


Geology 100:
Physical Geology
Spring 2018 (2 sections)
29 January through 24 March (8 weeks)
29 January through 26 May (16 weeks)



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Course Syllabus:
 The latest is always on the "unofficial" web site, and in Blackboard

Office Hours:
 "Office" Hours: Sunday or Monday evenings, 6-8 PM, (or by request) using Zoom... *(send me an email)*


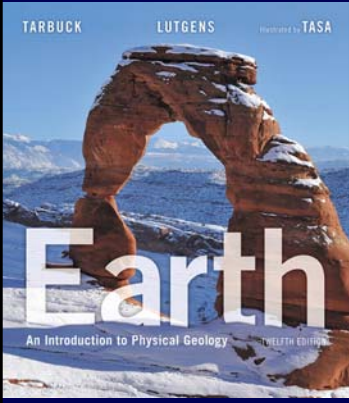
Teaching Philosophy

I don't consider myself a teacher. I can't *teach* you anything. My goal is to encourage you to *learn*. Think of me as a cheerleader...

I don't *give* grades. I just *keep score*. **You** are responsible for your success.

Note that geology is a highly interdisciplinary field of study.

Lesson 1:
Earth - it's all one thing!

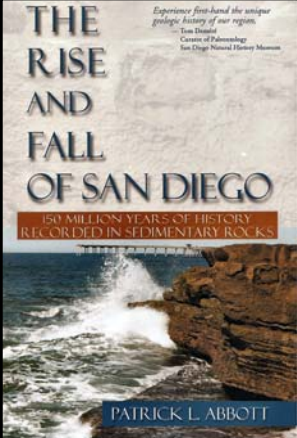



Recommended Textbook:
 "Earth" (12th edition)
 by Tarbuck, Lutgens & Tasa
 available in Miramar College Bookstore, online

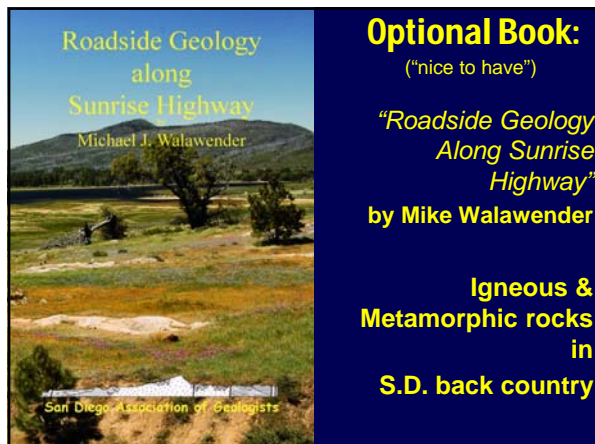
Required Blackboard Plug-in:



Modified "Mastering Geology"
 Only available in Miramar College Bookstore, or through Blackboard
 See instructions (including PowerPoints/Videos/PDF's) for more info



Optional Book:
 ("nice to have")
 "Rise and Fall"
 by Pat Abbott
 available in finer bookstores everywhere, Online
Sedimentary Rocks along San Diego Coast



Optional Book:

("nice to have")

"Roadside Geology Along Sunrise Highway"
by Mike Walawender

Igneous & Metamorphic rocks in S.D. back country



Student Learning Outcomes "SLO's"

- Students will be able to:
 - ☒ Differentiate among the 3 major types of plate boundaries and recognize their characteristic geologic features.
 - ☒ Identify common rock-forming minerals by their diagnostic properties.
 - ☒ Classify rock strata, faults and intrusions by age, using relative dating techniques.

San Diego County Geology

- One of the best places in the nation to study
 - ☒ **San Andreas Fault ZONE**
- Living laboratories:
 - ☒ Rose Canyon fault (and others)
 - ◆ Mission Bay, S.D. Bay, Mount Soledad
 - ☒ Santiago Peak volcanics
 - ☒ Marine sediments exposed in sea cliffs
 - ☒ Peninsular Ranges Batholith
 - ☒ Anza Borrego Desert State Park
 - ☒ Salton Buttes
 - ◆ Live volcanoes at our doorstep!

What Will I Learn?

- what geology is and what geologists do.
- an appreciation of the immensity of geologic time
 - ☒ punctuated by instantaneous catastrophic events such as earthquakes, tsunamis, floods, landslides and volcanic eruptions
- an understanding of how a variety of minerals and rocks are produced in the earth's crust.
- the geologic origins of important mineral resources and the distribution of these resources on the earth.
- an appreciation of how much we have learned about geologic processes since I began my geological studies forty-nine (!) years ago.

What Will I Learn? (continued)

- ☒ Mountain-building and opening of ocean basins
- ☒ Bizarre sea creatures that live at underwater volcanic vents
- ☒ Waves and coastal hazards
- ☒ Earthquakes in some surprising places...
- ☒ Supervolcanoes capable of rapid climate change
- ☒ How to use Internet resources to keep up to date on Earth changes
- ☒ Global climate changes through time
- ... and more!

Syllabus Summary

- PowerPoint presentations are only outlines
- You paid big bucks for the book – use it!
 - ✗ End-of-chapter materials are useful (summaries, review questions, key terms)
 - ✗ Within chapters, additional items are added:
 - ◆ End of chapter:
 - “Concepts in Review”
 - “Give it some thought”
 - ◆ “Eye on Earth” boxes
 - ◆ “Concept Check” boxes
 - ◆ Graphics in general – visualization is fundamental

Online benefits vs. drawbacks

- Self-discipline required
- Attention to details
- Keeping up with the schedule
- Reading comprehension
- Writing skills

MasteringGeology Home

MasteringGeology Home

MasteringGeology Study Area

Focus On Concepts

Visualize:

Earth An Introduction to Physical Geology
TWELFTH EDITION

Chapter 02: Plate Tectonics: A Scientific Revolution Unfolds

Visualize

- Project Condor Videos
 - Continental Rifting in the Southwestern United States
- Mobile Field Trips
 - Fire and Ice Land
 - The San Andreas Fault
- SmartFigure Tutorials
 - Crustal
 - Crustal thickness
 - Oceanic boundaries
 - Continental boundaries
 - Transform boundaries
 - Magnetic reversals
- Animations
 - The Structure of Plates
 - Collision of India and Eurasia NEWT
 - Sea Floor Spreading and Magnetization
 - Sea Floor Spreading and Plate Boundaries
 - Plate Boundaries Features
 - Motion at Plate Boundaries
 - Transform Faults
 - Hot Spots and Trenches
 - Convection and Tectonics
 - Magnetic Reversals NEWT

Read (e-text – if you opt in...)

Animations

GEODe

RSS Feed

Key Term Study Tools

2 Read

[Chapter 01: An Introduction to Geology](#)

3 Visualize

SmartFigures

- [Geologic Time](#)
- [The Nebular Theory](#)
- [Earth's Layers](#)
- [The Rock Cycle](#)
- [Shield, platforms, and mountain belts](#)

GEODe Earth

Visualize: Project Condor Videos

Intracontinental volcanism

Zone of partial melting

Mobile Field Trips

Visualize: "SmartFigures"

Visualize: Animations

The Breakup of Pangaea

The animation begins with a world map that shows Earth's current distribution of continents and plates of the lithosphere.

Notice that most plates contain a whole continent or a portion of one as well as a large region of sea floor. As a result, most plates include both continental and oceanic lithosphere.

Also notice that most plate boundaries between tectonic plates do not follow the edges of continents.

Green arrows indicate the general direction of the plate movement. Plates are moving away from each other at mid-ocean ridge spreading.

Chapter Quizzes (practice)

Chapter 01: An Introduction to Geology

Home > Chapter 01: An Introduction to Geology > Student Home > Chapter Quiz

This activity contains 20 questions.

1. Which of the following are accurate definitions of physical geology and historical geology?

Physical geology examines the materials composing Earth and seeks to understand the many processes that operate beneath and upon its surface. Historical geology documents the major discoveries, scientists, and development of geologic thought.

Physical geology examines only the physics of Earth materials. Historical geology seeks to understand the origin of Earth and its development through time.

Physical geology examines the materials composing Earth and seeks to understand the many processes that operate beneath and upon its surface. Historical geology examines the geologic period that covers human history.

Physical geology examines the materials composing Earth and seeks to understand the many processes that operate beneath and upon its surface. Historical geology seeks to understand the origin of Earth and its development through time.

2. According to the textbook, understanding Earth is challenging because our planet is a _____ body with many interacting parts and a complex history.

3. A natural hazard is a natural process that endangers humans.

True

Syllabus Summary

- Keep up to date!
- Blackboard and the unofficial web site have links to other resources
 - ☒ Videos
 - ☒ PowerPoints
 - ☒ Web-links
 - ☒ And more!

Syllabus Summary

- Most of the learning will occur in MasteringGeology
 - ☒ For each chapter, there will be a:
 - ◆ Homework assignment (~15 to 45 points)
 - ☒ Use the Study Area for more information
- Things that will be submitted into Blackboard:
 - ◆ Syllabus Quiz (10 points)
 - ◆ Writing and/or Discussion Assignments (200 points)
 - ◆ SLO Test (end of semester, 10 points)

Geology 100 Grades

Weighted Percentage

A (superior effort):	90 – 100%
B (better than average):	80 – 89%
C (average):	68 – 79%
D (below average):	55 – 67%
F (failing):	< 54%

Tentative Grades

Mastering homework:	283 points
Writing assignments (3):	200
Syllabus and SLO Quizzes:	20
Total:	<i>503 points</i>

On a negative note...

- PLAGIARISM
 - ☒ Ugly word, even uglier deed!
 - ☒ Look it up – it’s stealing...
 - ☒ It’s easy to copy and paste from various sources, which makes it easy to detect!
 - ☒ “cheaters never prosper”
- ‘nuff said...



If you don't understand, please ask!

(in a timely fashion)

When you get to the end...

