MSCI/GEOL 215L: Coastal Environments of the Southeastern U.S. LABORATORY
Spring 2014

BULLETIN INFORMATION
MSCI 215L = GEOL 215L Coastal Environments of the Southeastern U.S. Laboratory (1 credit hour)

Course Description:
Exercises examining coastal ecology, geomorphology, hydrogeology, shoreline processes, environmental issues, and human impact. Two laboratory hours per week. Scheduled field trips required. Not available for marine science major credit.

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Office hours: Tuesday and Thursday 1:30-2:30 PM in EWS 508A or by appointment

Teaching Assistant: Jessica Price
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Office hours: Wednesday 11- noon or by appointment in EWS 411b

Labs: Wednesday 1:10 -3:10 PM (SECTION I) 3:30-5:30 PM (SECTION II) EWS 104

COURSE OVERVIEW
Coastal Environments of the Southeast United States Lab (MSCI 215L = GEOL 215L) is designed as a companion laboratory for the Coastal Environments of the Southeast United States Lecture (MSCI 215 = GEOL 215). Each laboratory is scheduled for two hours and a field trip is required. This course is designed to teach students basic principles and concepts of processes that influence the Southeastern coastal ocean using hypothesis testing, data collection and interpretation. Students will learn about the fundamental processes and landforms found within the coastal zone and the impacts of human activity and natural disasters on these systems. Experiments will specifically highlight the coastal zones of the southeast United States, defined here as North and South Carolina, Georgia, and the east coast of Florida.

ITEMIZED LEARNING OUTCOMES
Upon successful completion of Marine Science/Geology 215L, students will be able to:
1. demonstrate understanding of the scientific method and how to formulate hypothesis, set up and conduct experiments, collect data, and explain the relevance of results;
2. demonstrate use of basic laboratory safety procedures and specialized scientific instrumentation;
3. identify the features of coastal environments and continental margins and relate the structures observed to the theories of their origin;
4. identify and describe coastal processes (wind, waves, tides) that influence the southeast United States;
5. evaluate the scientific evidence for both natural and human-induced climate change and explore the impacts of climate change on coastal ocean systems with respect to society; and
6. describe the importance of the coastal zone to environmental and economic systems.

Academic Responsibility

Faculty and students at USC are obligated to follow the USC Code of Academic Responsibility. It is expected that all class members demonstrate intellectual honesty and respect the academic rights of their classmates. If you have forgotten your responsibilities under this Code, please re-read Student Affairs Policy STAF 6.25 on USC’s web page. Even while working in groups, each person must do his/her own work! Plagiarism will not be tolerated. If this occurs you will receive a zero for the assignment and the matter will be reported to the University authorities.

REQUIRED TEXTS/SUGGESTED READINGS/MATERIALS

1. Lab Manual: Labs will be posted on Blackboard and each student will be expected to have read and to bring a printed copy to each lab class.

Attendance: Attendance is mandatory for all laboratory days including presentation preparation and student presentations. Absences will result in a zero. There will be no switching lab classes. Extenuating circumstances will be reviewed on a case-by-case basis and shall be discussed with the lab instructor.

Lab Rules:
- No food or drinks. No use of electronic devices like cell phones/ipads during lab.
- No open-toed shoes (flip flops, sandals, etc).
- There are no exceptions. If you are not prepared for the lab you will be asked to leave the lab.

ASSIGNMENTS AND/OR EXAM

1. Laboratory quizzes and exercises: Each laboratory begins with a 15 minute quiz designed to ensure that you have read the laboratory, have an initial understanding of the concepts to be learned, and know the procedures to be conducted during the class. Each lab consists of a testable set of hypotheses and objectives followed by a series of experiments. During each lab, you will be asked to collect and plot data, interpret the results, and answer specific questions that explore the collected data and relate it back to the initial concepts and hypotheses described at the beginning of class. In some cases, take home lab reports will be assigned for more in depth analysis and discussion. These are to be turned into your IA at the beginning of the next scheduled lab.

2. Field Trip: The field location will be Huntington Beach State Park and it is generally a 10-hour commitment (8am-6pm). Travel time to and from the park is considerable at 3 hours each direction. While at the park you will take turns at stations designed to improve your knowledge of the beach ecosystem including: beach profiling, grain size analysis, longshore current, tidal stage, and dune development.
a. If you are unable to attend an alternate assignment MUST be completed instead. The alternative assignment is a 5 page summary paper on a specific coastal construction project (provided by Instructor) currently occurring in the southeast United States. This is necessary to prepare for the group presentations.

3. Presentation: Each lab will be broken into groups of 3-5 students and asked to represent a particular interest group (shrimpers, county residents, Audubon society/environmentalists, and beach front property owners) regarding a coastal region being considered for major development (e.g., a manufacturing plant, hotel, etc.). The instructor acts as the representative for the major development to be constructed and is used as an additional resource for questions. You are provided 2 class periods to work together and develop a presentation that persuasively argues your viewpoints (pro or con) based on what you have learned during the course as well as external resources. Each group will be given 15 minutes with 2-3 minutes of questions from other groups. After all of the groups present, time is allotted for a debate where each group is expected to argue their points directly. The presentation grade is based on your group’s presentation and the ability to persuasively argue your position. A grading rubric will be provided.

Grading: Labs: 9 labs each worth 90 points
9 quizzes each worth 10 points
Project: Student project worth 100 points total
Field Trip Report/alternate assignment worth 50 points
Specific project information and project grade breakdown will be given to students.

Final grades will be based on a grading scale suggested as follows: A >= 90; B+ = 85-89; B = 78-84; C+ = 72-77; C = 66-71; D+ = 60-65; D = 50-59; and F <= 49.
(Decimal points are rounded to the nearest integer)

TENTATIVE LAB SCHEDULE

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<th>Lab Activity</th>
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<td>Orientation</td>
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<td>Jan. 29</td>
<td>Lab 1: Coastal Navigation</td>
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<td>Feb. 5</td>
<td>Lab 2: Tides</td>
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<td>Feb. 12</td>
<td>Lab 3: Waves</td>
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<td>Feb. 19</td>
<td>Lab 4: Wind</td>
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<td>Feb. 26</td>
<td>NO LAB (Due to attending the Ocean Sciences Meeting)</td>
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<td>Mar. 5</td>
<td>Lab 5: Coastal Sediments</td>
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<td>Mar. 12</td>
<td>NO LAB- Spring Break</td>
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<td>Mar. 19</td>
<td>Lab 6: Grain Size/Settling Velocity</td>
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<td>Apr. 2</td>
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<td>Apr. 9</td>
<td>Lab 9: Coastal Land Use Introduction</td>
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<td>Apr. 16</td>
<td>Presentation Preparation (attendance mandatory, please bring laptop)</td>
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