

2009-2010

B.A.Ed. in Earth Science/General Science—Secondary

**College of Sciences and Technology
Woodring College of Education**

What Is the Earth Science/General Science—Secondary Major?

A geoscientist is someone who studies the Earth's physical makeup and history. Geology is the science that provides the key to finding new sources of useful Earth materials and to understanding Earth processes that affect our lives. Geoscientists provide basic information to society for solving problems and establishing policy for resource management, environmental protection, public health, safety and welfare.

Geoscientists are curious about the Earth. How was it formed? How is it changing? What effects will shrinking glaciers have on the oceans and climate? How do islands form? What makes a continent move? Why did the dinosaurs become extinct? What makes a mountain?

Geoscientists are concerned about the Earth. Is there a global warming trend? How and where should we dispose industrial wastes? How can we fill society's growing demands for energy and conserve natural resources for future generations.

Geoscientists enjoy the Earth. It is an outdoor laboratory filled with opportunities to observe Earth processes in action. By applying knowledge of forces that shape the Earth, geoscientists seek to reconstruct the past and anticipate the future.

Why Should I Consider This Major?

Do you like to know why and how things work? Do you enjoy the outdoors? Are you concerned about the environment? Are you interested in travel? Do you like to analyze things? Are science and nature among your favorite subjects? Have you ever wondered why the Earth appears as it does? Would you like to share this information with middle or high school students? If you answer "yes" to most of these questions the geosciences could offer a good career for you.

How to Declare:

You may declare your Earth Science—Secondary major upon completion of GEOL 211, 212, CHEM 121, and MATH 115. Come to the Geology office, ES 240, to declare your major. You will be assigned a Geology faculty advisor at that time.

Mid-Program Checkpoint:

Students intending to complete a Bachelor's of Arts in Education degree in Earth Science/General Science—Secondary within four years should complete the following courses by the start of their junior year. Students are expected to follow all prerequisite requirements for courses and seek early departmental advisement.

Coursework:

GEOL 211, 212, 214, 310

CHEM 121, 122, 251

MATH 114, 115

PHYS 114, 115, 116 or 121, 122, 123

Contact Information:

Geology Department Website:
<http://geology.wvu.edu>

Geology Undergraduate Advisor:
Vicki Critchlow
ES 240, 360-650-3582
critch@geol.wvu.edu

Education Advisors:
Scott Linneman
ES 340, 360-650-7207
Scott.Linneman@wvu.edu

Susan DeBari
ES 237, 360-650-3588
debari@geol.wvu.edu

Sample Careers:

**Secondary Education
Teacher (Grades 5-12)**



Earth Science/General Science-Secondary

Major Requirements: 95-109 Credits

This program must be accompanied by the professional preparation program in secondary education. See the *Secondary Education* section of the Catalog for program admission, completion, and teacher certification requirements. This major leads to recommendation for teaching endorsements in Earth & Space Science and Science.

GEOL 211 Physical Geology with Lab (5)

Or GEOL 211a Physical Geology Review (2)

GEOL 212 Historical Geology (4)

GEOL 213 GIS in Geology (3)

GEOL 252 The Earth and its Weather (4)

GEOL 310 Geomorphology (5)

GEOL 311 Earth Materials (4)

Or GEOL 306 Mineralogy (4) and GEOL 406 Petrology (4)

GEOL 340 Geological Oceanography (3)

ASTR 103 Introduction to Astronomy (4)

Or ASTR 113 Sun, Moon, and Planets (3)

BIOL 204 Introduction to Evolution, Ecology & Biodiversity (4)

BIOL 205 Introduction to Cellular and Molecular Biology (5)

BIOL 206 Introduction to Organismal Biology (5)

CHEM 121 and 122 General Chemistry I and II (5, 5)

CHEM 251 Elementary Organic Chemistry (5)

MATH 114 and 115 Precalculus I and II (5, 5)

Or MATH 124 Calculus & Analytic Geometry (5)

PHYS 114, 115, 116 Principles of Physics I, II, III (5, 5, 5)

Or PHYS 121 and 122 Physics with Calculus I and II/lab (5, 5)

and PHYS 123 Electricity and Magnetism/lab (5)

SCED 370 Science and Society (3)

SCED 481 Fundamentals of Teaching Science (2)

SCED 491 Methods in Secondary Education for Science Teachers (5)

At least one elective from:

GEOL 308 Earthquake Geology (3)

GEOL 309 Volcanology (3)

GEOL 314 Engineering Geology (3)

GEOL 316 Research in Marine Paleontology (4)

GEOL 318 Structural Geology (5)

GEOL 372 Watershed Hydrology (3)

GEOL 407 Advanced Petrography (3)

GEOL 414 Geology of Washington (3-5)

GEOL 415 Stratigraphy and Sedimentation (4)

GEOL 430 Image Interpretation (3)

GEOL 440 Glacial Geology (4)

Other Earth Science/General Science-Secondary options:

B.A. Geology (70 credits, plus minor in another science)

B.A. Geology, Thesis Option (73-81 credits)

B.S. Geology (94-112 credits)

B.A.Ed. Earth Science--Elementary (73-84 credits, plus certification)

B.A.Ed. Earth Science-Secondary (74-90 credits, plus certification)

Minor in Geology (25 credits)

These courses are offered within this major and may be used to satisfy GUR or Writing Proficiency requirements.

QSR: MATH 114, 115

LSCI: GEOL 211, 212, 214

CHEM 121,

PHYS 115, 116, or 121, 122, 123

SCI: ASTR 103

GEOL 214

PHYS 114

WP: Three Writing Proficiency points are required for graduation (they are noted as WP1, WP2, and WP3). Check [Classfinder](#) or [Online Timetable](#) for departmental offerings each quarter.