Instructor: David Jensen

Course Title: OIL SPILL MANAGEMENT

Course Number: ESCI 5330.001

Phone: 825-2681  e-mail: david.jensen@tamucc.edu

Office: NRC 1100  Office Hours: 11:00-1:00 F

Course Description: This course is a study of the laws and regulations governing oil spill prevention and response from a historical perspective followed by current management and operational tools for control, containment, countermeasures, cleanup and disposal of oil spills in an environmentally safe manner.

Student Learning Outcomes: Successful participation and study in this course will enable students to:

1. Demonstrate an understanding of how oil spill laws and regulations evolved.
2. Identify which agencies regulate oil spill prevention and response activities.
3. Examine basic physical/chemical properties of oil that influence oil impacts on the environment.
4. Design basic oil spill response strategies.
5. Describe the Incident Command System (ICS) and demonstrate how response actions are managed.

Evaluation Criteria: Take home assignments will be given periodically and are due one week after they have been handed out. Late assignments will be docked 5 points per weekday. No assignment will be accepted after one week past the due date. Assignments and due dates are included in the topic schedule attached.

Many lab periods will involve field exercises regarding preparation and response to an oil spill incident. Students are expected to participate in these exercises as assigned by the Instructor.

Graduate students will develop two classroom presentations involving the Oil Spill Toolkit and an alternative response technology.

Graduate students will have additional ICS training beyond the Basics of ICS.
Graduate students will act as Team Leaders during Field Exercises and Incident Command Staff Officers during the spill response exercise at the end of the semester.

Graduate students will develop Site Specific Response Plans (SSRP) for a selected geographic location.

Grading Criteria

<table>
<thead>
<tr>
<th>Grading Criteria</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination I</td>
<td>20%</td>
</tr>
<tr>
<td>Examination II</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Field Exercises and ICS</td>
<td>20%</td>
</tr>
<tr>
<td>Presentations and SSRP</td>
<td>20%</td>
</tr>
</tbody>
</table>

Policies:

Regular class attendance will be documented. Students who must miss a class are responsible for obtaining notes and instructions or assignments from other class members.

Three major examinations will be given during the semester. Students are expected to be prepared and complete these exams on the scheduled exam dates (see topic schedule attached). Students with an excused absence from the instructor must make up the exam prior to the next class period. (Note: Having more than one exam on the same date does not warrant an excused absence.) Unexcused absences for a scheduled exam will result in a grade of “0” for that exam.

Make Up Exams: Make up exams will only be given for University excused absences to attend University sanctioned events (i.e. athletic teams, environmental conference) or documented medical reasons. In those cases it is the responsibility of the student to arrange for scheduling of a make-up exam no later than one week after the regular scheduled exam.

Academic Integrity and Honesty: All students are expected to conform to college-level standards of ethics, academic integrity and honesty. By enrolling in this course, you agree to be bound by the Regulations and Procedures published in the TAMU-CC STUDENT HANDBOOK. Students are expected to do their own work and not duplicate that of others. Duplicative work will be considered cheating and the student will receive a zero on that assignment/exam.

Class Conduct: All students are expected to follow proper Classroom behavior and treat other students and the instructor with respect. Disruptive behavior will cause the student to be asked to leave the class for the day. Repeated disruptive behavior will make the student subject to dismissal from the class for the semester. Cell phones and pagers will be turned off during class time. If cell phones disrupt the class, you will be asked to leave and not return that class period. No food or drink allowed in the classroom.
NOTICE TO STUDENTS WITH DISABILITIES: Texas A&M University-Corpus Christi complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. If you suspect that you may have a disability (physical impairment, learning disability, psychiatric disability, etc.), please contact the Services for Students with Disabilities Office, located in Driftwood 101, at 825-5816. If you need disability accommodations in this class, please see me as soon as possible.

ACADEMIC ADVISING: The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College’s Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.

GRADE APPEAL PROCESS: As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

Required Textbook:


NOTE: Material covered in this course includes training required by the Occupational Safety and Health Administration (OSHA) for personnel working in Hazardous Waste Operations and Emergency Response (HAZWOPER) as described in 29 CFR 1910.120. Students seeking certification for this OSHA training MUST attend all class sessions and participate in demonstrations, experiments, and field exercises during the lab sessions – including a tabletop exercise and a simulated spill response in full personal protective equipment.
ESCI 4330/5330: Oil Spill Prevention and Response/Management
Topics and Schedule – Spring 2012

Jan. 12 Syllabus, topic schedule and assignments
Historical oil spills, spill sources and causes
Jan. 13 Physical and chemical properties of oil and oil spill movement (4)
Jan. 19 Response organizations, contingency planning, training, references (1)
Jan. 20 Field Exercise: Oil spill equipment inventory (University boat barn 11W)
Jan. 26 Environmental impacts of oil spills/Oiled wildlife rescue and rehab (13)
Jan. 27 Oil Spill Toolkit (Graduate student presentation)
Feb. 02 Oil spill responder safety and site safety plans (2)
Feb. 03 Oil Spill Toolkit (Graduate student presentation)
Feb. 09 EXAM I, Resources at Risk due
Feb. 10 Oil Spill Toolkit (Graduate student presentation), ICS staff designations. ICS Certificates due
Feb. 16 Shoreline Protection (6)
Feb. 17 Field Exercise: Shoreline characterization – University Beach
Feb. 23 Alternative Response Technology (ART): Bioremediation (12) (Graduate student presentation)
Feb. 24 ART: Chemical Treatment and In-situ Burns (7 and 8) (Graduate student presentation)
Mar. 01 Shoreline Treatment (12)
Mar. 02 Field Exercise: Anchor systems and the Fast Tank (University boat barn 11W)
Mar. 08 Oil Spill Containment Boom (5), Shoreline Characterizations due
Mar. 09 Field Exercise: Small boat handling, boom deployment, obstacle course
Mar. 12-16 SPRING BREAK
Mar. 22 EXAM II, Staging Areas due
Mar. 23 Field Exercise: Single boat and two boat coralling.
Mar. 29 Preparedness for Response Exercise Program (PREP) and Protective action strategies and tactics
Mar. 30 Field Exercise: Booming a vessel
Apr. 05 Develop site specific response plans (SSRP) for CC Marina
Apr. 06 Field Exercise: Booming the Corpus Christi Marina
Apr. 12 Sorbents (10) and Waste management (14)
Apr. 13 Field Exercise: Oil spill skimming systems (9)
Apr. 19 Establishing an EOC and SSRP for the Blind Oso
Apr. 20 Field Exercise: Booming the Blind Oso
Apr. 26 Tabletop Exercise
Apr. 27 Field Exercise: On-Water Spill Response Exercise
May 04 FINAL EXAM  Incident Action Plan due

Note: Field Exercises will be staged at C.C. Marina unless otherwise noted.