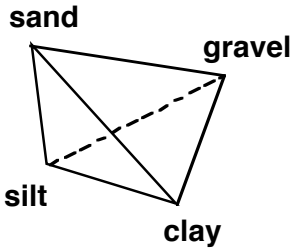
Sedimentation – GEOL 135
Fall 2003



LECTURE: M,W 9:05-10:00
LAB: W 1:55-5:00
Instructor: J Bret Bennington
Office: Gittleson 138 : Email GEOJBB@Hofstra.edu
http://people.hofstra.edu/faculty/J_B_Bennington
Office Hours: Tues / Thurs 9:00-10:00 am
Textbook: *Sedimentology and Stratigraphy*, Gary Nichols

Lecture Schedule

Week	Topic		Chapter
1	Introduction to sediments and stratigraphy		1
	Clastic sediments and rocks		2
2	Biogenic, Volcanic and Chemical sediments and rocks		3
3	Sedimentary processes and structures		4
	Sediment properties and analysis		2
4	Diagenesis	**Exam 1**	17
	Paleocurrent analysis		5
5	Sedimentary environments and facies		5
	Graphic sedimentary logs		5
6	Stratigraphy and Correlation		18, 20
7	Biostratigraphy		19
8	Geochronology		20
9	Cyclicity and Sea Level Change		21
10	Sequence Stratigraphy		21
11	Seismic Stratigraphy	**Exam 2**	22
12	Sedimentary basin analysis		23
13	Sediment - Biosphere Interactions		24

Final Exam Wednesday, December 17th, 8:00 - 10:00 AM

Laboratory Schedule

Clastic Sedimentary Rocks
Carbonate Sedimentary Rocks
Sediment Analysis
Heavy Mineral Analysis
Midterm Lab Exam
Paleocurrent Analysis
Graphic Correlation of Biostratigraphic Data
Ocean Drilling Project Simulation
Drafting and Interpreting Stratigraphic Columns

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Course Objectives

This course is designed to introduce you to the fundamentals of sedimentary geology. This includes both the study of sediments as deposits of mineral particles in surface environments (sedimentology) and the study of how sediments are deposited to form systems of sedimentary strata (stratigraphy). We will pay particular attention to learning about what different types of sedimentary rock and the patterns displayed in their layering can tell us about the environmental conditions under which they were deposited and the geological, meteorological and astronomical forces that shaped their formation.

Field Trips

Two field trips are scheduled for this course. Attendance is mandatory unless work or family commitments conflict.

Saturday, Sept. 13, 9:00 AM to 4:00 PM: Glacial sedimentology of the L.I. North Shore.

Friday, Oct. 10 – Sunday Oct 12: Sedimentary Geology of Eastern New York State.

Class presentation using Power Point

Student teams will be responsible for preparing and delivering presentations on particular types of depositional environments and the sedimentary facies produced by them. Presentations must be clear and well organized, incorporating diagrams and photos. A presentation outline and accompanying diagrams should be developed for distribution to the members of the class. Presentations will be made to the rest of the class at the end of the semester.

Reading Assignments

Lectures will be supported by periodic readings from the primary literature with questions given as homework. Questions will be graded and will form the basis for class discussions.

Lab reports

Several lab activities will require that you hand in a formal lab report detailing the methods and results of your analyses. All lab reports must be word-processed and should include computer-generated graphs and diagrams where appropriate. All work handed in must look professional!

Exams

There will be two midterm exams and a final covering the material discussed in class, labs, and in the readings. A midterm lab exam will cover sedimentary rock and sedimentary structure identification.

Course Grade

Your final grade in this class will be calculated as follows:

Exams	30%
Homework	25%
Lab reports	25%
Class presentation	20%