

# GEOPHYSICS CONCENTRATION

## OVERVIEW

The Geophysics concentration combines a strong foundation in geology with additional depth in geophysics, physics, mathematics, and associated quantitative and computer skills. Students pursuing this concentration are well prepared both for employment opportunities in a wide variety of geosciences and geotechnical fields, and for subsequent graduate training that includes geophysics, seismology, geodynamics, energy exploration, environmental geophysics, space sciences, and resource management geophysics.



## CAREERS

- Petroleum Exploration
- Mineral Exploration
- Hydrogeophysics (Groundwater Resource Management)
- Natural Hazard Management
- K-12 and Higher Education
- Petroleum and Mining Companies
- Federal, State, and Local government agencies responsible for natural resource and natural hazard management
- Geophysical service companies involved in petroleum and mineral exploration, water resource management archeology and land use assessment

## MORE ABOUT GEOPHYSICS

"The geophysics curriculum is designed to give students an overview of geophysical techniques used to image subsurface structure, and present physics-based methods for understanding the processes occurring within the earth. Because many geophysics jobs require an M.S. degree, the curriculum is generally focused on giving students the best possible geophysics education for graduate school without skimping on fundamental geology."

-Professor Derek Shutt





## FRESHMAN YEAR

### Fall Semester

CO 150: College Composition	3
GEOL 150: Physical Geology for Scientists	4
CHEM 111: General Chemistry I	4
CHEM 112: General Chemistry Lab I	1
AUCC3B: Arts and Humanities	3

### Spring Semester

GEOL 154: Historical and Analytical Geology	4
MATH 160: Calculus for Physical Sciences I	4
AUCC 3C: Social/Behavioral Sciences	3
CHEM 113: General Chemistry II	3
CHEM 114: General Chemistry II Lab	1

## JUNIOR YEAR

### Fall Semester

GEOL 344: Sedimentation and Stratigraphy	4
PH 142: Physics for Scientists II	5
STAT 301 or STAT 315 or MATH 369	3
AUCC 3B: Arts and Humanities	3

### Spring Semester

GEOL 372: Structural Geology	4
GEOL 376: Geologic Field Methods	3
MATH 340: Intro to Ordinary Differential Equations	4
CO 300 or CO 301B or JTC 300	3

### Summer Semester

GEOL 436: Summer Field Course	6
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## SOPHOMORE YEAR

### Fall Semester

GEOL 232: Mineralogy	3
GEOL 161: Calculus for Physical Sciences II	4
PH 141: Physics for Scientists I	5
AUCC 3D: Historical Perspectives	3

### Spring Semester

GEOL 364: Igneous and Metamorphic Petrology	4
GEOL 250: The Solid Earth	3
MATH 151: Math Algorithms in MatLab I	1
MATH 261: Calculus for Physical Sciences III	4

## SENIOR YEAR

### Fall Semester

Directed Technical Elective	8
Elective	4

### Spring Semester

AUCC 3E: Global and Cultural Awareness	3
Upper Division Geology Course	3-5
Directed Technical Elective	4-6
Elective	4

*\*Additional courses may be required to fulfill prerequisite requirements*

**Program Total**

**120 Credits**

