Geology 103 – The Dynamic Earth
Syllabus and Schedule – Spring 2003

Dr. Carl Kirby
Office: 226 O’Leary
9:30-10:52 TTh O’Leary 232
Lab T 1-5 O’Leary 218
www.facstaff.bucknell.edu/kirby/
577-1385; kirby@bucknell.edu
Office Hours: open door or by appt. - See web site for availability

Required Materials:
Text – Press and Siever, Understanding Earth, 3rd ed.
$4.75 for Pioneer Coal Mine Tour

Grading policy options:
Option One: Four tests 50% Writing assignments 10% Comprehensive final exam 20% Lab 20%
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 56% Writing assignments 4% Comprehensive final exam 20% Lab 20%
Student must turn in 1/4 of 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 less than 3/4 of the writing assignments, Grading Option Two will be applied automatically. If a student turns in 3/4 or more 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 will be frequently used to check that students read the assigned material; theses 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 can exhibit a positive influence on grades in borderline cases.

Policies:
There is no way to make up outdoor labs because no other classes are going on the same field trips.
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 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.

The four 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 8½”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.
Keys to success in Geology 103:

If any of you need special accommodations for your successful completion of this class, feel free to discuss them with me.

Keys to writing assignments can be found on my GEOL 103 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 group work and classroom exercises will be expected; you will be teaching and learning from each other a great deal. Class discussion and daily 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.

My schedule is posted at [http://www.facstaff.bucknell.edu/kirby/scheduleSp02.htm](http://www.facstaff.bucknell.edu/kirby/scheduleSp02.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. Please note that I am an Assistant Dean, and I spend 8-10 hours per week in Marts Hall 207 in that capacity. You can see me for help with class during those hours only if I do not have students needing administrative help in that office.

Stay engaged. Your grades will probably reflect your interest. Don’t forget to have fun in the process.

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. We can usually drop you near the gym for an athletic practice.

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 will be unable to stop during field trips to make purchases or use bathroom facilities. Please inform the instructor of conditions that might require special accommodation during field trips.

Plan to wear/bring the following items for GEOL 103 field trips:

- old clothes
- sturdy boots/shoes (no flip flops or Tevas)
- long pants (recommended)
- hat/sun screen
- rain jacket/sufficient warm clothes
- notebook
- clipboard
- pen
- pencil and eraser
- drinking water
- optional items - rain pants, disposable camera, and bug repellant.

The Department of Geology will provide - rock hammer, hand lens, acid bottle, sample bags, safety hat/vest, and any additional field equipment.

The temperature inside the Pioneer Coal Mine will be a constant 55° F.
## Geology 103 – The Dynamic Earth
### Schedule – Spring 2003

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

### Approximate schedule (subject to revision)

<table>
<thead>
<tr>
<th>Day</th>
<th>Dates</th>
<th>Topic</th>
<th>Class Reading Assignment</th>
<th>Lab (field labs in bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Th</td>
<td>Jan 16</td>
<td>Introductions; How does geology relate to me?; Overview: Building a Planet</td>
<td>1-23</td>
<td>no lab</td>
</tr>
<tr>
<td>TTh</td>
<td>21, 23</td>
<td>Minerals as Building Blocks for Rocks: Properties, Identification; Intro to Rocks: The Rock Cycle</td>
<td>25-51 53-65 (see also lab book 66-75)</td>
<td>1 Minerals (37-65)</td>
</tr>
<tr>
<td>TTh</td>
<td>28, 30</td>
<td>Igneous Rocks Volcanism</td>
<td>67-89 91-115</td>
<td>2 Igneous Rocks (76-93)</td>
</tr>
<tr>
<td>TTh</td>
<td>Feb 4, 6</td>
<td>Volcanism Weathering and Erosion</td>
<td>117-139</td>
<td>3 Topographic Maps (144-168)</td>
</tr>
<tr>
<td>TTh</td>
<td>11, 13</td>
<td>Sediments and Sedimentary Rocks</td>
<td>141-167</td>
<td>4 Test through Volcanism</td>
</tr>
<tr>
<td>TTh</td>
<td>18, 20</td>
<td>Metamorphic Rocks Rock Deformation: Folds and Faults</td>
<td>169-185 211-227</td>
<td>5 Metamorphic Rocks (94-113)</td>
</tr>
<tr>
<td>TTh</td>
<td>Mar 4, 6</td>
<td>Geologic Time Test Thursday through Deformation</td>
<td>7 Metamorphic Rocks (114-127)</td>
<td></td>
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<tr>
<td>TTh</td>
<td>10-14</td>
<td>Spring Break</td>
<td>No lab</td>
<td></td>
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<tr>
<td>TTh</td>
<td>18, 20</td>
<td>Mass Wasting Hydrologic Cycle; Surface and Ground Water</td>
<td>231-251 253-279</td>
<td>8 Bear Valley Strip Mine</td>
</tr>
<tr>
<td>TTh</td>
<td>25, 27</td>
<td>Hydrologic Cycle; Surface and Ground Water Streams and Sediment Transport</td>
<td>281-305</td>
<td>9 Pioneer Coal Mine, Centralia Mine Fire</td>
</tr>
<tr>
<td>TTh</td>
<td>Apr 1, 3</td>
<td>Streams and Sediment Transport Test Thursday through Ground Water</td>
<td>10 Nippenose Valley – mapping</td>
<td></td>
</tr>
<tr>
<td>TTh</td>
<td>8, 10</td>
<td>Climate Change Oceans and Coastal Processes</td>
<td>346-355 375-407</td>
<td>11 finish Nippenose mapping indoors</td>
</tr>
<tr>
<td>TTh</td>
<td>15, 17</td>
<td>Oceans and Coastal Processes; Earthquakes</td>
<td>411-433</td>
<td>12 Geology and Stream Chemistry</td>
</tr>
<tr>
<td>TTh</td>
<td>22, 24</td>
<td>Exploring Earth’s Interior</td>
<td>435-451</td>
<td>13 Revision of Tall Timbers and Bear Valley Labs</td>
</tr>
<tr>
<td>TTh</td>
<td></td>
<td>Plate Tectonics: The Unifying Theory</td>
<td>453-483</td>
<td>No lab unless field trip rescheduled due to weather</td>
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<td>T</td>
<td>29</td>
<td>Test through Tectonics</td>
<td>No lab</td>
<td></td>
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</table>

- 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.