

Historical Geology

GEL 102

Syllabus Spring, 2016

Dr. Jacob Sewall
sewall@kutztown.edu
484-646-5864
<http://faculty.kutztown.edu/sewall>

Boehm Bldg. 422
Office hours: M: 10 – 12, T: 9:30 – 10
W: 10 – 12, TH: 9:30 – 10

Class Meetings: Tuesday and Thursday, 8:00 – 9:30 AM, Boehm Bldg. 260

Laboratory Meeting: Wednesday, 2:00 – 5:00 PM, Boehm Bldg. 130

Course Objectives: Historical Geology focuses on the presentation of Earth's history and evolution and promotes familiarity with the techniques by which Geologists extract that history from the rock record.

Course requirements: Historical Geology is the second of a two-course introduction to the science of Geology and, consequently, Physical Geology (GEL100 or GEL 020) is a prerequisite for this class.

Textbook: There is one required text for this course. The lecture text is: *Earth's Evolving Systems: The History of Planet Earth* by Ronald Martin.

Attendance/late policy: Lecture attendance is strongly recommended as the activities that take place in the classroom will be an important part of the information and grade you receive in this course. Lab/fieldtrip attendance is **required**. Make-up quizzes or exams will be given only by prior arrangement or in the case of documented emergencies. Assignments will be accepted late **only** by prior (e.g. before the day they are due!) arrangement; otherwise a penalty of 10% per day will be assessed.

E-mail policy: E-mail is the primary mode of communication in many arenas today, e-mail correspondence, like all writing in this course, should be professional, clear, and grammatically correct. E-mail subject lines **must** contain the course number (**GEL 102**). The body of the e-mail should contain a greeting, a concise, clearly written description of the question, problem, or topic, and a closing. E-mail messages *that conform to this standard* will generally be answered within two business days.

Honor code and Special Needs: Strict accordance with the University policies concerning plagiarism, cheating, etc. is expected. Science is, however, a collaborative endeavor. You are encouraged to discuss homework/lab assignments with each other – just as active scientists do. You are, however, also (again, just like active scientists) expected to be responsible for your own answers or, if appropriate, give clear credit to the work of others. Any student with special needs or circumstances is encouraged to meet with the instructor to discuss them.

Labs/Field trips: There will be lab exercises each week. Most of those labs will take place in the lab room; two will involve a field component. The field component will strive to take only the three-hour lab period, however, it is possible that field exercises will require more time.

Grading/Feedback:

There will be no curving of grades. Assignments and their associated keys will set a standard and your grade will reflect how you measured against that standard, not your fellow classmates. It is, therefore, possible for everyone in the class to achieve and “A”. Your final grade will be determined based on your total points: A = 93-100, A- = 90-92, B+ = 87-89, B = 83 – 86, B- = 80-82, C+ = 77-79, C = 70-76, D = 60-69, F = 0-59.

Tentative Grading Breakdown

<u>Assignment</u>	<u>#</u>	<u>points each</u>	<u>total points</u>	<u>% of grade</u>
Class exercises	~30	~5	150	~15%
Quizzes and Synopses	11	40	400+40	42%
Homework	14	10	140	15%
Field exercises	2	80	160	17%
Final Exam	1	100	100	11%
Total			950	100%

While all of your work in this course will influence your final grade, in-class exercises, homework sets, and laboratory exercises are intended primarily as hands-on, individual opportunities for you to develop and apply knowledge and skill sets.

Homework sets will run on a two-week cycle. In the first week, the assignment will be made available in D2L. The assignment will be due the following Tuesday at the start of class. Before you turn in your assignment, make a copy for yourself.

In the second week of the homework cycle, the key to the assignment will be available in D2L. Using a **different color**, correct your copy of the completed assignment. Your corrected assignment will be due the following Tuesday at the start of class.

Weekly quizzes will be the primary mode of assessment and will be constructive. Quizzes will take place in the first 30 minutes of each lab period and will happen each week beginning on January 27th.

The return of the first two quizzes will take place in my office hours. If you cannot make any office hour times, please make an appointment to discuss and pick up your quiz.

All quizzes will have a “re-do” available. In order to qualify for the “re-do” you **MUST** meet with me to discuss your quiz. Following that meeting, you may correct the incorrect portions of your quiz to receive up to 50% of the missed points (e.g. if you received a 50% on the original quiz, you could correct the questions you missed for a new score of up to a 75%). If you do not meet with me **prior to** your re-do or if your retake score is lower than your original score, you will not receive any additional points. Quiz retakes **must** be completed by the third Thursday following quiz administration (i.e. within 16 calendar days). After that time frame, retakes will not be available.

The quizzes will be worth 30 points. The other 10 points of your grade will be based on written synopses of the previous week’s classes. Following each class meeting, you should construct a brief (half to ¾ of a page) synopsis of the material covered during that class period. The synopsis may be written, but may (and likely will) also include illustrations. Your synopsis should be neat, well organized, and cover all of the key information from each class meeting. Synopses from Tuesday and Thursday of the preceding week should be turned in with your quiz each Wednesday. Each synopsis will be worth 5 points.

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Probable Topic Schedule Spring, 2016

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Lecture Topic	Course Week	Reading
Course Introduction	1	Chapter 1
Principles of Historical Science and Earth History		Chapter 1 + 18
Fundamental Cycles in the Earth System: The Rock Cycle The Hydrologic Cycle and Oxygen Isotopes The Carbon Cycle and Carbon Isotopes	2	Chapter 1 + 2
Understanding Sedimentary Rocks: Depositional Environments Textures Structures Fossils	3	Chapter 3
Evolution and Extinction	4	Chapter 4
Plate Tectonics and Orogenesis	5	Chapter 6
The Geologic Time Scale Relative Ages Stratigraphy Incomplete Records Absolute Ages	6	Chapter 5
Origin and Organization of the Solid Earth Continental Accretion Cratons and Shields	7	Chapter 7
Origins of Life	8	Chapter 8
Snowball Earth		Chapter 9
Cambrian Explosion	9	Chapter 10

Early Paleozoic History		Chapter 11
Ordovician History	10	Chapter 11
Silurian- Devonian History		
Carboniferous – Permian History	11	Chapter 12
Triassic History and Pangea		Chapter 13
Jurassic History	12	Chapter 13
Cretaceous History, Inland Seas and Black Shales, Extinction		
Birth and Evolution of the Cordillera	13	Chapter 13 + 14
Paleogene History		Chapter 14
Neogene History		Chapter 15
Pleistocene Glaciation	14	Chapter 15
Human Evolution and Influence		Chapter 15 + 17
Final Exam	May 5	

Lab Topic	Course Week
Program Assessment	1
Relative Time	
Rock Review	2
Interpreting Rocks	3
Invertebrate Paleontology	4
Plate Tectonics	5
Biostratigraphy	6
Radioisotope Dating	7
Regional Metamorphism and Tectonics	8
Geologic Maps and Earth History	9
Paleoecology	10
Field Trip – Port Clinton	11
Port Clinton Work Day	12
Paleoclimatology	13
Field Trip – Antietam Reservoir	14