


**Geology 100:
Physical Geology**
Fall 2017 (2 sections)
21 August through 14 October (8 weeks)
21 August through 16 December (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, 7-9 PM, (or by request) using Zoom... *(send me an email)*


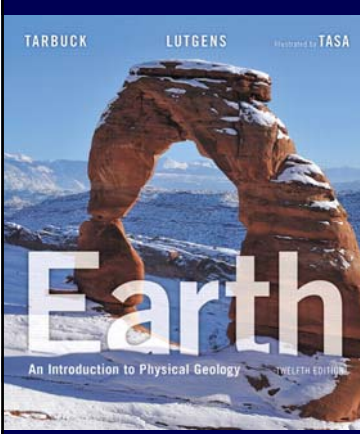
Teaching Philosophy

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!

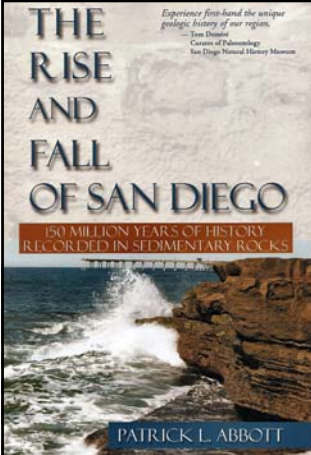



Recommended Textbook:
"Earth" (12th edition)
by Tarbuck, Lutgens & Tasa
available in Miramar College Bookstore, online

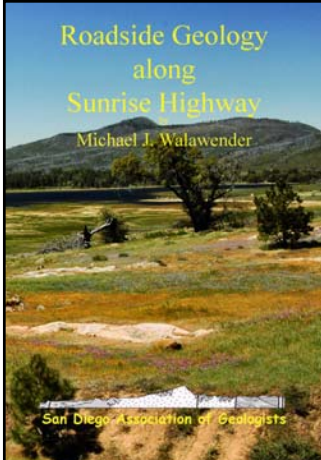
Required Blackboard Plug-in:



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




**Roadside Geology
along
Sunrise Highway**
Michael J. Walawender

Optional Book:
("nice to have")

*"Roadside Geology
Along Sunrise
Highway"*
by Mike Walawender


**Igneous &
Metamorphic rocks
in
S.D. back country**

San Diego Association of Geologists


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

- These 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

The screenshot shows the MasteringGeology Course Home page. On the left is a navigation menu with options like My Courses, Manage Course, Course Home, Assignments, Scores, eTest, Study Area, User Settings, Course Tools, Syllabus, Instructor Resources, and Instructor Tools. The main area displays a 'Course Calendar' for January 2017, with chapters mapped to specific dates. For example, Chapter 1 is on Monday, Chapter 2 on Tuesday, and so on.

MasteringGeology Home

This screenshot is similar to the previous one but includes blue arrows pointing from the 'Course Home' and 'Assignments' sections of the left-hand navigation menu to the main content area. A text annotation 'Areas you'll be using the most' is placed over the main content area, indicating that these are the primary areas of interaction.

MasteringGeology Study Area

The screenshot shows the 'Study Area' for Chapter 02: Plate Tectonics: A Scientific Revolution Unfolds. It features a 'Visualize' section with various resources such as 'Project Condo Videos', 'Mobile Field Trips', 'SmartFigure Videos', and 'Assignments'. The 'Assignments' section lists 'The Rotation of Plates', 'Collision of India and Eurasia', 'Sea Floor Spreading and Mountain Building', 'Plate Boundaries', 'Motion of Plate Boundaries', 'Transform Faults', and 'Mid-Ocean Ridges'. A sidebar on the left contains navigation options like Pearson eText, Condo Videos, Mobile Field Trips, SmartFigure Videos, Animations, Videos, GetIt! Earth, Animation Library, e33 Feeds, Key Terms Study Tools, Live Predictions, Instructor eText, and Climate Change 2/e eText.

Focus On Concepts

The screenshot shows the 'Focus On Concepts' page for Chapter 02: Plate Tectonics: A Scientific Revolution Unfolds. It features a list of key concepts and their descriptions, such as 'Discuss the view that most geologists held prior to the 1960s regarding the geographic positions of the ocean basins and continents', 'List and explain the evidence presented by Wegener to support his continental drift hypothesis', and 'Describe the relative motion along a transform fault boundary and be able to locate several examples on a plate boundary map'. A sidebar on the left contains navigation options like Pearson eText, Condo Videos, Mobile Field Trips, SmartFigure Videos, Animations, Videos, GetIt! Earth, Animation Library, e33 Feeds, Key Terms Study Tools, Live Predictions, Instructor eText, and Climate Change 2/e eText.

Visualize:

TARBUCK LUIGENS

Earth

An Introduction to Physical Geology

Chapter 02: Plate Tectonics: A Scientific Revolution Unfolds

Visualize

Project Condor Videos
[Continental Erosion in the Southeastern United States](#)

Mobile Field Trips
[The Andes Ledge](#)
[The San Andreas Fault](#)

SmartFigure Tutorials
[Continents](#)
[Crustal Lithosphere](#)
[Convergent Boundaries](#)
[Conservative Boundaries](#)
[Transform Boundaries](#)
[Magmatic Processes](#)

Animations
[The Breakup of Pangea](#)
[Collision of India and Eurasia](#)
[Sea Floor Spreading and Magnetism](#)
[Sea Floor Spreading and Plate Boundaries](#)
[Plate Boundary Challenges](#)
[Motion of Plate Boundaries](#)
[Transform Faults](#)
[Hot Spot Volcanic Tracks](#)
[Convection and Tectonics](#)
[Magmatic Processes](#)

Read

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

Visualize

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

GEODe Earth

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](#)
[Shields, platforms, and mountain belts](#)

GEODe Earth

Visualize: Project Condor Videos

Intracontinental volcanism

Zone of partial melting

01:29 / 05:17

Mobile Field Trips

00:10 / 09:25

Visualize: "SmartFigures"

SmartFigures are created for the exclusive use of students and instructors using the 12th Edition of Earth: An Introduction to Physical Geology, by Tarbuck, Lutgens, and Tasa, and the 19th Edition of Fundamentals of Earth Science, by Lutgens, Tarbuck, and Tasa. All are Copyright 2010 Pearson Education, Inc.

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Visualize: Animations

The Breakup of Pangees

The Breakup of Pangees

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

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 (shown by green lines) 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.

Introduction

Profile View of the South Atlantic

The Breakup of Pangees

next slide

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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 tests and assignments will be completed 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
 - ◆ Writing and/or Discussion Assignments
 - ◆ SLO Test (end of semester)

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...

