Structural Geology Lab

Structural Geology LAB Syllabus

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Office Hours: Mon: 11-12 am, 1-5 pm; Tues: 10-11 am, 2-4 pm; Wed: 11-12 am; Thurs: 10-11 am. Come by any time during office hours, or call or email me to ask questions or schedule an appointment.

Class meeting time and place: W: 2:30 – 5:00, Room 225 Miller Science

Course Description:
This lab is a comprehensive, hands-on introduction to techniques commonly used to solve structural geology problems, including construction of geologic cross-sections. As is typically the case, the lab has a required lab fee.

Text and Materials:
- Laboratory manual, available at Jack Backers or Barnes & Noble
- Drafting materials which are available from Barnes & Noble
- A 3-ring binder for the manual
- Calculator with trig functions

You will need all of these supplies before our first laboratory meeting on Wednesday, January 17, 2017. Please let me know immediately if there are any problems obtaining the drafting materials or laboratory manual.

The laboratory manual consists of explanations and exercises that explain basic techniques used in the study of structural geology. These techniques will be utilized during this course and at field camp. Do not come to the lab totally "cold", not having looked at the lab or tried to work the problems. You will spend the whole lab time just reading the manual. The problems will baffle you because you didn’t have time to read the text carefully. You will spend countless hours after the lab meeting trying to work the problems and quite possibly not finish the lab before the deadline. When that happens you are in a double bind—not only do you lose points because you didn't turn the lab in on time, but you also have to move on to the next lab. As a result, there may be lab techniques that you never master because you didn’t work certain problems—and that will hit you hard at test time!

The Game Plan:
- Read each lab write-up in the manual before coming to the lab and work ahead on the lab problems!
- These laboratory exercises build on each other. Some of the techniques you learn in early labs are used in later labs. It is important to stay on top of these exercises, so don't get behind!
- The concepts get progressively more challenging and build upon earlier exercises. Thus, it is essential to give adequate study time to each lab
- Labs will usually be due the following Monday after they are assigned, at 10am.
- *NOTE: Labs may be due early during weeks in which there is a field trip or other conflict.
Tentative LAB Schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>LAB</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Jan 17</td>
<td>1</td>
<td>Basic Drafting Techniques, Trigonometry Review, Map Scales</td>
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<tr>
<td>Jan 24</td>
<td>2</td>
<td>Topographic maps and profiles, contouring</td>
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<tr>
<td>Jan 31</td>
<td>3</td>
<td>Geologic maps and cross-sections; faults &amp; folds; block diagrams</td>
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<tr>
<td>Feb 7</td>
<td>4</td>
<td>Outcrop patterns; contact-contour intersections; 3-pt problems; etc.</td>
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<tr>
<td>Feb 14</td>
<td>5</td>
<td>Thickness &amp; Depth determinations; apparent dip; rake</td>
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<tr>
<td>Feb 21</td>
<td></td>
<td>Practice Midterm</td>
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<tr>
<td>Feb 28</td>
<td></td>
<td><strong>Midterm Exam</strong></td>
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<tr>
<td>Mar 7</td>
<td>6</td>
<td>Fault plane problems; geologic histories</td>
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<tr>
<td>Mar 21</td>
<td>7</td>
<td>Stereonets, part 1 – Introduction</td>
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<td></td>
<td></td>
<td><strong>Spring Break</strong> – no lab</td>
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<tr>
<td>Mar 21</td>
<td>7</td>
<td>Stereonets, part 1 – Introduction</td>
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<td></td>
<td></td>
<td><strong>Easter Holiday</strong> – no lab</td>
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<tr>
<td>Apr 4</td>
<td>8</td>
<td>Stereonets, part 2 – Rotational problems</td>
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<td>Apr 18</td>
<td>9</td>
<td>Stereonets, part 3 – Statistical Applications</td>
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<tr>
<td>Apr 25</td>
<td>10</td>
<td>Geologic history, field trip data processing; review</td>
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<tr>
<td>May 2</td>
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<td><strong>Lab Final Exam</strong></td>
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**Attendance**

It is imperative that you attend all labs, plan on staying for the entire lab period, and remain focused while in class. There will be a lot of information that will be given, and you must stay on top of this lab. This is also your chance to ask questions. Questions are encouraged and welcome; if you do not understand the concepts, I guarantee you are not alone. Be bold and ask questions!

**Important Information:**

- Laboratory exercises are explained in class on Wednesday afternoon and numerous examples are provided.
  - The lab will usually begin with a short presentation that has lots of tips about how to work that week’s problems. If you come late, you will miss part or all of the presentation. *Thus it is very important to come to lab on time!* The lab
instructor is not going to repeat the tips and instructions.

- It is very important to attend EVERY lab session. Laboratory exercises are due on Monday, because…..
  - On any Tuesday, you should already be reading the next lab and starting to work the problems. If you do, then when you come to lab the following day, you will have had time to read the new material and to think about the problems. If you have been working ahead, as suggested, then you should be able to finish all the problems during the lab session.

- Missed labs may not be made up except in the case of documented excused absences.

- Lab assignments and cross-sections are given on Wednesday at the lab meeting and are due the following Monday at 10 am. After that time, your lab write-up and cross-section will either not be accepted, or will lose major points. Once labs have been graded and returned, late work will not be accepted for that lab.
  - If you never turn in a particular lab, that will devastate your grade. Not only will you get a zero for that lab, but you will not understand the concepts in the lab, which will make it VERY difficult to work subsequent labs and to perform well on the tests.

- Can you leave lab early?
  - Yes – if you have finished. Otherwise, count on staying the whole time. Lab time is your chance to ask lots of questions. During the lab, I will be happy to answer any questions you have regarding how to work the lab exercises. On the lab tests you will, of course, be on your own—which is why it is so important to learn all of the different techniques presented each week in lab.

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**Grades**

Weekly lab exercises are graded with check marks that correspond to the following performance levels:

- √++ = excellent
- √+ = good work
- √  = average
- √- = below average
- √- - = don’t even ask!

**Late Labs:** If you turn in a lab one day late, it loses one check mark; two days late, it loses two check marks. Labs will NOT be accepted more than two days late, nor after the labs for a particular chapter have been graded and returned.

The lab is 50% of your total grade for GOL 338. Weekly lab exercises will be graded and returned. The normal grade scale will apply: 90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, < 60 = F. Your lab grade will be used to compute your final grade in the course. Lab grades will be posted on d2l so you can keep track of your progress.

**Diagnostic Exam**

University policy dictates that we administer a national standardized diagnostic exam to each student before they complete their capstone course. Your exam will be given during Field Methods in March or April. Please begin to prepare by studying the material from your core geology classes (Introductory Geology, Historical Geology, Mineralogy, and Petrology). Review materials may be available from pertinent faculty, but should be mainly from your study of class notes and textbooks.
**Field Trip**
This class has a mandatory field trip to Oklahoma April 20-23, 2017. This is a great trip to see spectacularly folded and faulted rocks in the Arbuckle and Ouachita Mountains of Oklahoma. On this field trip you will use things you have learned in the lecture, lab, and field methods. This will also be a chance for you to take your field camp supplies for a trial run and get used to mapping techniques you will use this summer. *Note: Because it is so important, the field trip is mandatory; anyone who misses the trip will receive an incomplete for the course and will have to make it up the next time Structure is taught.*

**Electronic Devices**
Laptops or other computers, cell phones, iPods, iPads, cameras, camcorders and all other electronic devices **CANNOT BE USED DURING LECTURE OR LAB** and must be turned off and put away. We have had problems with students surfing the web, texting, facebooking, emailing, gaming, etc., during class and lab. *Do not listen to music during lab time.* You need to be focused on the material and communicative with the instructor and fellow students.

**Additional Policies and Information:**

**Academic Integrity (A-9.1)**
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

**Definition of Academic Dishonesty**
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)  **Withheld Grades**  **Semester Grades Policy (A-54)**
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C. **Since you will not receive a separate grade for your participation in the lab, students requesting a WH must petition their lecture instructor for a withheld grade.**

**Students with Disabilities**
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).