

Requirements for Gem Science Sub-plan: 2021-22 Catalog Year (SPRING 2022 only)

SECOND LANGUAGE REQUIREMENT

(Requirement can be met with proficiency exam):

Semester 1		4
Semester 2	(completion with a grade of C or higher)	4

GENERAL EDUCATION (BEGINNING SPR22):

UNIV 101	Intro to General Education	1
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4 Exploring Perspectives

	Exploring Perspectives: Artist	3
	Exploring Perspectives: Humanist	3
	Exploring Perspectives: Natural Scientist	3
	Exploring Perspectives: Social Scientist	3

3 Building Connections (9-units Total)

		3
		3
		3

UNIV 301	Capstone General Education	1
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ENGLISH (6 units):

ENGL 101	English Composition	3
ENGL 102	English Composition (grade of B or higher to meet MCWA)	3

or

ENGL 109H	English Composition	3
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or

ENGL 106	English Composition for ESL Students	3
ENGL 107	English Composition for ESL Students	3
ENGL 108	English Composition for ESL Students (grade of B or higher to meet MCWA)	3

MATHEMATICS (9 units):

MATH 122A&B or MATH 125	Calculus I (P: MATH 120R with a grade of C or higher, or appropriate math placement)	3-5
MATH 129	Calculus II (P: MATH 122B or MATH 125 with grade of C or higher)	3
MATH 223	Vector Calculus (P: MATH 129 with a grade of C or higher)	4

CHEMISTRY (8 units):

CHEM 151 or CHEM 141/143	General Chemistry I (P: MATH 112 or appropriate math placement)	4
MSE 110	Solid State Chemistry (P: CHEM 151)	4

PHYSICS (7-8 units):

PHYS 141	Introductory Mechanics (P: MATH 122B or MATH 125; CR: MATH 129)	4
PHYS 142	Introductory Optics and Thermodynamics (P: PHYS 141 and MATH 129 or appropriate math placement)	3

GEOS COMMON CORE (Complete 4 courses):

GEOS 251	Physical Geology (Fall and Spring)	4
Computer Application	Choose one class from: GEOS 280 MatLab (Fall) or GEOS 285 Python (Spring)	3
GEOS 300	Earth Surface Processes (P: GEOS 251) (Spring)	3
GEOS 302	Principles Stratigraphy and Sedimentation (P: GEOS 251, CHEM 151 or CHEM 141 and CHEM 143, PHYS 102 or 141) (Fall) (Writing Proficiency course; MCWA alternative)	4

GEM SCI CORE (Complete 6 courses):

GEOS 260	Intro to Gem Science (P: CHEM 151 or CHEM 141 and CHEM 143 or MSE 110) (Spring)	4
GEOS 306	Mineralogy (P: GEOS 251, CHEM 151 or CHEM 141 and CHEM 143) (Fall)	3
GEOS 356	Petrology (P: GEOS 306, MATH 122B, PHYS 102 or 141) (Spring)	4
GEOS 400 or GEOS 474	Intro to Geochemistry (P: GEOS 251; CHEM 152 or CHEM 142 and CHEM 144) (Fall) or Geochronology-Thermochronology (P: GEOS 251, MATH 122B or 125) (Fall 2023)	3
GEOS 462	Petrology of Gems (P: GEOS 306, GEOS 356) (Spring)	3
MSE 480	Adv Characterization Methods in Materials Science & Engr (Spring)	3

GEM SCI CAPSTONE –

FIELD, RESEARCH, OR INTERNSHIP EXPERIENCE (6 units):

GEOS 414 or GEOS 405	Geology Field Camp (P: GEOS 251, 302, 304, 306, 356) or Accessible Earth (P: GEOS 251, GEOS 302 recommended) (both available in Summer Session)	6
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or

Research	Consult with GEOS Faculty (e.g. GIA)	6
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or

Internship	Consult with GEOS Faculty (e.g. RealReal)	6
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GEM SCI ADVISOR APPROVED EMPHASIS COURSES (13 units)

Majority of courses should consist of GEOS 300 or 400 level	
Full list of approved classes on advisement report	
No more than 3 units of Preceptor (GEOS 397A)	
Up to 6-units of a combination of Internship, Preceptorship (3-unit max), and/or Research allowed; No double-dipping Emphasis credits with Capstone or other GEOS BS requirements.	

*UA BS degrees require a minimum of 120 units for graduation. This sub-plan totals a minimum of 104 units. Additional units may be required to meet the BS minimum requirement of 120 units.

Geology Advisor Approved Emphasis Courses

ANTH 201, ART 237, CHEM 325, CHEM 326, CHEM 480A, CHEM 480B, GEOS 240, GEOS 255, GEOS 304, GEOS 400 or GEOS 474, GEOS 408, GEOS 427, GEOS 446, GEOS 474, MNE 201, OPTI 201R, OPTI 201L, OPTI 202R, OPTI 202L, OPTI 210, OPTI 330, OPTI 340, OPTI 340A, OPTI 404, OPTI 484, OPTI 485, RCSC 114, RCSC 240, RCSC 320, RCSC 360, Approved Transfer Course