



WISCONSIN

UNIVERSITY OF WISCONSIN-MADISON

University of Wisconsin - Madison
College of Engineering [EGR]
Last Offered: 2013 Fall [1142]
Direct Link to this Syllabus :

<http://aefis.engr.wisc.edu/index.cfm/page/CourseAdmin.ViewABET?coursecatalogid=763&pdf=True>

1. **CIV ENGR 514, Coastal Engineering**
2. **Credits : 3 Contact Hours : 2.5**
3. **Textbook and Materials : Not required**
4. **Specific Course Information :**

- a. **Brief description of the content of the course (Course Catalog Description) :** The effect of natural forces associated with storms, hurricanes, and water-level variations on the coastal zone, and efforts made to combat these forces. Wave and storm-surge prediction, the change of waves as they approach shore, and wave forces on the shore; shore erosion and littoral drift; nearshore pollution in lakes and oceans; harbor, breakwater, and revetment design.
- b. **Pre-requisites or Co-requisites :** Civ Engr 311 or consent of instructor

- **Specific Goals for the Course :**

- a. **Course Outcomes :**

1. Introduce analysis, application, and design used in the field of coastal engineering
2. Provide knowledge of coastal engineering component including coastal water level fluctuations, water waves, coastal processes, coastal structures, and coastal development/management
3. Develop teamwork skills to solve coastal engineering issues
4. Provide opportunities for 'real-world' engineering practice in coastal flooding, shoreline erosion, navigation sedimentation, water quality pollution, and coastal habitat evanescence.

- **ABET Student Learning Outcomes :**

- (a) Ability to apply mathematics, science and engineering principles.
- (b) Ability to design and conduct experiments, analyze and interpret data.
- (c) Ability to design a system, component, or process to meet desired needs.
- (e) Ability to identify, formulate and solve engineering problems.
- (f) Understanding of professional and ethical responsibility.
- (g) Ability to communicate effectively.
- (h) The broad education necessary to understand the impact of engineering solutions in a global and societal context.
- (i) Recognition of the need for and an ability to engage in life-long learning.
- (j) Knowledge of contemporary issues.
- (k) Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

- **Program Specific Student Outcomes :** (l) An ability to explain basic concepts in management, business, public policy, and leadership
- (m) An ability to explain the importance of professional licensure

(n) An ability to understand common failure mechanisms of a component, process, or system and their causes and prevention