

ES

Geology 453/553**Geology of the Pacific Northwest****Winter 2006**

Instructor: Dr. Jeff Myers
Office: NS214 **Ph:** 838-8365 **email:** myersj@wou.edu
Office Hours: Tues/Thurs 3:30-5:30, Wed. 12-1, by appointment, or any time my door is open

Text: Geology of Oregon, 5th edition, Orr and Orr

| Week | Topic | Reading |
|------------------|---|--|
| Jan 10/12 | Overview and introduction The geological provinces and tectonic setting of Oregon | Ch. 1-2 |
| Jan 17/19 | JAN 17TH – No Class MYERS SPEAKING IN BERKELEY The Paleozoic terranes and their history | Ch. 3-4 |
| Jan 24/26 | Cretaceous tectonics and the flat slab Eocene central Oregon: The Clarno Formation QUIZ | Ch 3: 28-30; Ch. 4: 62-63 Ch 2: 44-46 |
| Jan 31/Feb 2 | The Eocene coast: Turbidites and the great deltas Formation of the Cascades Arc | Ch. 9: 167-177; Ch 10: 203-206 Ch. 8: 141-145; |
| Feb 7/9 | The late Eocene of Oregon The middle Tertiary of central Oregon: The John Day Formation | Ch. 9: 173-180; Ch 2: 29-36, 44-46 |
| Feb 14/16 | Middle Tertiary coast: The “Willamette Embayment” (or not) above and QUIZ tues The Columbia River Flood Basalts | Ch. 10: 203-206 Ch. 7 |
| Feb 21/23 | Early Basin and Range extension Formation of the modern Coast Range and Willamette Valley | Ch. 5 Ch. 10 |
| Feb 28 – March 2 | Formation of the High Cascades High Cascades backarc: The High Lava Plains | Ch. 8 Ch. 6 |
| March 7/9 | Pleistocene glaciation and the Missoula Floods QUIZ March 9 - No class MYERS SPEAKING IN GAINESVILLE, FL | Ch. 10: 211-214 Ch. 9, 190-200; Ch. 10: 214-219 |
| Mar 14/16 | March 14 – No class MYERS SPEAKING IN GAINESVILLE, FL March 16 – Student presentations | |

FINAL EXAMINATION (verify this information in your schedule of classes)

Tuesday March 21, 6:00 – 8:00 PM, room NS 101

| Grading | % of course grade |
|----------------------|--------------------------|
| Quizzes 3 (drop one) | 30% |
| Final | 30% |
| Project | 30% |
| Participation | 10% |
| Total | 100% |

Grade Assignment:

My grading policy is simple. Grades will not be curved; however the grading scale is adjusted in such a way that the highest score given for any test or assignment is equivalent to a 100% score. Hence, if the highest grade given on a midterm is 93/100, grades will be calculated out of a score of 93, rather than 100. The mean percentage for my courses is approximately 78%, or a C+. You may feel overwhelmed by the material, but chances are that you are doing better in the class than you think.

Graded Assignments and Policies:

- Quizzes will be announced one or more lectures beforehand. Quizzes will NOT be cumulative, and may not be made up without a formal WRITTEN explanation. BLANKET EMAILS FROM YOUR COACH/CLUB ADVISER/PROFESSOR ARE NOT CONSIDERED "FORMAL", and I do not read them. The final examination WILL be cumulative.
- The project is a main component of this class. You will be expected to devote a significant amount of time outside of class to researching and preparing your project and presentation.
- If for any reason you expect to miss class, **let me know beforehand if at all possible**. If you are going to be out of town for a game, you MUST tell me personally beforehand. There are no exceptions to these rules. If you cannot reach me, contact the Office of Student Affairs (88821), and they will notify me.
- If you would benefit from an alternative testing environment I encourage you to work with the Office of Disability Services (Werner Center 012 phone 88250).
- Cheating or copying in either lab or lecture is unacceptable, and will result in a ZERO score on that assignment, and may result in consequences at the administrative level.
- I do not assign incompletes in class for any reason.
- Office hours are YOUR time. Please use them to your benefit. If you would like to organize a study group during office hours, please do it. If you need to see me at another time, please stop by my office or call. If I'm busy, please don't take it personally.

NOTE ON USE OF COMPUTER TECHNOLOGY Local and system-wide malfunctions are a normal and expected aspect of ANY computer system. It is YOUR responsibility to save files on drives that are always accessible to you (I suggest a CD RW or memory stick). Computer malfunction is NOT an excuse for turning in late or incomplete assignments.

Geology 453/553 Project

You will be required to design a field trip guide to a portion of the state of your choice. The field guide should be written for a non-technical audience, and should focus on exciting geological features within the region you select. I'd suggest that you select one or two interesting geological features in your region and write a concise, geologically accurate account about each. I'm particularly interested in outcrops or localities that tell an interesting geological story.

The goal is to produce an account which is engaging and informative. At the end of the quarter, we'll compile the accounts, and I'll xerox them for each of you.

Scope of the project:

Each student will complete a 6 page report that focuses on one or more aspects of the geology of a region of Oregon. I'd suggest a format similar to the field guide attached here. You may choose to focus on a single locality, in which case you will need to provide pictures with labels and arrows indicating critical information, or you may choose to travel through several localities, in which case you will need to provide a road log along with information about what to see at each stop.

Each student will also present a completed field trip guide to the class. Each presentation should be no more than 10 minutes in length (leaving two minutes for questions). During this time, you will briefly discuss the geological story of the localities included in your field guide. I'd suggest using overheads or a large poster to illustrate your talk. I have plenty of slides for you to use. Set up an appointment well ahead of time to select my slides.

Attached is a (draft) copy of a typical field guide paper. Note that YOURS will need to have a LOCALITY MAP, as well.

Examples of possible topics (although I suggest you choose your own)

- Snake River Gorge: Terranes
- Izee-Suplee Region
- Columbia Gorge: CRB, Missoula Floods, etc.
- Channelled Scablands/Coulees
- Sisters region
- Mt. Hood
- Newberry Monument
- Clarno Fm.
- Crater Lake
- John Day Fm.
- Klamath Terranes: Josephine Ophiolite/Riddle Mine
- Great Deltas: Cape Arago
- Oregon Dunes
- Yaquina Head
- Three Capes
- Beverly Beach/Astoria Formation
- Steens Mtn./Aldrich Desert
- Coast Range Peaks
- Shoreline erosion – Newport
- Lava Caves – Maar Volcanoes of Central Oregon
- Oregon Caves
- Willamette Valley Structure

Timeline for project objectives, and scoring breakdown: due at the BEGINNING of class on Thursday

- Week 2: Turn in a LIST of at least THREE different journal articles or book references on your area
- Week 3: Turn in COPIES OF THE FIRST PAGE of at least THREE references on your area (5 pts)
- Week 4: Turn in a detailed outline of your paper (5 pts)
- Week 6: Turn in a rough draft of your paper (10 pts)
- Week 8: Turn in a rough draft of your talk (listing figures to be used) (5 pts)
- Week 9: Final draft of paper due (45 pts)
- Week 10: PRESENTATIONS (30 pts)

Grading Criteria (75 points total)

- 1) Oral Presentation (30 points total)
 - a) Appropriateness of subject (5 points):
 - b) Presentation format (15 points):
 - overview
 - locality information
 - organization: field guide format
 - visuals
 - c) Geological content (10 points):
 - discussion of rock units, geological history, geological processes
- 2) Written Paper (45 points total)
 - a) Organization/graphics (15 points):
 - field guide format
 - maps/figures
 - b) Grammar, spelling, references (10 points)
 - c) Content (20 points):
 - intro/setting
 - geological problem/question
 - discussion of rock units and geological events
 - summary

The following is an example of a field guide article. Note that in this article a locality map is not presented (they were included at the front of the volume). Your guide MUST include a locality map. Obviously you may not have exact mileage between stops. You can estimate using a map, however. Pictures can be downloaded from public domain websites or from other sources.