

ENVIRONMENTAL GEOSCIENCE, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN GEOGRAPHY

Program Learning Outcomes

- **Outcome 1 (EVGE):** Each graduate shall develop general knowledge and understanding of the composition, history, and structure of the planet, and of the physical, chemical, and biological processes involved in the interactions between the geosphere, hydrosphere, atmosphere, and biosphere.
 - Each graduate will demonstrate an understanding of plate tectonic theory and be able to describe how it operates
 - Each graduate will demonstrate an understanding of the geologic time scale and the timing of major events in Earth history
 - Each graduate will demonstrate the ability to characterize and identify important rocks and minerals, and to interpret the processes by which they formed
 - Each graduate will demonstrate an understanding of the history, causes, and effects of global climate change
 - Each graduate will demonstrate an understanding of evolutionary theory and its evidence in the fossil record
 - Each graduate will demonstrate an understanding of the internal structure of Earth
 - Each graduate will be able to explain the fundamental principles of the hydrologic cycle
- Maps to:
 - University-wide learning outcome 3A. Explain and predict natural phenomena through use of observation, experimentation using appropriate technology, and scientific reasoning.

Geology, Geology, and the Environment, Overall

- **Outcome 1:** Each graduate will develop strong written and oral communication skills, demonstrate the ability to work in a collaborative environment, and exhibit professional attitudes and behavior.
 - Each graduate will deliver oral presentations, demonstrating the ability to effectively communicate discipline-specific concepts
 - Each graduate will write scholarly papers using acceptable format and organization with proper citations to appropriate literature.
 - Each graduate will actively participate in collaborative projects and in academic field trips
 - Each graduate will demonstrate professionalism and integrity in his/her academic conduct
 - Each graduate shall develop the ability to respect and integrate diverse worldviews in problem-solving frameworks
- Maps to:
- University-wide learning outcome(s)

- 1A. Communicate successfully with diverse audiences in speech and writing.
- **Outcome 2:** Each graduate shall possess and apply critical thinking and problem solving skills.
 - Each graduate will demonstrate the ability to develop valid research questions and hypotheses
 - Each graduate will demonstrate the ability to apply proper techniques for data acquisition and interpretation in a problem-solving context
 - Each graduate will demonstrate the ability to solve open-ended problems using scientific methodology
 - Each graduate will develop the ability to make informed, scientifically-based decisions regarding environmental issues
- Maps to:
- University-wide learning outcome(s)
 - 2A. Gather, analyze and evaluate information and ideas.
 - 2B. Produce well-supported reasons and evidence.
 - 2C. Reach well-argued conclusions and decisions.
- **Outcome 3:** Each graduate shall develop skills in quantitative, qualitative, technological, laboratory, and field procedures.
 - Each graduate will learn and employ accepted laboratory and field techniques, protocols, and safety procedures
 - Each graduate will learn to read, construct, and comprehend thematic maps and derive perspective output from a map
 - Each graduate will demonstrate the ability to apply knowledge, concepts and techniques from complementary disciplines to solve problems
- Maps to:
- University-wide learning outcome(s)
 - 4A. Create and use mathematics in a variety of forms including formulas, graphs, schematics, and computing, where appropriate.
 - 4B. Implement experimentation and quantitative reasoning to solve problems and make inferences.

Related Links

Environmental Geoscience - Geography, BS Program Page - COMING SOON

Professional Licensure/Certification Page (<https://www.sru.edu/students/student-consumer-information/professional-licensures/>)

Curriculum Guide

GPA Requirement

Major GPA: 2.0 or higher
Overall GPA: 2.0 or higher

Summary*

Code	Title	Hours
	Rock Studies 2 Requirements	44
	Other Basic Requirements	0-3

Major Requirements	49
Electives	28

* All undergraduate degree programs require a minimum of 120 credits. Some courses meet multiple requirements, but are only counted once toward the 120 credit total required to graduate.

Rock Studies 2 Requirements

Code	Title	Hours
The Rock		
SUBJ 139	Foundations of Academic Discovery ¹	3
ENGL 102	Critical Writing	3
ENGL 104	Critical Reading	3
STAT 152	Elementary Statistics I	3
Select one of the following:		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLI 235	Civil Discourse and Democracy	
Subtotal		15
Integrated Inquiry		
<i>Creative and Aesthetic Inquiry</i>		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/)		3
<i>Humanities Inquiry</i>		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/)		3
<i>Social Science Inquiry</i>		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/)		3
<i>Natural Sciences Inquiry</i>		
SCI 101	Science of Life	3
<i>Physical Science Inquiry</i>		
EVGE 201	Earth Materials and Processes/Lab	4
Subtotal		16
Thematic Thread		
Select 12 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/) ³		12
Total Hours		43

¹ Course offered in multiple subjects; cannot take course in first major subject.

² Course counts for 50% of Major requirements and Major GPA

³ One course from each category; six credits must be 300-level or above; no more than 4 credits from one subject area; specific courses required in first major, regardless of prefix of course, cannot be used to satisfy thread requirements; any course with same prefix as first major cannot be used to satisfy thread requirements, even if it is not a course in the first major.

Basic Math Requirement

Check with your adviser or a current degree audit report to see if you have been exempted from this course. The credit earned in this course will not be counted toward the 120 credit hour minimum needed to earn a degree.

Code	Title	Hours
Complete one of the following:		0-3
Meet required minimum SAT or ACT math score OR		
ESAP 110	Beginning Algebra	
Total Hours		0-3

DIVERSITY, EQUITY, AND INCLUSION REQUIREMENT

Students must take and pass a course with the Diversity, Equity, and Inclusion (DEI) designation prior to graduation. Students can meet this requirement by taking any DEI - designated course in any program at any time during their undergraduate career.

Major Requirements

- 24 major credits must be taken at SRU or PASSHE
- 24 major credits must be taken at the 300 level or above

Code	Title	Hours
Environmental Geoscience Core		
EVGE 131	Oceanography	3
GES 115	Introduction to Geospatial Technologies	3
GES 220	General Methods of Fieldwork	3
GES 325	Introduction to Geographic Information Science	3
Capstone		3
EVGE 399	Field Camp	
EVSC 440	Science, Technology and the Environment	
GES 450	Internship	
Subtotal		15
Geography Core Requirements		
GES 205	Cultural Geography	3
GES 315	Cartography I	3
GES 344	Environmental Justice	3
GES 345	Population Analysis	3
GES 355	Earth's Changing Climate	3
EVGE 121	Meteorology/Lab	4
ECON 201	Principles of Macroeconomics	3
HLTH 411	Global Health	3
NLPA 320	Community Change and Development	3
Subtotal		28
Electives - Geography		
6 credits required		6
EVGE 328	Plate Tectonics	
EVGE 340	Air Pollution Meteorology	
EVGE 341	Geomorphology/Lab	
EVGE 342	Glacial Geology/Lab	
EVGE 360	Introduction to Hydrology/Lab	
EVGE 460	Hydrogeology	
GES 303	Asia	
GES 321	Introduction to UAS for Remote Sensing and Monitoring	
GES 324	Environmental Law and Policy	
GES 361	Gender and the Environment	
GES 362	Applications in Sustainability	
GES 410	Remote Sensing	

GES 415	Cartography II
GES 425	Advanced Geographic Information Systems
GES 426	Environmental Modeling
GES 469	Field Investigations in the Geosciences
ENGL 242	African-American Literature
ENGL 244	Native American Literature
ENGL 246	U.S. Latino/a Literatures
ENGL 402	World Literature
HEMT 314	Sustainable Planning for Tourism
HIST 326	The Long Civil Rights Movement
HIST 337	Native American History
HIST 352	Latin America Since 1830
HIST 353	History of the Americas
HIST 363	Southern Africa
HIST 376	Modern Japan
HIST 386	Modern China
HIST 427	Nineteenth Century Europe
HIST 462	The Contemporary Middle East
INDP 322	Archaeology of the Americas
JAPN 305	Japanese Popular Culture
JAPN 330	Samurai Culture Through Film
PCRM 377	Cultural Resources Management
PHIL 343	Asian Philosophy
POLI 263	Introduction to Comparative Politics
POLI 369	Politics of Developing Areas
SPAN 215	Topics in Hispanic Culture
SPAN 328	Latin American Today
Total Hours	49

PASSHE - Pennsylvania State System of Higher Education Institutions

ENVIRONMENTAL GEOSCIENCE - BS (6124)/CIM 515
Concentration in Geography (GEOG)

This program is effective as of Effective Summer 2025

Revised 07.18.2025

UCC 11.26.2024

* Some courses may require pre-requisites. Please see course descriptions to determine if there are any pre-requisites for that specific course.

Co-curricular and Experiential Learning

Students are encouraged to explore additional curricular and co-curricular opportunities. There is a strong correlation between long-term student success and participation in the following types of programs and activities:

1. International study programs (short-term, semester, and year-long)
2. Student-faculty research
3. Service Learning Courses
4. Internships
5. Volunteering

Important Curriculum Guide Notes

This Curriculum Guide is provided to help SRU students and prospective students better understand their intended major curriculum. Enrolled SRU students should note that the My Rock Audit may place already-earned and/or in progress courses in different, yet valid, curriculum categories. Enrolled SRU students should use the My Rock Audit Report and materials and information provided by their faculty advisers to ensure accurate progress towards degree completion. *The information on this guide is current as of the date listed. Students are responsible for curriculum requirements at the time of enrollment at the University.*