GEOLOGY COMPREHENSIVE MAJOR: SECONDARY LICENSURE IN EARTH-SPACE SCIENCE EMPHASIS

Program Requirements

Students interested in pursuing this comprehensive program should consult with the Teacher Education Program advisor in addition to the advisor in their major as soon as possible. The Secondary Licensure in Earth-Space Science Emphasis requires a minimum of 64 credits, and the requirements of the Secondary Licensure Program (see description under Education).

Code	Title	Credits
Geology Requirements		
GEOL 101	Physical Geology (GT-SC2)	3
or GEOL 103	Earth and Energy Systems	
GEOL 105	Physical Geology Laboratory (GT-SC1)	1
GEOL 201	Historical Geology (with laboratory)	4
GEOL 302	Geoscience Writing	2
GEOL 310	Stratigraphy and Sedimentation (with laboratory)	4
GEOL 315	Earth Materials (with laboratory)	4
GEOL 320	Geomorphology (with laboratory)	4
GEOL 345	Structural Geology (with laboratory)	4
GEOL 450	Field Geology	4
Required Supporting Courses		
BIOL 150	Biological Principles (with laboratory) (GT-SC1)	4
BIOL 151	Diversity and Patterns of Life (with laboratory)	4
CHEM 111	General Chemistry I (GT-SC2)	3
CHEM 112	General Chemistry Laboratory I (GT-SC1)	1
CHEM 113	General Chemistry II	3
CHEM 114	General Chemistry Laboratory II	1
MATH 141	Precalculus (GT-MA1)	4
or MATH 151	Calculus I (GT-MA1)	
PHYS 110	Introductory Astronomy (GT-SC2)	3
PHYS 120	Meteorology (GT-SC2)	3
Select one of the following pairs of courses:		8
PHYS 170 & PHYS 185	Principles of Physics I (GT-SC2) and Laboratory Physics I (GT-SC1)	
AND		
PHYS 171 & PHYS 186	Principles of Physics II (GT-SC2) and Laboratory Physics II (GT-SC1)	
OR		
PHYS 190 & PHYS 185	General Physics I (GT-SC2) and Laboratory Physics I (GT-SC1)	
AND		
PHYS 191 & PHYS 186	General Physics II (GT-SC2) and Laboratory Physics II (GT-SC1)	
Total Credits		**64**

Course	Title	Credits
Year One		
Fall		
ENG 102	Writing and Rhetoric I (GT-CO1)	3
GEOL 101	Physical Geology (GT-SC2)	3
GEOL 105	Physical Geology Laboratory (GT-SC1)	1
HWTR 100	First Year Seminar	1
Gen Ed	General Education Courses	6
	Credits	**14**
Spring		
BIOL 150	Biological Principles (with laboratory) (GT-SC1)	4
GEOL 201	Historical Geology (with laboratory)	4
MATH 141	Precalculus (GT-MA1) (or higher, depending on MATH placement) [1]	4
Gen Ed	General Education Courses	3
	Credits	**15**
Year Two		
Fall		
CHEM 111	General Chemistry I (GT-SC2)	3
CHEM 112	General Chemistry Laboratory I (GT-SC1)	1
GEOL 302	Geoscience Writing	2
GEOL 310	Stratigraphy and Sedimentation (with laboratory)	4
PHYS 110	Introductory Astronomy (GT-SC2)	3
Gen Ed	General Education Courses	3
	Credits	**16**
Spring		
BIOL 151	Diversity and Patterns of Life (with laboratory)	4
ENG 103	Writing and Rhetoric II (GT-CO2)	3
CHEM 113	General Chemistry II	3
CHEM 114	General Chemistry Laboratory II	1
GEOL 345	Structural Geology (with laboratory)	4
	Credits	**15**
Year Three		
Fall		
BIOL 301	General Ecology	3
GEOL 305	Mineralogy (with laboratory)	4
GEOL 320	Geomorphology (with laboratory)	4
GEOL 495	Geology Seminar	1
PHYS 185	Laboratory Physics I (GT-SC1)	1
PHYS 170 or PHYS 190	Principles of Physics I (GT-SC2) or General Physics I (GT-SC2)	3
	Credits	**16**
Spring		
EDUC 340	Application of Pedagogy and Practice	3
PHYS 120	Meteorology (GT-SC2)	3
PHYS 186	Laboratory Physics II (GT-SC1)	1
PHYS 171 or PHYS 191	Principles of Physics II (GT-SC2) or General Physics II (GT-SC2)	3
Gen Ed	General Education Courses	6
	Credits	**16**
Summer		
GEOL 450	Field Geology	4
	Credits	**4**
Year Four		
Fall		
EDUC 403	Instruction & Assessment in Content Area	3
EDUC 404	Creating Positive Learning Environments	3
EDUC 405	Data-driven Instructional Practices	3
EDUC 409	Secondary Student Teaching	3
EDUC 424	Differentiation: Applying Learner-Centered Instruction	3
	Credits	**15**

Spring		
EDUC 406	Content Area Literacy	3
EDUC 407	Maximizing Learning through 21st Century Skills	3
EDUC 409	Secondary Student Teaching	3
EDUC 429	Teaching English Learners for Secondary and K-12 Teachers	3
	Credits	**12**
	Total Credits	**123**

[1] Geology requires completion of mathematics through Calculus II. Additional mathematics courses may be required and would fill Elective courses as needed.