry II **and** CHEM 132L General Chemistry II Laboratory	3 1
CHEM 131 General Chemistry I **and** CHEM 131L General Chemistry I Laboratory **(Core Category 7)**	3 1	Core Curriculum	3
BIOL 309 Genetics	4	Core Curriculum	3
Total	**16**	**Total**	**17**

Junior Year			
Fall Term		**Spring Term**	
Course	**Units**	**Course**	**Units**
SEMS 250 Perspectives on Science and Mathematics **(Core Category 5)**	3	SEMS 370 Project-Based Instruction	3
CHEM 330 Essentials of Organic Chemistry	5	BIOL 325 Animal Physiology	4
Biology Elective	3–4	Core Curriculum	3
Core Curriculum	3	SCED 460 Using Reading & Writing in the Secondary Schools	4
SEMS 360 Research Methods **(Core Category 9)**	3	Core Curriculum	3
Total	**17-18**	**Total**	**17**

Senior Year			
Fall Term		**Spring Term**	
Course	**Units**	**Course**	**Units**
SCED 461 Teaching Reading in the Secondary Content Areas	3	SCIE 393 Student Teaching in Secondary Education – Science	12
SCIE 380 Teaching Science in the Secondary School	3		
SEMS 498 Internship in Mathematics and Science Secondary Education	3	SCIE 430 Seminar in Student Teaching – Science	1
BIOL 408 Cell Biology	4		
Core Curriculum	3		
Total	**16**	**Total**	**13**

The minimum number of units required for graduation is 125.