

Instructor: Dr. Rebecca Butler

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This course is an introduction to the physical processes that affect the Earth (such as plate tectonics, earthquakes, volcanism, mountain building, glaciation, weathering, and erosion) and to the rocks, minerals, and other materials that make up the earth's surface and interior.

This course is also intended for partial fulfillment of the Pitt State Pathway Curriculum.

Pitt State Pathway Mission Statement: The *Pitt State Pathway* curriculum serves as the heart of the university education by fostering interdisciplinary competencies that typify the educated person. It is designed to facilitate the development of key proficiencies including communication and information literacy. The *Pitt State Pathway* curriculum provides a transformational experience that challenges students to think creatively and critically, and to immerse themselves in the productive examination of humans in their global setting. By encouraging the development of skills that promote life-long learning, the *Pitt State Pathway* fosters a sense of personal responsibility, an appreciation of diversity, and an understanding of interconnectedness in our truly global society.

Essential Study to be covered in this course: Natural World within a Global Context

Biological, physical, and chemical systems form the context for life. Students need to understand how these systems work, how these change naturally, and how these can change as a result of human activities. The implications of these changes are essential for long-term decision-making. In this course we will:

Analyze physical and chemical systems;

Evaluate the implications of changes that result from interactions between natural and human systems.

Companion Element to be covered in this course: Scientific Inquiry

The scientific method is the systematic approach to understanding the world around us. Through experimentation and hypothesis testing, students will apply analytical skills and appropriate methods of scientific inquiry (i.e. qualitative and quantitative) to solve a variety of research questions. In this course we will:

Compose appropriate research questions and hypothesis, drawing from experts, reliable sources, or previously collected data.

Collect, synthesize, and analyze data from multiple sources;

Draw logical conclusions, assessing for gaps and weaknesses, and addressing potential consequences and implications

Communicate results using appropriate delivery methods or formats.

The **Learning Outcome** for Natural World in a Global Context is:

Students will explore global systems conscientiously.

The **Learning Outcome** for Scientific Inquiry is:

Students will analyze data logically.

Course Description: 1 credit hour. Laboratory exercises to accompany PHYS 160 Physical Geology, including mineral properties and rock identification, landforms and structural geology, seismic data manipulation, and interpretation of geologic maps. Co-requisite: PHYS 160 Physical Geology.

Course Objectives and Learning Outcomes

Natural World within the Global Context: Level of Student Learning = Milestone I
Explains physical and chemical processes and human activities that alter them.

Scientific Inquiry: Level of Student Learning = Milestone I
Student will apply the scientific methods to a problem.

Upon completion of the course, you should be able to:

1. Students should be able to describe and apply the methods for identifying minerals and rocks.
2. Students should be able to describe the interior of the earth, including formation and what observations lead to the model.
3. Students should be able to describe the processes that occur on and near the surface of the earth, including formation of rocks, shaping of sedimentary environments, sedimentary and metamorphic facies, evolution of continents, etc, and apply this knowledge in ways such as examining a rock or formation to determine where and how it formed.
4. Students should be able to relate geological processes to effects on the world around us, including hazards (volcanoes, earthquakes, etc) and interactions with climate and the biosphere.

Method of Assessment

Students, on laboratory reports, and exam, will *describe*, and *explain*, items, principles, and processes related to the student outcomes. (Benchmark, Milestone 1)

Grading: Each lab has some pages with questions that need to be answered. These pages will be turned in at the end of the class period. The answers don't need to always be in complete sentences (sometimes it will even be in a table format) but they do need to be clear – understandable and legible. As you answer the questions and identify samples, think of what the grader wants – but also think of what you want. You will get to use the pages that you have turned in for the final.

Your overall grade will be determined as follows:

Lab Reports	80%	90-100	A
Final Exam	20%	80-89	B
Total	100%	70-79	C
		60-69	D
		0-59	F

Attendance: Your attendance is required for each lab. Lab reports for labs that you did not attend will not be graded. If you anticipate an absence, become ill, family emergency, etc, talk to your instructor as soon as possible. If possible, attend the other section of lab.

Final: The lab final will be comprehensive. It will be during dead week (the week before finals week) at your regular lab time.

You will be able to use the weekly worksheets you turned in during the final. (YOUR worksheets. Not other people's, and not the manual.)

Plagiarism and Cheating:

Plagiarism and cheating are serious offenses and may be punished by failure on the exam, paper or project, failure in the course, and/or expulsion from the University.

For more information refer to the PSU Code of Student Rights and Responsibilities: Article 30, Academic Misconduct at

http://catalog.pittstate.edu/contentm/blueprints/blueprint_display.php?bp_listing_id=162&blueprint_id=124&sid=1&menu_id=7980

Please review the following syllabus supplement:

https://www.pittstate.edu/registrar/_files/documents/syllabus-supplement-spring-2019-updated-1-3-19-.pdf

Minimum Technology Requirement:

Canvas is required. Please click the link to a Canvas help page:

<https://www.pittstate.edu/it/information-technology-services/canvas.html>

Any technical difficulties, please contact Gorilla Geeks at

<https://www.pittstate.edu/it/gorilla-geeks.html>