GEOL 201: Observing the Earth  
Fall 2013

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INTRODUCTION  
This course is both (A) a field-based introductory course in physical geology and (B) an exploration of the role of geology in forming physical and social landscapes. Inquiry-based learning during field trips forms the core of the course, however we will supplement this learning with classroom activities and lectures on fundamental geologic principles. The course will culminate with a three-day field trip across the Southern Appalachian Mountains, where we will tie together and apply many of the course's themes.

LEARNING OUTCOMES  
The course is designed to provide you with the fundamentals and inspiration to pursue an appreciation of geologic phenomena, be it in a career or as an educated citizen. Students who successfully complete this course will be able to:

1. Identify the major rocks, minerals and other important Earth materials in the laboratory and field.
2. Develop and probe hypotheses about the origin and significance of Earth materials for geology, physical & cultural landscapes, and as natural resources.
3. Understand the composition and mechanics of Earth with a focus on the ‘solid Earth’ and plate tectonics.
4. Interpret all aspects of the geologic history of southeastern North America from 1 billion years ago to the present as an introduction to Earth history.
5. Develop skills of inquiry-based learning.
6. Become proficient in the collection of geologic field observations.
7. Gain an appreciation and rudimentary understanding of the role of geologic processes on humanity and vice versa.
CLASS LOGISTICS
Tuesday 1:15 – 5:40 pm, EWS 209 or meet by the vans during days with field trips (underlined on schedule)
Thursday 1:15 – 2:30 PM, EWS 209,

On many Tuesdays we will head directly into the field from 1:15 – 5:30 PM. A few Tuesdays will be composed of a four-hour classroom-based laboratory or lesson. The Thursday meeting will be used as necessary, to fulfill learning goals that require classroom facilities.

We will have two weekend day-long field trips in addition to the three-day Appalachian field trip. All field trips are mandatory. If you have a conflict that absolutely cannot be changed, the last resort is to make arrangements with the instructors for an alternative assignment. These arrangements must be made at least two weeks in advance, and require permission of the professor.

FIELD TRIPS
Whereas we will do our very best to return to campus by 5:30 PM each Tuesday, there may be unforeseen circumstances (such as traffic, weather, or exceptional geology) that could delay our return. Whenever possible, we will provide you with advanced notice of a potentially late return time. It will be helpful and appreciated if you can maintain a flexible schedule through 6 PM or so on Tuesday afternoons, although most weeks we will have you home on time.

Fieldwork can be one of the most rewarding aspects of geology, but it is not always comfortable. You can limit your discomfort and maximize your learning by being prepared for the unexpected. Most importantly, you will find that patience, flexibility, respect, and a good sense of humor will get you through the tough times that are inevitable. Sturdy, but comfortable, shoes are essential. Carry a raincoat, a sweater and a winter hat in a comfortable knapsack. Bug repellant and sunscreen can be useful during the warmer months. One or more water bottles are important, no matter the season. Snacks are never a bad idea.

A more comprehensive list of helpful camping gear for weekend field trips will be provided as those trips approach. The Department of Earth & Ocean Sciences has the vast majority of camping and cooking supplies required for the Appalachian trip, although you will need to arrange for your own outdoor clothing, sleeping pad and sleeping bag. Many of these items can be rented for a nominal fee from the University at the Strom Thurmond Wellness Center – see Susie for guidance.

GRADES
2 exams (20% each)
1 regional geology term paper (10%)
4 quizzes (2 scheduled, ~2 unannounced) (20%)
Laboratory & Homework assignments (10%)
Participation (20%)
RESOURCES
I have requested that the University bookstore supply the text, *Essentials of Geology*. In addition, course participation requires the purchase of a useful field book.


2. A field notebook. Field notebooks are best if portable (~5” x 7”) and hardbound.

ATTENDANCE
Due to the field-based nature of the course, you are required to attend every lab (Tuesday and weekend) session. Excused absences require written documentation and a legitimate academic, medical, or extra-curricular justification. Advance written or verbal (voice-mail is acceptable) communication of an expected excused absence is required. See University policies related to attendance:
http://bulletin.sc.edu/content.php?catoid=10&navoid=1781&hl=&returnto=search

ACADEMIC INTEGRITY
You are encouraged to collaborate with your fellow students. However, verbatim duplication or other forms of plagiarism are unacceptable. See the university policy on academic responsibility at the URL: http://www.sc.edu/academicintegrity/policy.html
## Tentative Schedule (updated August 19, 2013)

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday (1:15-6 pm)</th>
<th>Thursday (1:15-2:30 pm)</th>
<th>Notes</th>
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<td>1: Aug. 22</td>
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<td>Introduction</td>
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| 2: Aug. 27, 29 | Rocks and Minerals | Quiz: Rocks and minerals | For Tues: Review pgs. 71-95  
Lab: Rocks and Minerals | Quiz - practical |
Internal Earth | Quiz - practical |
| | Igneous & Metamorphic | | |
| Sept. 7th | Forty Acre Rock Field Trip, Saturday, Sept. 7, 8 am – 2 pm | | |
| 4: Sept. 10, 12 | Lake Murray Spillway | Plate Tectonics | Tuesday: Lake Murray Spillway Field Trip  
Thurs: Review Chap. 2 |
| 5: Sept. 17, 19 | Geologic Time | Review | For Tues: Review Chap. 11  
Plate Boundaries | |
| 6: Sept. 24, 26 | Exam 1 | Weathering | Exam – written and practical  
Thurs: Review pgs. 150-7 |
| 7: Oct. 1, 3 | Liberty Hill Quarry | Sediments & Sedimentary | Tuesday: Liberty Hill Quarry Field Trip  
Rocks | Thurs: Review Chap. 6 |
| 8: Oct. 8, 10 | Peachtree Rock | Mountain Building | Tuesday: Peachtree Rock Field Trip  
Thurs: Review Chap. 9 |
| Oct. 11-13 | Appalachian Field Trip, Friday-Sunday, October 11-13 | | |
| 9: Oct. 15 | Appalachian Recap | Fall Break | |
| 10: Oct. 22, 24 | Rivers | Regional Geology Paper -  
Sediments | For Tues: Review Chap. 14  
Work Session | |
| 11: Oct. 29, 31 | GSA – Break | GSA – Break | |
| 12: Nov. 5, 7 | Congaree River | Climate | Tuesday: Congaree River Field Trip  
Thurs: Review pgs. 551-564 |
| Nov. 9th or 17th | Folly Island Field Trip, Saturday, November 9th or Sunday Nov. 17th, 9am-4pm | | |
| 13: Nov. 12, 14 | Regional Geology Paper –  
Work Session | Resources | Thurs: Review Chap. 12 |
| 14: Nov. 19, 21 | Groundwater | Regional Geology Paper –  
TBD | For Tues: Review Chap. 473  
Work Session | |
| 15: Nov. 26, 28 | Review | Thanksgiving – no class | Regional Geology Paper  
Regional Geology - Due | Due – Nov. 26th |
| 16: Dec. 3, 5 | Review | Exam 2 (option 1) | open |
| | | Exam 2 (option 2) | | |