

Illinois State University
Department of Geography, Geology, and the Environment
Principles of Geology, GEO 102 (3 Credit Hours)
Spring 2023

Lectures

Section 001 M, W, F (10:00 - 10:50) Edwards Hall – Room 235

Laboratory

Sections (all) Tuesday or Thursday (only one)

Your lab day/time is specific to the lab section in which you are registered.

Instructor: Paul A. Meister

Email:

pameist@ilstu.edu Room:

FHS 203 A

Phone: 438-7479

Office Hours:

1. **M-W-F 11-11:50 a.m.**
2. **Anytime I am in my office.**
3. **By appointment**

Recommended Text: *Essentials of Geology – Fourth Edition*, Author: Stephen Marshak

Publisher: Norton, ISBN: 978-0-393-93238-6

Recommended means you DO NOT have to buy this textbook. This textbook is a great reference for you, but you can do fine without it.

Required Lab Manual: [*Principles of Geology Lab Manual*](#), Authors: William Shields and Paul A Meister. These are purchased online and can be picked up in my office (FHS 203) on Tuesday or Thursday the first week of class. After that they will be delivered to you during your first in person lab meeting.

Required means you DO have to buy this lab manual.

Course Description: An examination of Earth materials, Earth's history, and processes.

Objectives and Learning Outcomes

Geology 102 is an introductory course in the scientific study of the earth designed for both science – and non-science-oriented students. The goals of the course are to familiarize students with the major principles of the science of Geology, to explain and understand the major aspects of the operations of earth's surface and internal systems and associated geological processes, and to present the role of geology in society and geologic constraints on the utilization of the Earth. At the end of the course, I want students to be able to

- evaluate the mineral and energy resources of an area using information pertaining to tectonics, rock type, and Earth's history
- interpret tectonic settings based upon information regarding seismicity, volcanic activity, and physiography
- analyze hydrologic data to assess water movement
- describe the role climate has on surface processes
- evaluate the validity and soundness of geology presented in the "popular press."

Lecture

There are three lectures per week. Most of the material presented in lecture can be augmented with recommended readings from the textbook and web sites. Notes and PowerPoint presentations for each lecture are posted on the class web page. **Lectures will meet in person and start precisely on time. Please do not be late or you may not be allowed in.**

Lecture Schedule**

** Schedule for topics is tentative and may be adjusted – EXAM dates will not be adjusted.

<u>Date</u>	<u>Topic</u>	<u>Reading</u>
1/16 (M)	No Lecture MLK Day	
1/18 (W)	Introduction	Prelude
1/20 (F)	Introduction	Prelude
1/23 (M)	Plate Tectonics	Chapter 1
1/25 (W)	Plate Tectonics	Chapter 1
1/27 (F)	Minerals	Chapter 3
1/30 (M)	Minerals	Chapter 3
2/1 (W)	Igneous Rocks (Plutonic)	Chapter 4
2/3 (F)	Igneous Rocks (Plutonic)	Chapter 4
2/6 (M)	Volcanoes	Chapter 5
2/8 (W)	Lecture Exam #1	
2/10 (F)	Volcanoes	Chapter 5
2/13 (M)	Volcanic Hazards	Chapter 5
2/15 (W)	Weathering	Interlude B
2/17 (F)	Weathering	Interlude B
2/20 (M)	Sedimentary Rocks	Chapter 6
2/22 (W)	Sedimentary Rocks	Chapter 6
2/24 (F)	Metamorphic Rocks	Chapter 7
2/27 (M)	Metamorphic Rocks	Chapter 7
3/1 (W)	Lecture Exam #2	
3/3 (F)	Lecture	
3/6 (M)	Earthquakes	Chapter 8
3/8 (W)	Earthquakes	Chapter 8
3/10 (F)	Earthquakes	Chapter 8
3/13 – 3/17	No Lecture Spring Break	
3/20 (M)	Geologic Time	Chapter 10
3/22 (W)	Relative Time	Chapter 10
3/24 (F)	Absolute Time	Chapter 10
3/27 (M)	Hydrologic Cycle	Interlude F
3/29 (W)	Lecture Exam #3	
3/21 (F)	Hydrologic Cycle	Interlude F
4/3 (M)	Surface Water	Chapter 15
4/5 (W)	Surface Water	Chapter 15
4/7 (F)	Groundwater	Chapter 16
4/10 (M)	Groundwater	Chapter 16
4/12 (W)	Glaciers	Chapter 18
4/14 (F)	Glaciers	Chapter 18
4/17 (M)	Illinois Glaciation	
4/19 (W)	Lecture Exam #4	
4/21 (F)	Atmosphere	Chapter 1.6
4/24 (M)	Atmosphere	Chapter 1.6
4/26 (W)	Oceans	Chapter 15
4/28 (F)	Deserts	Chapter 17
5/1 (M)	Climate	Chapter 19
5/3 (W)	Climate	Chapter 19
5/5 (F)	Lecture	
Finals Week	Final Exam – Date and time TBA.	

Laboratory

Your lab section will meet once a week. Each laboratory exercise is designed to investigate a geologic concept. Most laboratory activities are collaborative, but each student is responsible for their own work. Pre-labs will be assigned prior to lab each week and you will be responsible for completing them prior to each lab. If pre-labs are not completed prior to attending lab, your TA may ask you to depart and a 0% granted for that lab.

LABORATORY SCHEDULE**

** Schedule for topics is tentative and may be adjusted

Class Week of	Topic
1/15	NO LABS
1/22	Introduction
1/29	Intro to Mineral ID
2/5	Mineral ID
2/12	Igneous Rocks
2/19	Sed and Metamorphic Rocks
2/26	Practice Lab Exam
3/5	Lab Exam
3/12	No Labs Spring Break
3/19	TBD
3/26	Geologic Time
4/2	Contours and Profiles
4/9	Hydrologic Cycle
4/16	Glacial Budget
4/23	Climate Change Part 1
4/30	Climate Change Part 2
4/7	Finals Week No Labs

Extra Credit: There may be small extra credit opportunities, however, do NOT ask me, I will announce them.

Expectations

Attendance in lecture and laboratory sessions is mandatory. Diligent and timely completion of all assignments is expected. Points will be deducted for work completed late and assignments turned in late. Students will be expected to come to class prepared. This includes bringing lecture notes and any materials necessary to actively participate during that course meeting.

Evaluation Devices

- There will be four one-hour examinations in the lecture portion of the course. **There will also be a non-cumulative final and the lowest of the 5 exams will be dropped!**
- All assignments and quizzes will be included in the lab portion of the class score.
- Quizzes cannot be made up, but accommodations will be made for University related excuses.
- Expect unannounced attendance quizzes in lecture.
- All necessary accommodations will be made for University-sanctioned absences and those with disability concerns.

Policy on make-up exams

All exam dates are listed in the class schedule and will not change unless there is an emergency. If you must miss an exam, contact me **at least 24 hours** before hand. Arrangements can **usually** be made for you to take the exam (at my discretion).

Student Bereavement Policy

In keeping with the truest intentions of Educating Illinois' core value of individualized attention, it is Illinois State University's policy to recognize the effects that a death can have on a student's academic work.

For details on this policy, visit <http://policy.illinoisstate.edu/students/2-1-27.shtml>

The Course Grade

The lecture portion of the class will account for 65% of the class grade, the lab portion will account for 30%, and the pre-labs 5%.

Lecture	65 %
Lab	30 %
Pre-labs	5%
Total	100 %

Grades will be assigned as follows:

- A) 90% or better
- B) 80% - 89.9%
- C) 70% - 79.9%
- D) 60% - 69.9%
- F) below 60%

Lab Make-up Policy

Lab attendance is mandatory but on occasion life gets in the way and you may miss lab. Excused absences from lab may be made up for full credit if arraignments with your TA are made within 1 week of the missed lab. Any request for lab make-up will not be granted after 1 week and the score will remain a 0%.

*** Refer to the lab syllabus for more detailed lab instruction

Tools for Success

Attend class.

Ask Questions

Download, read, and bring to class the notes posted on our web page.

Download and preview the PowerPoint presentations.

Read suggested readings from the textbook.

Make use of my office hours.

Visit the TA office hours. You may attend any TA office hours, not just your TA.

Academic Integrity

Students are expected to be honest in all academic work. A student's placement of his or her name on any academic exercise shall be regarded as assurance that the work is the result of the student's own thought, effort, and study. Students who have questions regarding issues of academic dishonesty should refer to the University regulation which outlines unacceptable behaviors in academic matters. It is the student's and faculty's responsibility to uphold the principles of Academic Integrity. Academic Integrity is an important part of this University and this course. Academic Integrity is required of you the student and myself as the instructor. Academic Integrity should be used in preparation of this course, in class time, regarding exams, and regarding written assignments. In certain circumstances (such as cheating or plagiarism) faculty may be required to refer a student(s) to Community Rights & Responsibilities for a violation of Illinois State University's Code of Student Conduct.

General Education Goals

In Science, Mathematics, and Technology courses, students examine the varied nature of scientific, mathematical, and technological knowledge. Students are introduced to the methodologies which investigators in these fields use to develop principles and practices critical to their disciplines, as well as the inter-relationships between focused inquiry and the environment in which these investigations occur.

Courses in the Science, Mathematics, and Technology category of General Education address the following program objectives:

Primary outcomes are indicated in plain text and secondary outcomes are indicated in italics.

I. knowledge of diverse human cultures and the physical and natural world, allowing students to

- a. use theories and principal concepts, both contemporary and enduring, to understand technologies, diverse cultures, and the physical and natural world
- b. explain how the combination of the humanities, fine arts, natural and social sciences, and technology contribute to the quality of life for individuals and communities
- c. *experience and reflect on global issues*

II. intellectual and practical skills, allowing students to

- a. make informed judgments
- b. analyze data to examine research questions and test hypotheses
- c. report information effectively and responsibly

III. personal and social responsibility, allowing students to

- c. *demonstrate ethical decision making*

IV. integrative and applied learning, allowing students to

- a. identify and solve problems

Any student needing to arrange a reasonable accommodation for a documented disability and/or medical/mental health condition should contact Student Access and Accommodation Services at 350 Fell Hall, (309) 438-5853, or visit the website at StudentAccess.IllinoisState.edu.