GEOL 1505 - Physical Geology

Fall 2026 Syllabus, Section 01, CRN 40095,

Credit hours: 4

Public Instructor Information

Instructor Title: Dr. Beej Spieler
Instructor Professional Qualifications:

Ph. D., Physical Geography, Kent State University - 2014
Master's of Science, Structural Geology, Kent State University - 2005

Bachelor's of Science, Earth Science Education, Youngstown State University -2002
Instructor Office Location: Moser 2075
Instructor Office Phone: 330-941-2293

Course Description

1505. Physical Geology. A study of the various physical and chemical processes acting on and within the earth, and their products within the context of plate tectonics and their relevance to humans and modern society. The laboratory component includes identification of minerals and rocks, and the interpretation of topographic and geologic maps. Three hours of lecture, two hours of lab per week. 4 s.h.
In other words, Physical Geology is an introductory level course geared towards majors and non-majors alike! The course, along with the laboratory component satisfies the University Natural Science Requirement. While most will only relate studying rocks and minerals to geology, this course is much more!

Designed to instill an understanding and appreciation of the many natural processes that take place on and within our planet, this course uses a hands-on approach to apply the scientific method to understand our dynamic planet. This course also promotes an awareness of the impact and changes in society that occur as new scientific discoveries and technologies are developed and implemented.

For geology majors, this course will be the bedrock of your education – you will learn the basics to carry you on for semesters and careers to come! For non-majors, this course will enable you to see the world in a newly appreciated way – by understanding the fundamental processes that shape our world.

Course Readings

Group	Title	Author	ISBN
Required	Essentials of Geology	Marshak	9780393644456
Required	Introductory Physical Geology Laboratory Manual for Distance Learning	Greg Gardiner, Coastal Learning Systems	

Some things in life are required…like water, air, and BOOKS!!

We have a textbook and lab manual (and materials) that are required for this course. The textbook provides the fundamentals of all of the topics we will cover. Essentials of Geology, 6th edition, by Stephen Marshak is available at the YSU Bookstore as loose-leaf copies or you can also get a digital copy if preferred. We do not need any access code that may come with the book.

The lab manual and included kit is Introductory Physical Geology Laboratory Manual for Distance Learning 1st Edition by: Greg P. Gardiner, Coast Learning Systems. This package includes a lab manual as well as mineral & rock samples, maps, and other useful materials - perfect for an online course! An access code comes with the book, which is optional, but recommended. It gives access to many interactive features for our labs! The kit is available at the YSU Bookstore and at https://he.kendallhunt.com/product/introductory-physical-geology-laboratory-kit-and-manual

The lab kit contains the following, which will be used throughout the semester:

•Laboratory Manual

•USGS Topographic Map of Yosemite Valley, CA

•USGS Topographic Map Symbols Pamphlet

•Mineral Identification Kit (glass plate, magnet, magnifying hand lens, nail, porcelain streak plate)

•10 Mineral Samples

•10 Igneous Rock Specimens

•7 Sedimentary Rock Specimens

•8 Metamorphic Rock Specimens

•5 Bags of Sedimentary Grains (various types, 100cceach)

•Ruler, 12" Standard/Metric

•Protractor, Solid Center

•Compass, Silva Base Plate

•Pencil Compass, Plastic Blunt Tip

•Fault Model Cutout on Cardstock

•Foam Material, 4" x 11" (one each of blue, red, and white)

Please have your textbook as soon as possible. Have your lab kit by the third week of classes - we will begin using the materials.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	Module 1: Thinking Like A Geologist	Introduction	Due Sunday 9/6 by 11:59 p.m.
8/31	Module 2: Plate Tectonics	Plate Tectonics	Due Sunday 9/6 by 11:59 p.m.
9/7	Module 3: Minerals	Mineral ID	Due Sunday 9/13 by 11:59 p.m.
9/14	Module 4: Rock Types	What type of rock is it?	Due Sunday 9/20 by 11:59 p.m.
9/21	Module 5: Igneous Rocks	Igneous Rock ID	Due Sunday 9/27 by 11:59 p.m.
9/28	Module 6: Sedimentary Rocks	Sedimentary Rock ID	Due Sunday 10/4 by 11:59 p.m.
10/5	Module 7: Metamorphic Rocks	Metamorphic Rock ID	Due by Sunday 10/11 by 11 59 p.m.
10/12	Module 8: Geologic Time	Geologic Time	Due by Sunday 10/18 by 11:59 p.m.
10/19	Module 9: Landscapes	Topographic Maps	Due by Sunday 10/25 by 11:59 p.m.
10/26	Module 10: Earthquakes	Earthquakes	Due by Sunday 11/1 by 11:59 p.m.
11/2	Module 11: Volcanoes	Volcanoes	Due by Sunday 11/8 by 11:59 p.m.
11/9	Module 12: Geology of Water	Google Earth and Water	Due by Sunday 11/15 by 11:59 p.m.
11/16	Module 13: Unstable Lands	Mass Wasting	Due by Sunday 11/22 by 11:59 p.m.
11/23	Module 14: Geologic Resources	Water Resources	Due by Sunday 11/29 by 11:59 p.m.
11/30	Module 15: Local Geology	MCP virtual field trip	Due Sunday 12/6 by 11:59 p.m.

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.