

# Taft College Geology 10: Introduction to Physical Geology

## Spring 2008 Syllabus



### Contact Your Instructor

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### Course Goal:

My goal for you during this course is to get you to love rocks as much as I do. It is also my hope that students will gain an awareness and understanding of their natural surroundings and will be able to view their world in a whole new light!

Since not every learner taking physical geology will go on to be a geologist, this course is designed to be of use to everyone desiring a broad geological education. However, there are those of you who will go on to work as geologists or in related fields. Therefore, enough rigor has been incorporated to provide a firm basis for further study.

### Text & Lab Manual:

Tarbuck, Edward J., and Lutgens, Frederick K. Earth: An Introduction to Physical Geology. 8th ed. Upper Saddle River: Pearson Education, Inc., 2005.

ISBN: 0131148656 - Available for rental from the Taft College Bookstore.

Ruhle, James L. Geology Laboratory Manual for Distance Education. Dubuque: Kendall/Hunt Publishing Company, 2000.

ISBN: 0757504809 - Available for purchase from the Taft College Bookstore.

### Weekly Assignments:

Each week students will be required to complete and return to your instructor, specific chapter concept quizzes and/or lab lesson multiple-choice questions (see Schedule in Syllabus). These are open-book. I encourage you to work with as many resources as you like, i.e. your text and its appendices, other Geology books, the Internet, your friends, your instructor, etc. Please email me with any weekly assignment questions.

### Midterm & Final Projects:

This a chance to explore geological topics that interest you. Your project can be a research paper, poster, story, journal, photo journal, Internet discovery, Webquest, topographic map, etc. It is up to you to decide on a topic and plan your research. Please let me know what you are planning to explore and maybe I can offer other ideas for you to consider. Or if you do not have any ideas . . . I can help with that too! NOTE: Your midterm and final project outlines and project plans must be approved !!

## Grades:

Your job in this course is to have fun – or at least try to be engaged with Geology. I would love to give you all an "A" in this course. My hope is that everyone wants that "A." To do this, you must successfully complete the following:

- Chapter Concept Quizzes - 25% of total grade (25 points maximum)
- Lab Lesson Multiple-Choice Questions - 25% of total grade (25 points maximum)
- Midterm Project - 25% of total grade (25 points maximum)
- Final Project - 25% of total grade (25 points maximum)

## TOTAL POINTS:

A = 90-100

B = 80-89

C = 70-70

D = 60-69

F = 59 and below

## Schedule

### **WEEK 1 (January 28 – February 3, 2008)**

TEXT: Read Chapter 1: An Introduction to Geology

QUIZ: Complete Chapter 1 Concept Quiz

LAB MANUAL: Read Lab Lesson 1: Topographic Maps

ASSIGNMENT: Complete Lab Lesson 1 Multiple-Choice Questions

### **WEEK 2 (February 4-10, 2008)**

TEXT: Read Chapter 2: Plate Tectonics: A Scientific Revolution Unfolds

QUIZ: Complete Chapter 2 Concept Quiz

LAB MANUAL: Read Lab Lesson 2: Structural Geology

ASSIGNMENT: Complete Lab Lesson 2 Multiple-Choice Questions

### **WEEK 3 (February 11-17, 2008)**

TEXT: Read Chapter 3: Matter and Minerals

QUIZ: Complete Chapter 3 Concept Quiz

LAB MANUAL: Read Lab Lesson 4: Minerals

ASSIGNMENT: Complete Lab Lesson 4 Multiple-Choice Questions

### **WEEK 4 (February 18-24, 2008)**

TEXT: Read Chapter 4: Igneous Rocks

QUIZ: Complete Chapter 4 Concept Quiz

LAB MANUAL: Read Lab Lesson 6: Igneous Rocks

ASSIGNMENT: Complete Lab Lesson 6 Multiple-Choice Questions

### **WEEK 5 (February 25 – March 2, 2008)**

TEXT: Read Chapter 5: Volcanoes and Other Igneous Activity

QUIZ: Complete Chapter 5 Concept Quiz

LAB MANUAL: Read Lab Lesson 5: Volcanoes

ASSIGNMENT: Complete Lab Lesson 5 Multiple-Choice Questions

**WEEK 6 (March 3-9, 2008)**

TEXT: Read Chapter 6: Weathering and Soil

QUIZ: Complete Chapter 6 Concept Quiz

TEXT: Read Chapter 7: Sedimentary Rocks

QUIZ: Complete Chapter 7 Concept Quiz

LAB MANUAL: Read Lab Lesson 7: Sedimentary Rocks

ASSIGNMENT: Complete Lab Lesson 7 Multiple-Choice Questions

**WEEK 7 (March 10-16, 2008)**

TEXT: Read Chapter 8: Metamorphism and Metamorphic Rocks

QUIZ: Complete Chapter 8 Concept Quiz

LAB MANUAL: Read Lab Lesson 8: Metamorphic Rocks

ASSIGNMENT: Complete Lab Lesson 8 Multiple-Choice Questions

**MIDTERM PROJECT OUTLINE DUE at the end of Week 7**

**WEEK 8 (March 17-23, 2008)**

**SPRING BREAK!!**

**WEEK 9 (March 24-30, 2008)**

**MIDTERM PROJECT DUE at the end of Week 9**

**WEEK 9 (March 31 – April 6, 2008)**

TEXT: Read Chapter 9: Geologic Time

QUIZ: Complete Chapter 9 Concept Quiz

TEXT: Read Chapter 10: Crustal Deformation

QUIZ: Complete Chapter 10 Concept Quiz

**WEEK 11 (April 7-13, 2008)**

TEXT: Chapter 11: Earthquakes

QUIZ: Complete Chapter 11 Concept Quiz

LAB MANUAL: Read Lab Lesson 3: Earthquakes

ASSIGNMENT: Complete Lab Lesson 3 Multiple-Choice Questions

TEXT: Read Chapter 12: Earth's Interior

QUIZ: Complete Chapter 12 Concept Quiz

**WEEK 12 (April 14-20, 2008)**

TEXT: Read Chapter 13: Divergent Boundaries: Origin and Evolution of The Ocean Floor

QUIZ: Complete Chapter 13 Concept Quiz

TEXT: Read Chapter 14: Convergent Boundaries: Mountain Building and the Evolution of Continents

QUIZ: Complete Chapter 14 Concept Quiz

TEXT: Read Chapter 15: Mass Wasting: The Work of Gravity

QUIZ: Complete Chapter 15 Concept Quiz

**WEEK 13 (April 21-27, 2008)**

TEXT: Read Chapter 16: Running Water

QUIZ: Complete Chapter 16 Concept Quiz

LAB MANUAL: Read Lab Lesson 9: Surface Water

ASSIGNMENT: Complete Lab Lesson 9 Multiple-Choice Questions

TEXT: Read Chapter 17: Groundwater

QUIZ: Complete Chapter 17 Concept Quiz

LAB MANUAL: Read Lab Lesson 10: Groundwater

ASSIGNMENT: Complete Lab Lesson 10 Multiple-Choice Questions

**WEEK 14 (April 28 – May 4, 2008)**

TEXT: Read Chapter 21: Energy and Mineral Resources

QUIZ: Complete Chapter 21 Concept Quiz

LAB MANUAL: Read Lab Lesson 11: Surface Geology and Petroleum Fuels

ASSIGNMENT: Complete Lab Lesson 11 Multiple-Choice Questions

LAB MANUAL: Read Lab Lesson 12: Alternative-Energy Systems

ASSIGNMENT: Complete Lab Lesson 12 Multiple-Choice Questions

**WEEK 15 (May 5-11, 2008)**

TEXT: Read Chapter 18: Glaciers and Glaciation

QUIZ: Complete Chapter 18 Concept Quiz

TEXT: Read Chapter 19: Deserts and Winds

QUIZ: Complete Chapter 19 Concept Quiz

TEXT: Read Chapter 20: Shorelines

QUIZ: Complete Chapter 20 Concept Quiz

**FINAL PROJECT OUTLINE DUE at the end of Week 15**

**WEEK 16 (May 12-18, 2008)**

TEXT: Read Chapter 22: Planetary Geology

QUIZ: Complete Chapter 22 Concept Quiz

LAB MANUAL: Read Lab Lesson 13: Waste Disposal and Pollution

ASSIGNMENT: Complete Lab Lesson 13 Multiple-Choice Questions

**WEEK 17 (May 19-25, 2008)**

**FINAL PROJECT DUE at the end of Week 17**

## MIDTERM PROJECT EVALUATION

This is the form that I use to evaluate your projects. Once you have completed your project, please complete the self-evaluation. Once I receive your project and completed self-evaluation, I will then complete my evaluation of your project. If you have questions, please do not hesitate to ask.

### STUDENT SELF-ASSESSMENT

Name: \_\_\_\_\_ Project Title: \_\_\_\_\_

1. Please explain what you learned about doing this project: _____
2. Please explain what was the most enjoyable part of this project: _____
3. Please explain what was the most difficult part of this project: _____
4. If you did this project over, what would you do differently? _____
5. What letter grade would you give yourself on this project? _____ [ Grade: Excellent = A, Good = B, Satisfactory = C, or Needs Work = D ]

### INSTRUCTOR REVIEW

Research	Excellent	Good	Satisfactory	Needs Work
Student used at least three sources	4	3	2	1
Student documented sources of information	4	3	2	1
Student gathered interesting and new information	4	3	2	1
Student identified new topics to pursue	4	3	2	1
Presentation Skills				
Project was well-organized and well-written	4	3	2	1
Content was well-thought out	4	3	2	1
Student used a variety of methods to present data (tables, maps, models, etc.)	4	3	2	1
Project included creative elements	4	3	2	1

Reference: Campbell, L., Campbell, B., & Dickinson, D. (2004). *Teaching and learning through multiple intelligences* (3<sup>rd</sup> ed). Boston, MA: Pearson Allyn-Bacon.

## FINAL PROJECT EVALUATION

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### STUDENT SELF-ASSESSMENT

Name: \_\_\_\_\_ Project Title: \_\_\_\_\_

1. Please explain what you learned about doing this project: _____
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## **STUCK ON YOUR PROJECT?**

Think about what interests you . . .

Earthquakes?  
Volcanoes?  
National Parks?  
The Grand Canyon?  
Tsunamis?  
Diamonds?  
Gemstones?  
Rivers, streams, lakes?  
The ocean?  
Global warming?  
Emergency plans in the event of natural disasters?

Please be as creative as you like. You are welcome to write a research paper, but I encourage you to also consider creating a poster or a map, an educational module designed for informing the public, or maybe create a lesson plan in geology for children . . . Your choice. Go crazy!

## **PROJECT LENGTH**

There is not a minimum or maximum length requirement if you chose to write a research paper. Just ask yourself, "How long will it take to answer the research questions you pose" . . . Hummmm. It takes as long as it takes.

But . . . if your project ends up being only two paragraphs long, maybe your question is too limited. If your project is 25 pages, maybe it is too broad.

## **STUCK ON YOUR OUTLINE?**

The outline is used to simply tell me what your plans are. For example your outline might look something like the following:

Topic: Earthquakes

- I. What is an earthquake?
- II. Earthquake facts
  - A. Strength
  - B. Frequency
- III. Earthquakes in California
  - A. First recorded earthquake in California
  - B. Most destructive earthquakes in California
- IV. Earthquake preparedness
- V. References

Hope that helps . . .

Regards, Evie Einstein