

**Geology 106 – Environmental Geology
Syllabus and Schedule – Spring 2009**

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Office Hours: open door or by appt. - See web site for availability

8-9:22 TTh O'Leary 232
Lab W 1-5, Th 1-5 O'Leary 218
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Required Materials: Text – Montgomery, *Environmental Geology*, 8th ed.
Customized lab text – *Environmental Geology Lab – GEOL 106 Kirby*
3-ring binder for handouts, writing assignments

Grading policy options:

Option One: Four tests 52% Writing assignments 10% Comprehensive final exam 20% Lab 18%

Student must turn in all short writing exercises associated with lecture, two of which will be dropped. The lowest test grade other than the final will be dropped.

Option Two: Four tests 60% Writing assignments 2% Comprehensive final exam 20% Lab 18%

Student must turn in two of the short writing exercises associated with lecture, none of which will be dropped. The lowest test grade other than the final will be dropped.

How Grading Options are invoked: If a student turns in 3 less than all of the writing assignments, Grading Option Two will be applied automatically. If a student turns in all but 2 of the writing assignments and wishes to use Grading Option Two, the student must inform the instructor during the last week of class, otherwise Grading Option One will be applied. Brief quizzes or writing exercises may be used to check that students read the assigned material; these exercises will be included as part of the writing grade in both options.

Many students find they benefit greatly in terms of what they learn and how their grades turn out by doing the writing assignments, many of which are at least started in class. Other students would prefer to depend on doing well on the tests without doing all the writing. If you are unsure which option you will ultimately choose, start by turning in all writing assignments, especially up through the time you get the first two tests back. Then you will have better idea which option is for you.

Class participation and a positive grade trend can exhibit some positive influence on grades in borderline cases. Extra credit may be offered as follows: The instructor will announce lectures that students can attend and write approximately one typed page about them. Up to three such assignments can be completed. One to three points (one for each assignment) out of 100 points for the final grade will be awarded, with the percentages of other grade above adjusted accordingly.

Grading Scale: A > 92.99, A- > 90; B+ > 87.5; B > 83.5; B- > 80, C+ > 77.5; C > 73.5; C- > 70; D > 60

Policies:

There is no way to make up outdoor labs.

The syllabus may change, and it is not the final word on assignments. Changes will be announced in class, lab or by Email. You will be responsible for being aware of such changes whether or not you attend class when they are announced. Students are responsible for acquiring all handouts distributed in class.

All work on tests must be solely your own. Some writing, discussion and laboratory assignments will be at least partially cooperative efforts; such assignments will be clearly designated during class.

Writing assignments will be described in class, and will be due at the end of a class. **Late assignments will not be accepted.** Rare exceptions may be made for special circumstances, especially in case of emergency or serious illness. Please do not ask me to accept late papers "because I left it in my room" or for similar reasons. You are strongly advised to use a drop for an assignment due to illness rather than convenience. Writing assignments designated as optional should not be turned in, but you should check yours against the key on the web.

All tests will be closed book. Material covered in the laboratory is fair game for the tests. However, for the final exam, you may bring a "crib sheet" - an 8 1/2"x11" sheet of paper with as much information as you can cram into both sides. You must use only your own handwriting for this sheet.

Only if you have a serious illness (sick enough to be in bed) or other emergency (serious enough to get an excuse from your dean) *and* if you arrange beforehand with me will you be allowed to take a makeup exam.

All assignments must have your name on them, and all of more than one page **must be stapled** together to be accepted.

Keys to success in Geology 106:

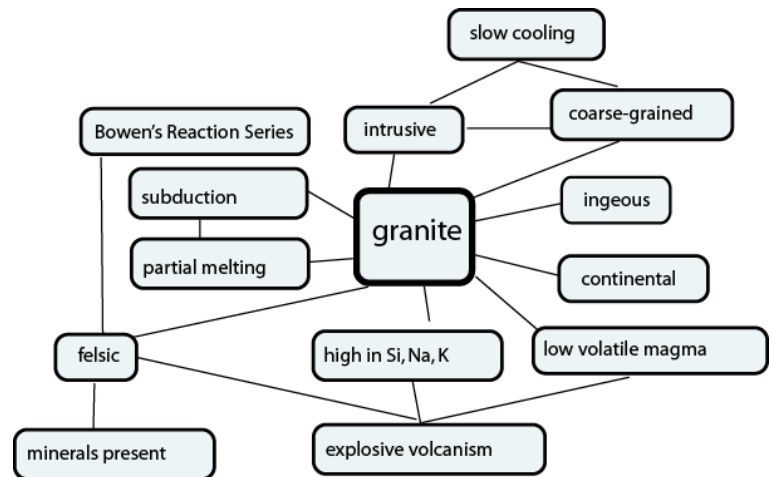
If you need special accommodations for your successful completion of this class, please discuss them with me.

Keys to writing assignments can be found on my GEOL 106 web site after 1) a required writing assignment has been turned in, or 2) a few days have passed since an optional writing assignment has been given out.

Class discussion, small group work, and writing exercises will be an essential part of the learning process in this course. Active participation in daily group work and classroom exercises (keys will be posted on my web site) will be expected; you will be teaching and learning from each other a great deal. Class discussion and small group work will be dependent upon the reading/writing being done thoroughly. I strongly encourage you to ask questions in class, in lab, in my office or in the hallway. I strongly encourage the formation of informal study groups. You will likely understand the material more thoroughly due to participation in such a group. I do not take attendance (except for field labs), but **grades correlate very strongly with class attendance**. Come to class unless you are really sick.

I expect you to work hard and participate. I expect you to read the assigned material before class and lab, take notes, and participate in class activities. You can expect that I will strive to evaluate you fairly. To succeed on tests, after reading and attending class, I suggest that you review your notes, use the book to help clear up material covered in class, go over the writing assignments and keys, ask questions of other students and me, and repeat these steps as necessary. Put concepts in your own words (on paper or aloud to others) for better understanding; attempt to tie concepts and terms together that relate. Practice using the terminology from the course material for greater familiarity.

The diagram to the right is a concept map. I'm using it to illustrate the idea that simply memorizing is not sufficient in this course. Instead, students will need to learn some new vocabulary, and in order to really "get it," they'll need to link concepts. E.g., **granite** is an igneous rock, but you'll need to link that word to a lot of other concepts (some of which are shown) in order to do well in the class. Many of you will also find it valuable to link images to concepts.



My schedule is posted outside my door and at www.facstaff.bucknell.edu/kirby/scheduleSp09.htm. In lieu of specific office hours, I have an open door policy. If I'm in my office, 99% of the time, I'll be happy and able to speak with you. It is best to ask in person, call, or email to set up a time to make sure I haven't stepped out of the office. I try to leave a note with my location by my door if I've stepped out.

Stay engaged. Your grades will probably reflect your interest. Let's have fun learning about the Earth.

Field Trips

This course includes several required field trips that are an integral part of the course. Be prepared for inclement weather. *Field trips depart the 7th Street side of O'Leary promptly at 1:00pm*, and field trips will usually require almost four hours. **You will not be allowed on the bus with open-toed shoes.**

It is your responsibility to arrive at the O'Leary Building fully prepared for field trip departure. Bring any water/snacks/medicine/etc. that you might need. We usually can't stop during field trips for bathroom breaks. Please inform the instructor of conditions that might require special accommodation during field trips.

Plan to wear/bring the following items for GEOL 106 field trips:

- old clothes
- sturdy boots/shoes (**you can't get on the bus with open-toed shoes**)
- long pants (recommended)
- hat/sun screen
- rain jacket/sufficient warm clothes
- notebook
- clipboard or something to write on
- pen
- pencil and eraser
- drinking water

Optional items - rain pants, camera, and bug repellent.

The Department of Geology will provide additional field equipment.

**Geology 106 – Environmental Geology
Schedule – Spring 2009 - TTh**

The “Class Reading Assignment” column below refers to your text. The numbers in the “Lab” column below refer to your lab manual. These sections should be read before attending class.

Approximate schedule (subject to revision)

Day	Dates	Topic	Class Reading Assignment	Lab (field labs in bold)
Th	Jan 15	Introductions; Overview Minerals and Rocks	CH 1 CH 2	1 Minerals, CH 1
T, Th	Jan 20-22	Minerals and Rocks Tectonics	CH 3	2 Igneous p. 31-39 Metamorphic p. 101-104
T, Th	Jan 27-29	Volcanoes	CH 5	3 Topographic Maps CH 4**
T, Th	Feb 3-5	Earthquakes Streams and Flooding	CH 4 CH 6	4 Geologic Structures, Maps p. 135-143
T, Th	Feb 10-12	Streams and Flooding Test Thursday through Earthquakes Coastal Zones and Processes	CH 7	5 Sedimentary Rocks CH 3
T, Th	Feb 17-19	Coastal Zones and Processes Mass Movement	CH 8	6 Geologic Time p. 119-131
T, Th	Feb 24-26	Mass Movement Waste Disposal	p. 372-389	7 Landfill
T, Th	Mar 3-5	Water Resources Test Thursday through Mass Movement continue Water Resources	CH 11	8 Bear Valley Strip Mine
MF	Mar 9-13	Spring Break		
T, Th	Mar 17-19	Water Resources Soils and Weathering	CH 12	9 Nippenose Valley – rough map and karst
T, Th	Mar 24-26	Mineral and Rock Resources Climate Change	CH 13 CH 10	10 AMD treatment
T, Th	Mar 31- Apr 2	Climate Change Test Thursday through Min'l & Rock Res Fossil Fuels	CH 14	11 TBA
T, Th	Apr 7-9	Fossil Fuels Alternative Energy	CH 15	12 Geology and Stream Chemistry
T, Th	Apr 14-16	Alternative Energy Water Pollution		13 Water/Wastewater Treatment; Text p. 388-392
T, Th	Apr 21-23	Water Pollution Test Thursday through Alt Energy		14 Revise lab 10, 12 during lab time
T	Apr 28	Air Pollution	CH 18	
		Final Exam TBA		

**Skip sections on PLS, GPS, UTM, Compass bearings.

Comprehensive Final Exam time and location to be announced by the registrar. As per university policy, the final exam must be offered only at the time designated by the registrar.