

# Curriculum for Geosciences with Geophysics Concentration, B. S. Degree 2013-2014

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**MAJOR:**

GEOL 1303 – Physical Geology	GPH 3300 – Geophysics	
GEOL 1101 – Physical Geology laboratory	GPH 4321 – Seismic Methods	
GEOL 3401 – Mineralogy and Petrology	GPH 4323 – Electrical Methods	
GEOL 3402 – Structure (WI)	GPH 3310 – Quantitative Methods	
GEOL 4312 – Senior Research Project (WI)	GCH 3303 – Introduction to Geochemistry	
GEOL 4101 – Senior Seminar		
(WI) – writing intensive classes)		
<b>+12 elective hours from mandatory electives and <u>major elective list below</u></b>		<b>= 46 hours</b>

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**Mandatory electives - these classes are required to be in either the major or the minor:**

MATH 2360	Linear Algebra
MATH 3350	Higher Math for Engineers and Scientists I
CE 2301	Statics
CE 3303	Mechanics of Solids <b>OR</b> CE 3305 – Mechanics of Fluids

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**ADJUNCT COURSES:**

MATH 1451	Calculus I	
MATH 1452	Calculus II	
MATH 2450	Calculus III	
CHEM 1307	Chemistry I	
CHEM 1107	Chemistry I lab	
PHYS 1408	Physics I	
PHYS 2401	Physics II	<b>= 24 hours</b>

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**MINOR:** **= 18 hours**

**Recommended minor plans:**

**MATH:** MATH 1451, 1452, 2450, 2360, 3350, and one elective from MATH 3351, 4310, 4312, 4330  
**GEOL:** GEOL 1304, 1102, GCH 3303, GEOL 4320, 4361 (or 4362), 4325, 4331 (or 4332)  
**ATMO:** ATMO 1300, 1100, 2301, 2316, 3301, pick two from MATH 3350, 3351, CE 3305, GEOL 3322, 3323, 4331, 4332, GIST 3300, WE 3315 or ATMO 4300 (permission required)

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**Major Elective List: Most students will pick their major electives from the following list**

GEOL 1304, 1102 – Historical Geology or ATMO1300, 1100 – Atmospheric Science

**G** GEOL 4325 Sed/Strat, GEOL 4320 Optical Mineralogy, GEOL 4331 Digital Imagery, GEOL 4332 Spatial Data Analysis, GEOL 4361 Adv. Structure, GEOL 4362 Tectonics, GEOL 4201 Field Sed. Geol., GEOL 4301 Adv. Field Methods, or GEOL 4300 (graduate classes for undergraduate credit).

**GP** GPH 4300, geophysics graduate classes taken for undergraduate credit

**A** ATMO 3301 General Meteorology, ATMO 4300 (graduate class taken for undergraduate credit)

**E** CE 3303 Mech. of Solids, CE 3305 - Mech. of fluids, CE 3302 – dynamics.

**P** PHYS 3401 Optics, PHYS 3305 Electricity, PHYS 3306 Magnetism, PHYS 4304 Mechanics

**M** MATH 3351 Higher Math for Eng. and Sci. II; MATH 4310 Numerical Analysis I; MATH 4312 Numerical Analysis II; MATH 4330 Mathematical Computing

**All undergraduate degrees require completion of 40 hours at the Junior-Senior level, some of which may be taken in the core electives.**

## Four-year Curriculum Table

Bachelor of Science in Geosciences: Sample table for Geophysics concentration with Math minor

### YEAR 1 .....

<i>Fall</i>		<i>Spring</i>	
GEOL 1303, Physical Geology	3	PHYS 1408, Prin. of Physics I	4
GEOL 1101, Physical Geology Lab	1	MATH 1452, Calculus II	4
MATH 1451, Calculus I	4	HIST 2300, US History to 1877	3
CHEM 1307, Principles Chem I	3	ENGL 1302, Advanced Coll. Rhetoric	3
CHEM 1107, Principles Chem I lab	1	PFW 11XX, Personal Fitness course	1
ENGL 1301, Essentials of Coll Rhetoric	3		
15 hrs		15 hrs	

### YEAR 2 .....

<i>Fall</i>		<i>Spring</i>	
GEOL 3401, Mineralogy and Petrology	4	GCH 3303 Intro to Geochemistry	3
GPH 3300, Geophysics	3	MATH 2360, Linear Algebra	3
PHYS 2401, Principles of Physics II	4	Oral Communications Elective	3
MATH 2450, Calculus III	4	English Literature	3
PFW 11XX, Personal Fitness course	1	Individual and Group Elective	3
16 hrs		15 hrs	

### YEAR 3 .....

<i>Fall</i>		<i>Spring</i>	
GPH 3310 Quantitative Methods	3		
GEOL 3402, Structural Geology	4	GPH 4323 Electrical Methods	3
GPH 4321, Seismic Methods	3	CE 3303 or 3305 Mechanics	3
CE 2301, Statics	3	MATH 3350, Higher Math Eng &Sci I	3
POLS 1301, American Govt. Org.	3	Foreign Language course	3
16 hrs		12 hrs	

### YEAR 4 .....

<i>Fall</i>		<i>Spring</i>	
GEOL 4101 Senior Seminar	1		
Jr/Sr MATH elective	3	Jr/Sr Major elective	3
Jr/Sr Major elective	3	GEOL or ATMO 4312 Senior Research	3
POLS 2302 Am Gov Org	3	Multicultural Elective	3
English Literature	3	HIST 2301, US History since 1877	3
Foreign Language course	3	Visual and Performing Arts Elective	3
16 hrs		15hrs	

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