



Environmental Science Major

www.Geology.Pitt.edu/Undergraduate

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Environmental science is a multidisciplinary field that focuses on documenting the impacts that people have on our environment, on reducing the harmful effects of these impacts, and on restoring aspects of the environment to benefit both nature and people. Our program focuses on air, water, and the Earth's solid surface, and it includes an emphasis on their interactions with life.

The environmental science degree is a multidisciplinary program that combines physics, chemistry, math, biology, and geology to give you the skills and know-how needed to understand environmental impacts. Careers range from the assessment, remediation, and protection of air and water resources to the restoration of disturbed landscapes to helping to ensure that major industries comply with environmental regulations. In addition, the environmental science program provides fine intellectual training in the tradition of a liberal arts education, which means that you will be exceptionally well-qualified to compete for their diverse jobs on offer at Pitt's career fairs.

Required courses for the Environmental Science major

The environmental science major requires completion of a minimum of 63 credits distributed as follows.

Geology core requirements

Introductory courses; these courses should be taken in the same academic term

GEOL 0055 Geology Lab
GEOL 0840 Intro to Environmental Science

All of the following courses

GEOL 1015 Geology Colloquium
GEOL 1030 Oceans, Atmosphere, and Climate
GEOL 1445 GIS, GPS, and Computer Methods for Earth Scientists
GEOL 1641 Ecosystem Ecology

One of the following courses

GEOL 1515 Environmental Geochemistry
GEOL 1516 Environmental Geochemistry w/ Lab

One of the following courses

GEOL 1050 Surface Water Hydrology
GEOL 1051 Groundwater Geology

One of the following courses

GEOL 1060 Geomorphology
GEOL 1062 Geomorphology: Dynamic Evolution of Earth's Surface

One of the following capstone courses

GEOL 1900 Internship
GEOL 1903 Undergraduate Research
GEOL 1910 Undergraduate Thesis
GEOL 1960 Field Camp

Geology electives requirement

Students must complete nine credits of GEOL at the 1000 level or above. A list of eligible courses appears on the reverse side of this sheet. Three of these elective credits are the required W course in the major.

Co-requirements

All of the following courses

CHEM 0110 General Chemistry 1
MATH 0220 Analytical Geometry and Calculus 1
PHYS 0174 Basic Physics for Science and Engineering 1

Three of the following courses

BIOSC 0150 Biology 1 plus BIOSC 005X Biology Research Lab 1
BIOSC 0160 Biology 2 plus BIOSC 006X Biology Research Lab 2
CHEM 0120 General Chemistry 2
MATH 0230 Analytical Geometry and Calculus 2
PHYS 0175 Basic Physics for Science and Engineering 2
STAT 1000 Applied Statistical Methods

Grade requirements

A minimum GPA of 2.0 in departmental courses is required for graduation.

Satisfactory/No Credit option

No GEOL course that counts toward the major can be taken on an S/NC basis. No more than two of the non-geological science courses that count toward the major may be taken on an S/NC basis.

Writing (W) requirement

Students must complete at least one W-course in the major.

GIS certificate

The Geographic Information Systems certificate is a great opportunity to earn electives while acquiring a range of software and image analysis skills (aerial photos, maps, and satellite images) that are highly sought after by both public and private employers. Refer to the [Geographic Information Systems Certificate Web page](#) for classes and more information.

Advising

Kyle Ann Whittinghill
SRCC 200
412-624-8780
KAW226@Pitt.edu

Checklist for the Environmental Science major

Geology core requirements

Both of the following courses

_____ GEOL 0055
_____ GEOL 0840

All of the following courses

_____ GEOL 1015
_____ GEOL 1030
_____ GEOL 1050 or GEOL 1051
_____ GEOL 1060 or GEOL 1062
_____ GEOL 1445
_____ GEOL 1515 or GEOL 1516
_____ GEOL 1641 or GEOL 1642

One capstone course

_____ GEOL 1900
_____ GEOL 1903
_____ GEOL 1910
_____ GEOL 1960

Co-requirements

All of the following courses

_____ CHEM 0110
_____ MATH 0220
_____ PHYS 0174

Three of the following courses

_____ BIOSC 0150 and BIOSC 005X
_____ BIOSC 0160 and BIOSC 006X
_____ CHEM 0120
_____ MATH 0230
_____ PHYS 0175
_____ STAT 1000

Geology electives requirement

Students must complete nine additional credits of GEOL at the 1000 level or above. A list of eligible courses follows. At least one elective course must be a writing intensive course in the major. At least one elective course must be from the science courses in bold type or additional science courses approved by the major advisor.

_____ **GEOL 0060 History of the Earth**
_____ **GEOL 1001 Mineralogy**
_____ GEOL 1003 Igneous and Metamorphic Petrology
_____ GEOL 1020 Sedimentology and Stratigraphy
_____ GEOL 1045 Statistics for Earth Science
_____ **GEOL 1050 Surface Water Hydrology**
_____ **GEOL 1051 Groundwater Geology**
_____ **GEOL 1052 Paleoclimatology**
_____ GEOL 1055 Environmental Science, Ethics and Public Policy
_____ GEOL 1100 Structural Geology
_____ **GEOL 1240 Vertebrate Paleontology**
_____ GEOL 1310 Communication in the Geosciences (writing intensive)
_____ GEOL 1312 Environmental Law and Policy
_____ GEOL 1313 Scientific Communication for Environmental Professionals (writing intensive)
_____ GEOL 1331 Health and Safety
_____ GEOL 1333 Sustainability
_____ GEOL 1336 Environmental Issues: Air Quality (writing intensive)
_____ GEOL 1338 Environmental Issues: Water Quality (writing intensive)
_____ GEOL 1340 Environmental Issues: Mining and Gas Drilling Issues (writing intensive)
_____ GEOL 1342 Environmental Issues: Parks & Forests (writing intensive)
_____ GEOL 1410 Exploration Geophysics
_____ **GEOL 1446 Advanced Geographic Information Systems**
_____ **GEOL 1460 Remote Sensing of the Earth**
_____ **GEOL 1510 Aquatic and Sedimentary Geochemistry**
_____ GEOL 1701 Geology of the Planets
_____ GEOL 1900 Internship
_____ GEOL 1901 Independent Study
_____ GEOL 1903 Undergraduate Research
_____ GEOL 1XXX Other upper-level class in GEOL, approved by the major advisor
_____ GEOL 2XXX Graduate level GEOL class, instructor permission required