

Requirements for Geophysics Concentration 2014-2015

SECOND LANGUAGE

Second Language Requirement (8 units) (Requirement can be met with proficiency exam):

COURSE	TITLE	UNITS
Semester One		3
Semester Two	(Grade in second semester must be a C or higher)	3

TIER ONE

Traditions and Culture (xxxx160) (6 units):

COURSE	TITLE	UNITS
		3
		3

Individuals and Societies (xxxx150) (6 units):

COURSE	TITLE	UNITS
		3
		3

TIER TWO

Arts (3 units):

COURSE	TITLE	UNITS
		3

Individuals and Societies (3 units):

COURSE	TITLE	UNITS
		3

Humanities (3 units):

COURSE	TITLE	UNITS
		3

Diversity Emphasis (3 units) (gender, race, class, ethnicity, sexual orientation, or non-Western studies):

COURSE	TITLE	UNITS
	(Can be fulfilled with qualified Tier One or Tier Two)	3

English (6 units):

COURSE	TITLE	UNITS
ENGL 101	First-Year Composition	3
ENGL 102	First-Year Composition (grade of B or higher to meet MCWA)	3

Math (16 units):

COURSE	TITLE	UNITS
MATH 122A & B	Calculus I with Applications (P: MATH 120R, or MATH 110/112 and MATH 111, or appropriate Math Placement level)	5
or 125	Calculus I (Appropriate Math Placement level)	3
MATH 129	Calculus II (P: MATH 122B or MATH 125)	3
MATH 223	Vector Calculus (P: MATH 129)	4
MATH 254	Introduction to Ordinary Differential Equations (P: MATH 129 or 223)	3
MATH 322	Mathematical Analysis for Engineers (P: MATH 254)	3

Chemistry (8 units):

COURSE	TITLE	UNITS
CHEM 151	General Chemistry I (P: MATH 112 or appropriate Math Placement level)	4
CHEM 152	General Chemistry II (P: CHEM 151)	4

Physics (14 units):

COURSE	TITLE	UNITS
PHYS 141	Introductory Mechanics (P: MATH 122B; CR: MATH 129)	4
PHYS 142	Introductory Optics and Thermodynamics (P: PHYS 141, MATH 129)	3
PHYS 241	Introductory Electricity and Magnetism (P: PHYS 141; CR: MATH 223)	4
PHYS 321 or _____	Theoretical Mechanics I (P: PHYS 241 or 261H; MATH 223; CR: MATH 254) OR Advisor approved alternate physical science course	3

Computer Science (3 units) (Computer science course in programming, GIS, geodesy, remote sensing)

COURSE	TITLE	UNITS
		3

GEOSCIENCES (52 units, including Emphasis courses):

COURSE	TITLE	UNITS
GEOS 251	Physical Geology (Fall and Spring)	4
GEOS 302	Principles Stratigraphy and Sedimentation (P: GEOS 251) (Fall/Spring) (WP)	4
GEOS 304	Structural Geology (P: GEOS 251) (Fall/Spring)	4
GEOS 306	Mineralogy (P: GEOS 251, CHEM 151) (Fall only)	3
GEOS 322	Intro to Geophysics (P: GEOS 251; CR: MATH 122B) (Spring only)	3
GEOS 356	Petrology (P: GEOS 306) (Spring only)	4
GEOS 414	Geology Field Camp (P: GEOS 251, 302, 304, 306, 356) (Summer Session)	6
GEOS 416	Field Studies in Geophysics (Spring only)	3
GEOS 419	Physics of the Earth (P: MATH 254) (Spring only)	3
GEOS 432	Introduction to Seismology (P: MATH 254) (Fall only)	3
GEOS 434A	Introduction to Exploration Seismology (P: MATH 129) (Fall)	3
GEOS 448	Geophysical Exploration (P: PHYS 241, MATH 223) (Fall)	3

Advisor Approved Emphasis Courses (9 units):

	Generally courses from Geos 300 or 400 level	
	Can choose courses from related science, as well	

OTHER GEOSCIENCES OPPORTUNITIES

Research experience (GEOS 399, 399, 492, etc.) - Do research with a professor and earn credit!

SESS club (Wednesday at noon) - Society of Earth Science Students – geology club - <http://www.geo.arizona.edu/SESS/>

Preceptorship program (GEOS 397A) – undergraduate teaching assistant. Be a preceptor for a GEOS lab class you've completed in a previous semester.

2014-2015 Finish in Four! **ACADEMIC PLAN** Geosciences: Geophysics Concentration

THIS SAMPLE PROGRAM SHOULD NOT BE FOLLOWED WITHOUT CONSULTATION
WITH THE DEPARTMENT ADVISOR.

Freshman Year

MATH 122A/B or 125	3 (5)	MATH 129	3
ENGL 101	3	ENGL 102	3
CHEM 151	4	CHEM 152	4
GEOS 251	<u>4</u>	Tier 1 Indv	3
	14 (16)	GEOS 255	<u>4</u>
			17

Sophomore Year

MATH 223	4	MATH 254	3
PHYS 141	4	PHYS 241	4
Tier 1 Trad	3	Tier 1 Indv	3
GEOS 302	<u>4</u>	GEOS 304	4
	15	GEOS 322	<u>3</u>
			17

Junior Year

MATH 322	3	Additional PHYS	3
PHYS 142	2	Computer science	3
Tier 2 Arts	3	Tier 2 Humanities	3
Tier 1 Trad	3	GEOS 356	<u>4</u>
GEOS 306	<u>3</u>		13
	14		

Summer Session

GEOS 414	<u>6</u>
	6

Senior Year

Tier 2 Indv	3	GEOS elective	3
GEOS 434A	3	GEOS 416	3
GEOS 448	3	GEOS 419	3
GEOS Electives	<u>2</u>	GEOS 432	<u>3</u>
	13		12

TOTAL UNITS: 120 (122)

NOTES:

1. One course in degree program must focus on non-western cultures or gender / race / ethnicity.
2. No minor is required for this program.
3. Students who do not demonstrate second-semester proficiency in a second language upon entrance into the U of A will be required to complete up to two courses (8-10 units) in a second language. This coursework would be best completed in the freshman year.