

GEOLOGY 105 PHYSICAL GEOLOGY

Fall 2022 (NDSU Class #14258)

DEPARTMENT OF EARTH, ENVIRONMENTAL AND GEOSPATIAL SCIENCES

NORTH DAKOTA STATE UNIVERSITY

REVISION: AUGUST 23, 2022

COURSE INFORMATION AND SCHEDULE – SUBJECT TO CHANGE

Time and Place	MWF, 1:00-1:50 p.m., Gate City Bank Auditorium and on Zoom
Professor	Bernhardt Saini-Eidukat, office 108 Sugihara Hall tel. 701-231-8785; email: bernhardt.sainieiduk@ndsu.edu www.ndsu.edu/pubweb/~sainieid/index.html
Student visit hours	Tuesdays, 11:00 am - 12:00 pm or by appointment, Zoom / in person
Free Online Text	Johnson and others (2017). An Introduction to Geology, Salt Lake Community College, https://opengeology.org/textbook/
Instructional Sites	www.ndsu.edu/pubweb/~sainieid/physical/ and Blackboard

<u>Week# / Day / Date</u>	<u>Lecture and Exam Schedule – Subject to Change</u>	<u>Reading Chapter:</u>
1 W Aug 24	Introduction, Origin of Earth and Solar System	1; 8.1 – 8.4.1
F 26	Plate tectonics – overview	2.1
M 29	Matter, minerals	3
2 W 31	Minerals and their properties	3
F Sep 2	Igneous rocks NO IN PERSON CLASS	4
M 5	Labor Day Holiday NO CLASS	
3 W 7	Extrusive / Intrusive igneous rocks NO IN PERSON CLASS	4
F 9	Intrusive igneous rocks	4
M 12	Mechanical and chemical weathering	5
4 W 14	Chemical weathering	5
F 16	HOUR EXAM #1	
M 19	Soils	5.2.4
5 W 21	Sedimentary Rocks	5
F 23	Sedimentary Rocks	5
M 26	Metamorphic Rocks	6
6 W 28	Metamorphic Rocks	6
F 30	Stress and strain, brittle / ductile deformation	9
M Oct 3	HOUR EXAM #2	
7 W 5	Folds	9.4
F 7	Faults	9.5
M 10	Earthquakes NO IN PERSON CLASS	9.6 – 9.9
8 W 12	Interior of the Earth	2.2
F 14	Earth's magnetic field	2.4.2 + extra
M 17	Wegener and continental drift	2
9 W 19	Paleomagnetism	2 + extra
F 21	Plate tectonics – plate boundary types	2
M 24	Volcanic hazards at convergent boundaries	4.5.3
10 W 26	Geologic Time	7
F 28	Precambrian tectonics	8.4 – 8.5

	M	31	HOURLY EXAM #3	
11	W	Nov 2	Geobiology	8 (portions)
	F	4	Running Water	11.5
	M	7	Running Water	11.5
12	W	9	Groundwater	11.6
	F	11	Veterans Day Holiday NO CLASS	
	M	14	Groundwater and Water quality	11.6
13	W	16	Glaciers and Glaciation	14
	F	18	Glaciers and Glaciation	14
	M	21	HOURLY EXAM #4	
14	W	23	Thanksgiving Recess NO CLASS	
	F	25	Thanksgiving Recess NO CLASS	
	M	28	Mass wasting	10
15	W	30	Mass wasting	10
	F	Dec 2	Deserts	13
	M	5	Climate	15
16	W	7	Energy and Mineral Resources	16
	F	9	Energy and Mineral Resources	16
	W	14	FINAL EXAM (1:00 – 3:00 pm)	

Course Attendance

You are not required to attend in person. Lectures will be streamed live and recorded for later viewing ("HyFlex").

Exams

Exams are online during scheduled class time using **NDSU's Respondus Lockdown Browser**.

**Download and install at <https://kb.ndsu.edu/page.php?id=101812>

You are not required to attend in person. No makeup exams will be given, as Extra Credit activities can be done in place of a missed exam.

Grading

Four, 40-question, online exams, each worth 80 points	320 points
One, 60 question, comprehensive final exam, worth 120 points	<u>120 points</u>
TOTAL POSSIBLE	440 points

EXTRA CREDIT – not required but you're welcome to get extra points.

Four activities, each worth 20 points	80 points
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To attain a particular grade, you only have to earn the points for each level:

A: 390; B: 350; C: 300; D: 260; F: less than 260

Exams include questions derived from both lecture material and assigned reading / videos. Extra credit activities are short projects based on online work. You are not required to take any particular exam, or do any particular activity.

American with Disabilities Act statement

Any students with disabilities who need accommodations in this course are invited to share these concerns or requests with the instructor and contact the Disability Services Office as soon as possible.

Family Educational Rights and Privacy Act (FERPA) statement

Your personally identifiable information and educational records as they relate to this course are subject to FERPA.

Academic honesty statement

NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. See www.ndsu.edu/academichonesty.

COVID-19

NDSU Covid policy will be followed, see www.ndsu.edu/covid19

Catalog Description

Lecture course. Study of the Earth as a physical body; its structure, composition, and the geologic processes acting on and within the Earth.

General Education Category

Geology 105 has been approved in the "Physical Science (SP)" category.

Course Objectives

- Demonstrate the application of the scientific method through examples in geology.
- Learn the basic concepts and terminology of physical geology.
- Understand the physical nature of Earth.
- Appreciate the interaction between the physical and biological aspects of Earth.
- Appreciate our physical settings: origins, processes, resources, and hazards.
- Understand the dynamic nature of geologic processes.
- Interpret landscapes.

Consider taking GEOL 105L lab course!

In GEOL 105L you'll learn-by-doing hands-on, interactive lab activities in small groups. Students who take the Lab Course concurrently with Lecture typically score better in both! More information is on the GEOL 105L Blackboard page or contact the instructor at jessie.rock@ndsu.edu.

Are You Considering Becoming a Geologist or an Earth Science Educator?

Students talented in the sciences are encouraged to visit any earth / environmental / geospatial faculty member to review the many options in our program. Employment opportunities in the geosciences are abundant!

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