

Requirements for Geophysics Concentration

Each of the main discipline areas is listed separately, along with the number of units required in each group.

In addition to the requirements below, students **must also demonstrate second-semester language proficiency.**

TIER ONE

Traditions and Culture (TRAD) (6 units):

COURSE	TITLE	UNITS
		3
		3

Individuals and Societies (INDV) (6 units):

COURSE	TITLE	UNITS
		3
		3

TIER TWO

Arts (3 units):

COURSE	TITLE	UNITS
		3

Individuals and Societies (INDV) (3 units):

COURSE	TITLE	UNITS
		3

Humanities (3 units):

COURSE	TITLE	UNITS
		3

* Note that one of the General Education requirements above must also be a course on non-western cultures or gender/race/class/ethnicity.

English (6 units):

COURSE	TITLE	UNITS
ENGL 101	First-Year Composition	3
ENGL 102	First-Year Composition	3

Math (16 units):

COURSE	TITLE	UNITS
MATH 125	Calculus I (P: MATH 120R, or MATH 110/112 and MATH 111, or an acceptable score on MRT)	3
or 124	Calculus I with Applications	5
MATH 129	Calculus II (P: MATH 124 or MATH 125)	3
MATH 223	Vector Calculus (P: MATH 129 or MATH 250A)	4
MATH 254	Introduction to Ordinary Differential Eq (P: MATH 129)	3
MATH 322	Mathematical Analysis for Engineers (P: MATH 250B or MATH 254 or MATH 355)	3

Chemistry (8 units):

COURSE	TITLE	UNITS
CHEM 151	Fundamentals of Chemistry I (P: MATH 110 or an equivalent level of proficiency as demonstrated by Math Readiness Test)	4
CHEM 152	Fundamentals of Chemistry II (P: CHEM 151)	4

Physics (13 units):

COURSE	TITLE	UNIT S
PHYS 141	Introductory Mechanics (P: MATH 124/125; CR: MATH 129)	4
PHYS 142	Introductory Optics and Thermodynamics (P: PHYS 141; CR: MATH 223)	3
PHYS 241	Introductory Electricity and Magnetism (P: PHYS 141; CR: MATH 223)	4
PHYS 321 or _____	Theoretical Mechanics I (P: PHYS 251 or 261H; MATH 223; CR: MATH 254) or Advisor approved alternate physical science course	3

Computer Science (3 units) (MIS 111 or any other introductory computer course)

COURSE	TITLE	UNITS
		3

GEOSCIENCES (53 units, including Emphasis courses):

COURSE	TITLE	UNIT S
GEOS 251	Physical Geology (Fall and Spring)	4
GEOS 302	Principles Stratigraphy and Sedimentation (P: GEOS 251) (Fall only) (WP)	4
GEOS 304	Structural Geology (P: GEOS 251) (Spring only)	4
GEOS 306	Mineralogy (P: GEOS 251, CHEM 103A/104A) (Fall only)	3
GEOS 322	Intro to Geophysics (P: GEOS 251; CR: MATH 124/125) (Spring only)	3
GEOS 356	Petrology (P: GEOS 306) (Spring only)	4
GEOS 414	Geology Field Camp (P: GEOS 251, 302, 304) (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) (Spring only)	3
GEOS 434A	Introduction to Exploration Seismology (P: MATH 129) (Fall)	3
GEOS 448	Geophysical Exploration (P: PHYS 141, PHYS 242, MATH 223) (Fall)	3

Advisor Approved Emphasis Courses (10 units):

OTHER GEOSCIENCES OPPORTUNITIES

Research experience (GEOS 399, 399, 492, etc.)

SESS club (Fridays, 12-1)

Preceptorship program (GEOS 397A)

**2008-2009 Finish in Four! ACADEMIC PLAN
Geosciences: Geophysics Concentration**

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

Freshman Year

MATH 124 or 125	3 (5)	MATH 129	3
ENGL 101	3	ENGL 102	3
CHEM 103a/104a	4	CHEM 103b/104b	4
GEOS 251	<u>4</u>	Tier 1 Indv	3
	14 (16)	Tier 1 Trad	<u>3</u>
			16

Sophomore Year

MATH 223	4	MATH 254	3
PHYS 141	4	PHYS 241	4
MIS 111	3	Tier 1 Indv	3
GEOS 306	<u>3</u>	GEOS 356	<u>4</u>
	14		14

Junior Year

MATH 322	3	Additional PHYS	3
PHYS 142	2	GEOS 304	4
Tier 2 Arts	3	Tier 2 Humanities	3
Tier 1 Trad	3	GEOS 310	1
GEOS 302	<u>4</u>	GEOS 322	<u>3</u>
	15		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>6</u>	GEOS 432	<u>3</u>
	15		12

TOTAL UNITS: 120 (122)

NOTES:

1. One course in a student's 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.