

Earth Science 321: Structural Geology (CRN: 10462) ~ Fall 2005

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Office Hours: M 2-4, W 3-5, R 11-12, by appointment, or feel free to drop in most times.

Text/Lab Manual: Structural Analysis and Synthesis, 2nd ed., Rowland and Duebendorfer.
 Equipment - see list on back of this sheet.

	<u>Percent</u>	<u>Approx point values</u>
Grading Scheme: Midterm Exam (Tues., Nov. 1).....	25 %	(100 points)
Final Exam (Thurs., Dec.8 @ 8 am)	30 %	(150 points)
Exercises, Problems Sets, and Assignments	40 %	(150-200 points)
Field Trip (Nov. 18-20).....	5 %	(25 points)

<u>WEEK</u>	<u>DATE</u>	<u>LECTURE TOPICS</u> (tentative)	<u>Reading</u> {exercises}
1	9/26-9/30	Introduction & Course Overview/Review Strike and Dip/Attitudes of Lines and Planes	Ch. 1 {1.1, 1.3, 1.5, 1.9}
2	10/3-10/7	Outcrop Patterns and Structure Contours *Color and Assemble Bree Creek Quadrangle*	Ch. 2 {2.1, 2.2}
3	10/10-10/14	Three-Point Problems Geologic Maps: Attitude & Thickness from outcrop pattern	Ch. 2 <i>cont</i> {2.3} Ch. 3 {3.1, 3.2}
4	10/17-10/21	Nature of Contacts/Interpreting Geologic Maps *Stratigraphic Column for Bree Creek Quadrangle*	Ch. 3 <i>cont</i> {3.4} {3.5}
5	10/24-10/28	Geologic Structure Sections *Structure Sections (A-A' & B-B') for Bree Creek Quad*	Ch. 4 {4.1, 4.3}
6	10/31-11/4	Midterm Exam: Tuesday, Nov. 1 Stereographic Projection	{4.4} Ch. 5
7	11/7-11/11	Stereographic Projection <i>cont.</i> *Stereographic Projection Problems*	Ch. 5 {5.1, 5.2, 5.3, 5.5, 5.6, 5.8, 5.9, 5.11}
8	11/14-11/18	Folds *Stereographic Analysis of Folds in Bree Creek Quad*	Ch. 6 {6.2, 6.4} Ch. 7 {7.2}
	Nov. 18-20	FIELD TRIP TO SUNSET BAY/CAPE ARAGO	Required!
9	11/21-11/25	Faults *Analysis of Faults in Bree Creek Quad* No class: Thursday, Nov. 25	Ch. 9 {9.1, 9.2} {9.6}
10	11/28-12/2	Kinematic and Dynamic Analysis of Faults Plate Tectonics	Ch. 10 {tba} Ch. 17 {tba}
Finals	12/5-12/9	Comprehensive Final Exam: Thurs., Dec., 8, 8-10 am	Verify date and time in schedule of classes.

NOTES:

- The Schedule of Lecture Topics and Exercises may be modified, but the dates of the exams will not change. If you are prevented from taking an exam by some *verifiable* catastrophe contact me immediately. I will not give an exam after I have returned it to the other students.
- This class is designed to be an active learning experience. As such, numerous assignments will be made during the term. While I *strongly* encourage you to turn exercises and assignments in at the time specified, I have decided to invoke a late paper penalty. Late papers will be assessed a 10%/day late penalty, meaning your score will be reduced 10% per day including weekends. I will not accept an assignment after I have graded it and returned it to the other students.
- Additionally, in-class assignments may be conducted. It is your responsibility to attend class and to complete in-class activities.
- A *required*, weekend Field Trip will be conducted on the weekend of Nov. 18-20 to Sunset Bay / Cape Arago near Coos Bay and the Garden Valley folds near Roseburg. I will be making arrangements to camp at Sunset Bay State Park and will provide more information about this trip as the time draws near.
- List of Equipment needed for this course: (also refer to page xi of book)
 - ✓ Colored pencils (Use the following Sanford **Verithin** brand colors that should be available at bookstore: 735 - Canary Yellow; 757 – Peach; 736 - Yellow Ochre; 750 – Vermillion; 737 – Orange; 743 1/2 – Rose; 745 - Carmine Red; 745 1/2 - Terra Cotta; 756 - Dark Brown; 751- True Green; 740 1/2 - Sky Blue; 758 - True Blue; 740 – Ultramarine; 742 1/2 – Lavender; 742 – Violet)
 - ✓ Ruler / Straightedge (6” would be best)
 - ✓ Graph paper (need 10 squares per inch)
 - ✓ Tracing Paper (bookstore has 9”x12” tablets or could buy several larger sheets and cut down to necessary size)
 - ✓ Protractor
 - ✓ Tape (masking is probably best)
 - ✓ “Graphite” Drawing pencils (1 or 2 with hard lead, e.g., 4H or 5H)
 - ✓ Calculator with trigonometric functions
 - ✓ A good quality mechanical pencil (size 0.5). I think bookstore stocks leads up to 2H; these are fine to use.
 - ✓ Something to keep all of this equipment in one place (e.g., a large Ziploc® baggie).