

Geology 314/514: Sedimentology Fall 2009 (3 Credits)

Instructor: Eric Hiatt

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Office hours: 10:30-11:30 W & W; 3:15-4:00 M & W, and by appointment or chance.

Important Dates: 9/15/09 = Last day to add without instructor signature; 10/23 = last day to drop without late drop request or withdraw; Thanksgiving Break = November 24-30; Semester end = December 18; Graduation December. 19.

Schedule:

- **Lecture:** Monday and Wednesday 9:10-10:10 AM, Harrington Hall 217.
- **Lab:** Tuesday 12:40-4:00 PM, Harrington Hall 313.

Required for Lab: 10x-hand lens.

Grades: Laboratory* 25%

Exam 1 20%

Exam 2 20%

Homework and quizzes 10%

Final Exam 25%

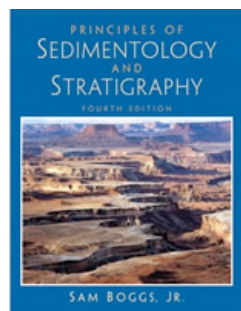
* Laboratory grade includes assignments, participation, and field notebook. All lab assignments are due at the end of lab period, unless otherwise stated.

[Here are some good resources for writing, properly citing sources, reference styles, and avoiding plagiarism.](#)

Note: You must attend and pass both lecture and lab, and turn in acceptable research reports to pass the overall course.

Grade scale: 93% and up = A; 90-92 = A-; 87-89 = B+; 83-86 = B; 80-82 = B-; 77-79 = C+; 73-76 = C; 69-72 = C-; 66-68 = D+; 63-65 = D; 60-62 = D-; <60% = F

Graduate credit: Students enrolled in 514 (graduate credit) must meet with me to plan, develop and complete an additional research project.



Required text: Boggs, S., Jr., 2006, Principles of Sedimentology and Stratigraphy, 4th ed.: Prentice Hall.

Course Objectives: The purpose of this course is to give you the knowledge and skills necessary to describe, understand, and interpret sediments, sedimentary rocks and sedimentary environments. The history of the earth is to a large degree written in sedimentary rocks. This history includes the story of life, the development of very important economic deposits (including



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examining large-scale cross beds in Bermuda.

petroleum, coal, and uranium), and the development of a global climate favorable for the development of life as we know it. The ultimate goal of this course is to give you the ability to make careful observations, and from these interpret and understand modern and ancient sedimentary environments and stratigraphic successions.

Geology 314/514 Lecture Schedule:

Week of:	Topic and reading:	Reading in Text *
Sept. 7	Introduction to sedimentology; sedimentary cycles, weathering processes; sediment production. Read textbook Introduction p. xvii-xix.	chp. 1
Sept. 14	Classification of siliciclastic rocks; sediment maturity; introduction to fluid mechanics; grain transport and deposition.	chps. 2 & 3
Sept. 21	Clastic depositional systems; sedimentary structures.	chp. 4
Sept. 28	Tectonic regimes and terrigenous clastic sediments; facies concepts.	chps. 5 & 8
Oct. 5	Fluvial depositional systems.	chp. 8
	Required field trip: All day Saturday, Oct. 10 (Bring hand lens, sack lunch, note book, jacket)	
Oct. 12	Exam 1; Eolian depositional systems.	chp. 8
Oct. 19	Marine and deltaic depositional systems; bioturbation.	chp. 9
Oct. 26	Marine shelf environments.	chps. 6 & 11
Nov. 2	Oceanographic controls on sedimentation. Shallow marine environments I.	chp. 11
Nov. 9	Exam 2. Shallow marine environments II: Shelf and tidal flat depositional environments.	chps. 9 & 11
Nov. 16	Petroleum: origin and occurrence.	chp. 10
Nov. 23	Deep water marine environments; Thanksgiving Break (Nov. 24-30).	chp 7, p. 229
Nov. 30	Pelagic Sediments.	chp. 5
Dec. 7	Introduction to biochemical and chemical sediments: carbonate rocks and evaporites. Reefs.	chp. 12
Dec. 14	Review, Final Exam (Tuesday Dec. 15 during our lab time).	

* Refers to chapters and pages in: Boggs, S., Jr., 2006, Principles of Sedimentology and Stratigraphy, 4th ed.: Prentice Hall.

Important Dates:

Last day to drop **without Late Drop Appeal**: **October 23**.

Thanksgiving Break: November 24-30.

Last Exam: Wednesday, December 16.

Last day of classes: December 18.

Graduation: December 19.

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