

GEOSCIENCES MAJOR, BACHELOR OF SCIENCE (BS)

There are three concentrations in the Geosciences BS: 1) Professional Geology concentration prepares students for the WA State Geology License exams as well as graduate school level research. 2) Climate Change and Environmental Justice prepares students to help study and support society in an ever changing world. 3) Geosciences is an option that allows students to best fit their interest by building a degree with a Geosciences advisor.

Geoscientists study the Earth and our relationship to it by providing opportunities to observe natural processes in action. By applying knowledge of the forces that are constantly reshaping our planet, one can seek to reconstruct the past and anticipate the future. You can benefit society by understanding our planet and the life it sustains. Employed in a wide spectrum of academic, industrial, and government positions, geoscientists can be found collecting samples from the moon, the ocean floor, and active lava flows. They discover and manage resources, consult on engineering and environmental issues, conduct research, teach, write, and use Geographic Information Systems (GIS) to make positive change.

Career Opportunities can include: Geotechnical and environmental fields, Hydrology, economic geology, GIS, energy companies, Governmental regulation and natural resource departments, and public health.

Required Science Core: 15

MATH 142 PRECALCULUS MATH II

AND Choose any two of the following (CHEM 171 and CHEM 171L are required for the Professional Geology Concentration)

BIOL 171 BIOLOGY I

CHEM 171 GENERAL CHEMISTRY I
& 171L and GENERAL CHEMISTRY LABORATORY I

CHEM 172 GENERAL CHEMISTRY II
& 172L and GENERAL CHEMISTRY LABORATORY II

CSCD 210 PROGRAMMING PRINCIPLES I

MATH 161 CALCULUS I
or HONS 161 CALCULUS I

PHYS 151 GENERAL PHYSICS I
& PHYS 161 and MECHANICS LABORATORY
or PHYS 131 INTRODUCTORY PHYSICS I

Required Core 30

GEOS 100 DISCOVERING GEOLOGY

GEOS 113 THE EARTH'S CLIMATE AND WEATHER

GEOS 200 GLOBALIZATION AND THE ENVIRONMENT

GEOS 321 GEOGRAPHIC INFORMATION SYSTEMS I: SPATIAL
ANALYSIS FOR SOCIAL SCIENCES
or GEOS 323 GEOGRAPHIC INFORMATION SYSTEMS I: SPATIAL
ANALYSIS FOR ENVIRONMENTAL SCIENCES

GEOS 460 GEOSTATISTICS

GEOS 497 WORKSHOP, SHORT COURSE, CONFERENCE,
SEMINAR (variable title and credits)

Choose one of the following Concentrations and Capstone 45

Please note that 60 credits of 300- or 400-level courses are required for graduation.

Geosciences—45 credits

In consultation of faculty advisor, take at least 45 credits (at least 35 must be taken at the 300- or 400-level, including capstone) of GEOS credit electives.

All GEOS courses are possible electives to satisfy this concentration

Professional Geology - 45 Credits

GEOS 222 THE EARTH THROUGH TIME

GEOS 311 EARTH MATERIALS

GEOS 313 IGNEOUS AND METAMORPHIC PETROLOGY

GEOS 411 SEDIMENTOLOGY AND STRATIGRAPHY

GEOS 430 STRUCTURAL GEOLOGY

GEOS 431 FIELD METHODS AND REGIONAL GEOLOGY

Electives—choose at least three of the following courses

GEOS 408 INVERTEBRATE PALEONTOLOGY

GEOS 412 ADVANCED & APPLIED OPTICAL MINERALOGY

GEOS 462 PRINCIPLES OF GEOCHEMISTRY

GEOS 470 GROUNDWATER HYDROLOGY

GEOS 475 ENGINEERING GEOLOGY OF SOILS:
INTRODUCTION TO GEOTECHNICAL ENGINEERING

Capstone

GEOS 490G SENIOR CAPSTONE: GEOLOGY FIELD CAMP

Climate Change and Environmental Justice—45 credits

GEOS 204 HOT EARTH: PEOPLE AND CLIMATE CHANGE

GEOS 230 WORLD GEOGRAPHY

GEOS 317 RESOURCES AND CONSERVATION

GEOS 352 ENVIRONMENTAL JUSTICE

GEOS 450 RESOURCES AND MANAGEMENT

Electives—choose at least 10 additional approved GEOS credits at 300-level or above, or PLAN 376, PLAN 430, or PLAN 442

All GEOS courses are possible electives to satisfy this concentration—check with your advisor.

Capstone

GEOS 490 THE GEOSCIENTIST'S CAPSTONE

Total Credits 90

University Competencies and Proficiencies

English (<http://catalog.ewu.edu/undergraduate-degree/#newitemtext>)

Quantitative and Symbolic Reasoning (<http://catalog.ewu.edu/undergraduate-degree/#mathcompproficienciestext>)

Placement and Clearance (<http://catalog.ewu.edu/placement/>)

Prior Learning/Sources of Credit AP, CLEP, IB (<http://catalog.ewu.edu/prior-learning/>)

General Education Requirements (<http://catalog.ewu.edu/undergraduate-degree/#generaleducationrequirementstext>) (GER)

- Minimum Credits—180 cumulative credit hours
 - 60 upper-division credits (300 level or above)
- 45 credits in residence (attendance) at Eastern, with at least 15 upper-division credits in major in residence at Eastern
- Minimum Cumulative GPA ≥ 2.0

Breadth Area Core Requirements (BACR)

Humanities and Arts (<http://catalog.ewu.edu/undergraduate-degree/#humanitiesandfineartsgecrtext>)
Natural Sciences (<http://catalog.ewu.edu/undergraduate-degree/#naturalsciencesgecrtext>)
Social Sciences (<http://catalog.ewu.edu/undergraduate-degree/#socialsciencesgecrtext>)

University Graduation Requirements (<http://catalog.ewu.edu/undergraduate-degree/#universitygraduationrequirements>) (UGR)

Diversity Course List (<http://catalog.ewu.edu/undergraduate-degree/#cultureandgenderdiversityintheuslisttext>)
Foreign Language (<http://catalog.ewu.edu/undergraduate-degree/#foreignlanguageugrtext>) (for Bachelor of Arts)
Global Studies Course List (<http://catalog.ewu.edu/undergraduate-degree/#internationalstudiesrequirementtext>)
Minor or Certificate (<http://catalog.ewu.edu/undergraduate-degree/#majorminororcertificateugrtext>)
Senior Capstone Course List (<http://catalog.ewu.edu/undergraduate-degree/#capstonecourselisttext>)

Application for Graduation (use EagleNET (<https://inside.ewu.edu/eaglenet/>)) must be made at least two terms in advance of the term you expect to graduate (undergraduate and post-baccalaureate).

Use the Catalog Archives (<https://catalog.ewu.edu/archives/>) to determine two important catalog years (<http://catalog.ewu.edu/undergraduate-degree/#activecatalogruletext>).

Degree Works (<https://inside.ewu.edu/records-and-registration/degree-works/>) calculates based on these two catalog years.

- a. The catalog *in effect at the student's first term* of current matriculation is used to determine **BACR** (Breadth Area Credit Requirements) and **UGR** (Undergraduate Graduation Requirements).
- b. The catalog *in effect at the time the student declares a major or minor* is used to determine the program requirements.

Students who successfully earn a BS in Geosciences from EWU should be able to do the following:

- demonstrate knowledge of human–environment interactions;
- apply geoscience techniques to a complex problem;
- produce a professionally formatted report that effectively communicates;
- demonstrate advanced analytical skills in the geosciences in preparation for the professional job market or graduate studies.