

SPRING 2009 SYLLABUS - GEOLOGY 206: EVOLUTION OF THE EARTH (Item # 4235)

Meets: MTuW 11:00 – 11:50 & Th 11:00 – 1:50, Room SC 111

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Course Web Site: <http://www.instruction.greenriver.edu/khoppe>

The syllabus, some of the labs, and class handouts will be made available on the course website.

TEXT: THE EARTH THROUGH TIME (8TH Ed.) by H. Levin, published by John Wiley & Sons, Inc.

Welcome to Evolution of the Earth

This quarter we will focus on three major goals:

1. To discuss the past history of Earth and its inhabitants. We will examine how the geologic record can be used to reconstruct how we got where we are today, and how it can help us predict the future.
2. Each student should gain general knowledge of key concepts including: 1) the immensity of geologic time, 2) how plate tectonics has changed (and will continue to change) our planet, and 3) how the geology of our planet has influenced organic evolution (& how the evolution of life has changed the geology of our planet.)
3. To develop skills to work efficiently with peers to solve problems and answer open-ended questions. I hope that the skills you learn in this class will carry over into your other classes and into your daily lives.

To accomplish these goals and assess your progress there will be a variety activities: 1) lecture-discussion sessions and group problem-solving where you will interpret scientific problems and apply information from lectures, 2) laboratory work/field trips, where you will make observations and interpret their significance to problems posed in lab, 3) poster presentations and individual investigations, where you will interpret facts in relation to current scientific theories, and 4) in-class quizzes and exams.

GRADING

1. Exams	50%
2. In-class Laboratory Exercises and Field Trips	25%
3. In-class exercises, Group Discussion Problems, Homework & Quizzes	15%
4. Poster presentations	10%

If you score above 90%, your grade is in the "A" category (3.5-4.0), and if your score is between 80% and 90% your grade is in the "B" category (2.5-3.5), etc. However, if I give a difficult exam and the average score is low, I may curve the grades so that the average grade is not below a 2.0. At the end of the quarter the grades from the exams, labs, group discussion problems, the quizzes, and the poster project will be averaged according to the weighting factors shown above to determine the final grade.

Note: If you miss more than 10 days of class, you may receive a grade of 0.0. If you have questions about your grade, please come talk to me after class or during my office hours.

Evaluation/Grades

1. EXAMS: There will be 4 in-class examinations during the quarter. Exams dates are shown on the lecture schedule. The questions on these exams will be a combination of multiple choice, short answer/objective, and/or essay questions. **There are no make-up exams**, but the lowest grades of the first three exams, will be dropped. **You must take the final exam (= Exam #4)**. Exam # 4 will be cumulative and include a rock ID section. It will be given during the school's final exam period.

2. LABORATORY: Each lab is worth 20 points. We have two lab modes: in the classroom and on field trips. You should bring paper and something to write with to every lab session. Lab field trips are scheduled on Thursdays during regular class hours. On these days you will need to wear comfortable footwear that does not have slick soles and something to protect you from the rain. Your feet may get damp from wet grass, so you may want to have a change of shoes handy. **Labs are due one week from the date they are 1st handed out** unless stated otherwise (for example, exceptions are made for Holidays). Labs must be turned in by 3:00 pm on the day they are due. Late labs will be graded -10% for each day they are late. There are no make up labs, but your lowest lab score will be dropped. You are encouraged to work with your classmates on labs, but **you must complete your own paper and write your answers in your own words.**

3. IN-CLASS EXERCISES, GROUP DISCUSSION PROBLEMS & QUIZZES: I have found that students get more from this course and have more fun if we use some of the class time to investigate the Earth history rather than just have me talk/lecture. So, on some days during class you will be asked to complete a short in-class assignment. For group discussions, you will break into groups and work on the solution to an open-ended problem. You and your group will discuss the situation and submit one written answer by the end of the class. Only those present for the class and discussion will receive credit for these problem. Missed in-class assignments can not be made up, but some of the points can be made up by turning in extra credit assignments (see section labeled "extra credit" below).

4. POSTER PRESENTATIONS: A poster is a visually-oriented stand-alone presentation of a topic. You will be responsible for constructing and presenting a poster on a geological topic. **You must approve your topic with me by May 7th**. The presentation will be done at a poster session on the last Thursday day of class (June 4, 2009). **You must present your poster in order to receive credit for this assignment.** (Detailed instructions on how to construct and present a poster will be given in a separate handout and are listed on the class webpage).

5. EXTRA CREDIT: You may earn extra credit points by writing a legible one-paragraph summary on a current news report relating to a geological subject. The news must have been reported in a reputable mainstream newspaper, magazine, or web-site. The news report must be less than 4 days old. You must *reference the original news report and bring a copy of the original story*. You can receive credit for a maximum of 4 news summaries (for up to 3 points each), and you should be aware that I may share the information with the class (although I won't use your name if you don't want me to). You may also receive extra credit on your poster project. All extra credit must be turned in by the last day of lecture.

Note: In order to receive full credit on assignments and exams you must write your first name (or preferred nickname) and full last name on the upper right hand corner of the first page.

Content Specific Learning Outcomes: (Student Achievement during the course)

This course has five primary goals:

1. You will correctly apply information presented during the lectures to the solutions of open-ended questions.
2. You will correctly identify common rocks and the processes that form them along with relative age history principles to discuss the history of a geological map.
3. You will make observations (in class and on field trips) and correctly link those observations to information from the course.
4. You will correctly use a computer to analyze or obtain geological data.
5. You will develop skills to work effectively with peers in finding solutions to geological problems

These outcomes will be demonstrated by: 1) successful achievement on lab quizzes and exams, 2) reports from experiences in the laboratory and on field trips, 3) responses to group discussion questions, 4) your presentation of a poster project.

Campus-wide Learning Outcomes: Green River Community College has identified ability areas that we believe encompass knowledge and are the most important skills that students will need in order to be successful after leaving college. This course will focus primarily on developing one of these outcomes:

Critical Thinking Ability

You will be asked to examine your geological thinking by:

- 1) Explaining your ideas to open-ended questions (in some cases I ask that students defend their choice of more specific answers)
- 2) Observing geological features on field trips and applying them to questions posed in the lab
- 3) Applying information from lecture to problems presented during class
- 4) Using information on geological processes to determine the history of a geological map. Students must apply their knowledge of how various rocks form and knowledge of relative age principles.

This outcome will be demonstrated by student responses to answers on examination, lab quizzes, lab reports from in-lab exercises and field trips, and group discussion problems during the class period, and a poster presentation.

Learner Responsibilities:

- I expect you to be present in class each day.
- I expect that you will treat all the students in the class and me with respect. Please, **no music players, game players, or portable phones/audible pagers** (unless you check with me before class and it is an emergency).
- I expect that you will be prepared for class each day and that you will have read the assigned material for that day.
- I expect that you will not talk to other classmates during class, unless I have divided you into groups for the purpose of discussion. If you have a question about the class material please raise your hand and I'll answer your question directly.
- I expect that you will be ready to start class at the beginning of the class time and will remain in the class until the end of the class period.

Characteristics of an "A" Student:

Sometimes when a student is not doing as well in this course as they would like I hear the question, "What do I have to do to get an A?" There is no easy answer to that question, but I hope the discussion below will help you.

Although excellent students are not all the same, the following are characteristics that I have noted which are almost always present in "A" students:

- They attend class every day. Absence rates among "A" students are usually very low.
- They understand the material rather than relying upon memorization for the test. They are able to apply ideas learned in other parts of the class (and other classes) to the issues they are studying.
- They are prepared for class. They have read the assigned material before the class session and are ready to ask questions and discuss the material. Their work is on time and neat.
- They have the attitude that the primary responsibility for their learning is their own, not the instructor's. These students will do well in spite of the particular instructor in a class.
- They work well in groups. They have good communication skills and are willing to listen to the ideas of others.
- They study actively. They do not just sit and read the text. They use the study guides provided. They outline, take notes, and solve problems as they read. This helps their retention and understanding of the material.

Policy on Late Papers:

LABS: Labs are due one week from the date when they are 1st handed out, unless stated otherwise (for example, accommodations are made for holidays). Papers must be submitted to me or my mailbox by 3 PM the day they are due or they will be marked late. Do not use class time to complete a laboratory assignment. If I see you working on a late assignment during lab, the assignment is due at that time.

Late labs will be graded -10% for each day they are late. Any late lab paper must be submitted to me before I return the graded papers to the other students. I will not accept labs that are submitted after I have returned to the lab papers to the other students.

Policy on Cheating:

In this course you will be working in groups and by yourself. Individual assignments, such as most of the labs, may be discussed in a group, but **must be written individually**. Do not give your paper to someone else! Exams are closed book, closed notes, and obviously are to be your own work. You may use your Reading Guides to help you during quizzes, but quizzes must be taken individually. If individuals are found to be cheating, their names will be given to the Dean of Instruction for further action that may range from no credit in the exam/assignment to removal from the college.

Policy on Visitors in Class:

Faculty members at GRCC have been directed to not permit children of students to attend classes. I understand that sometimes it is very difficult to make daycare arrangements. However, the policy from our administration is very clear and I will have to enforce the rules. If a person is over 16 and would like to attend the class, please see me several days ahead of the class sessions to obtain permission.

Special Needs: If you believe you qualify for course adaptations or special accommodations under the Americans With Disabilities Act, it is your responsibility to contact the Disabled Students Services Coordinator in the Lindbloom Student Center (Room 271A, phone ext. 2318) and provide the appropriate documentation. If you have already documented a disability or other condition that would qualify you for special accommodations, or if you have emergency medical information or special needs, I should know about, please notify me during the first week of class. You can reach me by phone at 253-833-9111, extension 4323. Or, you can schedule an office appointment to meet me in SC 212 during my office hours or at another mutually determined time. If this location is not convenient for you, we will schedule an alternative place for the meeting. If you use an alternative medium for communicating, let me know well in advance of the meeting (at least one week) so that appropriate accommodations can be arranged.

A FINAL NOTE

I sincerely believe that each of us can be a resource in this course. I hope you will ask questions, initiate discussion, and take an active part in making our lectures more like discussions. In this way, I think we will all learn more!

Geology 206- Tentative Schedule

This schedule may change at any point. Changes will be announced in class & poster on the class website

Week #	Date	Topics	Readings
1	3/30 - 4/2	Introduction: Why study Earth history? What do we use as evidence to tell geologic time? The geological time scale and how it was developed.	Ch 1 (pp 1-3 & 6-9) Ch 2 (pp. 12-23) Ch 3 (pp. 27- 43)
2	4/6 - 4/9	Sedimentary Rocks & depositional environments/ What does the rock record tell us? What do fossils reveal?	Ch 5 (pp. 77-111)
3	4/13- 4/16	Fossils cont. What do we need to know about organic evolution? 4/15 Midterm Exam #1	Ch 6 (pp. 119-156)
4	4/20- 4/23	Formation of the Earth & Early Earth Environments <i>4/21- Faculty In-Service Day- No Class</i> The Archean: The first life forms	Ch 8 (pp. 207-241)
5	4/27 – 4/30	The Proterozoic – How life changed the world Snowball Earth and the 1 st multi-cellular organisms	Ch 9 (pp. 243-264) Ch 10 (skim)
6	5/4 – 5/7	Paleozoic life: biospheric-geospheric interactions and the evolution of the terrestrial landscape 4/6 – Midterm Exam #2	Ch 11 (skim)
7	5/11- 5/14	Life of the Paleozoic: Evolution of modern life & mass extinctions	Ch 12 (pp. 327-371)
8	5/18- 5/21	The Mesozoic: The breakup of Pangaea Life & Times of the Dinosaurs & other oddities 5/21 Abstract for you poster due	Ch 13 (skim) Ch 14 (pp. 405-448)
9	5/25-5/28	<i>5/25 Holiday- No Class</i> The Cenozoic- Modern times & climate swings 5/27- Midterm Exam #3 <i>5/28- Field Trip – Early afternoon low tide at the beach</i>	Ch 15 (skim)
10	6/1 – 6/4	Life in the Cenozoic- the mammals rule. June 4 – Poster Project Due	Ch 16
11	6/8 – 6/12	The hominids take over June 10, Study Day (no class) June 12 (Friday) Final Exam: 1-3p	Ch 17 (skim)