

# GEOL 310 Sedimentology and Stratigraphy

Spring Term, 2007

Dr. Fred Soster

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**Office Hours:** By appointment or stop by. I am in almost every day from 8:00-11:30 a.m. and 2-5 p.m.

**Lectures:** 2:15-3:15 p.m., MWF, Rm. 226 Julian S&M. **Lab:** 8-10 a.m., Thursday, Rm. 226 Julian S&M.

**Required Text:** Principles of Sedimentology and Stratigraphy, 4<sup>th</sup> edition, by Sam Boggs, Jr. Prentice Hall, Inc., 2006, ISBN 0-13-154728-3.

## Tentative Course Outline

| <u>WEEK</u> | <u>TOPIC</u>  | <u>READING ASSIGNMENT</u> |
|-------------|---|---------------------------|
| 1-2         | Introduction<br>Epiclastic Processes<br>a. source area<br>b. transport<br>c. deposition | Ch. 1-2                   |
| 3-4         | Physical Properties of Sediments and Sedimentary Rocks                                  | Ch. 3-4                   |
| 5-6         | Siliciclastic Sedimentary Rocks   | Ch. 5                     |
| 7           | Carbonate Sedimentary Rocks   | Ch. 6                     |
| 8           | Other Sedimentary Rocks   | Ch. 7                     |
| 9-10        | Stratigraphic Principles  | Ch. 12, 14 & 15           |
| 11-13       | Depositional Environments and Facies Models   | Ch. 8-11                  |
| 14          | Sedimentary Basins  | Ch. 16                    |

## Examinations

Exam I: Thursday, March 8 (8:00-10:00 a.m.)

Exam II: Thursday, April 19 (8:00-10:00 a.m.)

Final Exam: Thursday, May 17 (1:00-4:00 p.m.)

## Laboratory

I will provide the necessary instructions and handouts during the semester. We will collect data from sediments, rocks, and outcrops. You will complete and submit lab reports for grading. You also will be required to learn how to use some software (DeltaGraph, Excel, & Illustrator) as an aid to data analysis. This laboratory work will count for 40% of your final grade.

## Laboratory Schedule

| <u>DATE</u> | <u>LAB #</u> | <u>TOPIC</u>  |
|-------------|--------------|---|
| 2/1         | 1            | Library Research, Oral Presentations, and Report Writing.<br>Due date for oral presentations and written reports: Thursday, February 8, 8:00 a.m. |
| 2/8         |              | Oral Presentations and Written Reports.   |
| 2/15        | 2            | Grain Size Analysis.<br>Due date for sieve raw data: Wednesday, February 21, 2:15 p.m.  |
| 2/22        |              | Analysis of Grain Size Data. Lab #2 Report Due Date: Thursday, March 1, 8:00 a.m.   |
| 3/1         | 3            | Sedimentary Structures.   |
| 3/8         |              | Sedimentary Structures. Lab #3 Report Due Date: Thursday, March 15, 8:00 a.m.   |
| 3/15        | 4            | Description of Sedimentary Rocks.   |
| 3/22        |              | Description of Sedimentary Rocks. Lab #4 Report Due Date: Thursday, April 5, 8:00 a.m.  |
| 4/5         | 5            | Measuring an Outcrop and Stratigraphic Columns.   |
| 4/12        |              | Measuring an Outcrop and Stratigraphic Columns. Lab #5 Due Date: Mon., April 16, 5:00 p.m.  |
| 4/19        | 6            | Correlation and Facies Analysis. Due Date: Wednesday, April 25, 5:00 p.m.   |
| 4/26        |              | Field Trip to Appalachian Mountains.  |
| 5/3         | 7            | Facies Models. Due Date: Thursday, May 5, 5:00 p.m.   |
| 5/10        |              | Facies Models.  |

### Grading

|                    |     |
|--------------------|-----|
| Exam I             | 20% |
| Exam II            | 20% |
| Final Exam         | 20% |
| Laboratory Reports | 40% |
| Lab #1             | 4%  |
| Lab #2             | 7%  |
| Lab #3             | 7%  |
| Lab #4             | 7%  |
| Lab #5             | 7%  |
| Lab #6             | 4%  |
| Lab #7             | 4%  |

A = 90% - 100%    B = 80% - 89%    C = 70% - 79%    D = 60% - 69%    F = <60%

### Academic Integrity

The University's Academic Integrity Policy is discussed on pages 5-12 of the Student Handbook and Planner. This policy will be strictly enforced and any violations will be handled according to the established procedures. You are permitted and encouraged to collaborate with other students and faculty on laboratory assignments and course material; however, any work that you turn in should be your own work and ideas that are not your own should be properly acknowledged. No collaboration of any kind is permitted when taking examinations.