OCEN 682 – Coastal Sediment Processes
Spring 2013

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Textbook: None required; notes will be made available, or references will be noted.

Class: MWF 10:20-11:10 CVLB419
Office Hours: TTh 10:00AM-12:00PM or by appointment.

Course Description: The objective of this course is to familiarize the student with the characteristics of coastal sediments and the processes by which they are transported. We will alternate at regular intervals between the forcing (the fluid motion) and the sediment. In this manner we are able to link the model of transport most directly with the fluid motion responsible.

Aside from irregularly-spaced homework assignments and a take-home midterm, there will also be a project, the exact parameters of which will be discussed later.

Prerequisites: OCEN671

Grading: Homework (20%), Midterm (35%), Final Project (45%)

Grading Scale:
85-100: A
70-85: B
60-70: C
50-60: D
Below 50: F

Notice Particular to Spring 2013: I will be on travel for sustained periods through February and March. This may involve alterations to the class meeting times and/or locations. Please see the class web page for information as these instances occur.

Tentative Course Outline

The topic areas to be covered may be subject to change, depending on class progress.

Week 1 (1/14): Introduction to sediment transport properties, sediment sources, sediment classification, sieve analyses

Week 2 (1/21): Boundary layer characteristics relevant to sediment transport: steady and unsteady flow. Steady streaming. (Note: No class Monday 1/21 – Martin Luther King Day)


Week 8 (3/11): Spring break – no class


Week 10 (3/25): Rhythmic topography. Beach cusps and crescentic bars. Deterministic mechanisms vs. self-organization theory. MIDTERM (March 29: Reading day – no classes)

Week 11 (4/1): Nearshore waves and flow moments. Wave skewness and asymmetry.


Week 16 (5/3): Presentation of final projects.

Notes: Most class notes for the course are available online. These notes may be presented in class in different order than on the website. 
https://ceprofs.civil.tamu.edu/jkaihatu/teaching/ocen682/index.html

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