Course Title: ESCI 4370.001/101 – HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

Adjunct Faculty: Michael Garcia  
Office: NRC 1100  
Office Hours: R 1500-1700

E-mail: (Best) michael.garcia@tamucc.edu  
Phone: 361-825-3333  
*Lecture: R 1730-1920  
*Laboratory: R 1930-2120

*Lab and lecture times may be interchanged, subject to the nature of the exercises or activities.

Course Description: This course will provide a historic, current and future perspective of the HAZOPER standard and associated topics, including local, state and federal laws and regulations regarding hazardous waste operations and emergency response. This will be followed by lab-based training of techniques for handling hazardous materials, responding to spills and the proper disposal of wastes in an environmentally safe manner. Lab exercises involve hazard recognition, demonstrations of hazardous and incompatible materials, use of personal protective equipment, emergency response, spill cleanup, safe handling of hazardous substances and other training activities, as needed.


Pre-requisites/Co-requisites: Emergency Management, Science & Engineering background or permission of the instructor. ESCI 4301-Environmental Laws and Regulations (Pre-Requisite or Co-Requisite)

Course Objectives: Successful participation and study in this course will enable students to:

1. Be familiar with key standards and regulations governing the planning, prevention, response, and cleanup of hazardous materials spills.

2. Know which private entities and local, state and federal organizations are responsible for Hazardous Materials spill prevention and response.

3. Be able to demonstrate how to locate information on the hazards posed by chemicals.

4. Be able to read and interpret Safety Data Sheets and other chemical references.

5. Understand the Incident Command System and how response actions are conducted.

6. Be able to select the proper Personal Protective Equipment for a specific HAZMAT incident.
Course Requirements:

1. Regular class attendance is mandatory and will be documented. Students who must miss a class are responsible for obtaining notes and instructions or assignments from other class members. Students should inform the instructor in advance of any known absences or absences due to illnesses, especially concerning exam days and exercises.

2. 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 coordinate the make-up 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.

3. There are weekly lab activities and field exercises during this course. You must attend all lab activities and lab exercises as part of your grade for this course and to receive your 40 Hour OSHA Certificate. Except for certain activities, there will be NO MAKE-UP LABS. Most activities and all exercises are done as a team and therefore cannot be redone individually.

4. 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 two weeks past the due date.

Evaluation Criteria:

1. Homework 10%
2. Lab Activities & Exercises 10%
3. Exam I & Lab Quiz I 20%
4. Exam II & Lab Quiz I 20%
5. Tabletop and Final Exercise 15%
6. Final Exam 25%

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), instructor excused absences 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.

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 on 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 on the process, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, consult Texas A&M
University-Corpus Christi University Procedure 13.02.99.C2.01 **Student Grade Appeal Procedures** (http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage (http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school or the College of Science and Engineering Dean’s Office.

**Students With Special Needs:** The Environmental Science Program complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. If you need disability accommodations in this class, please see me as soon as possible. Please have your accommodation letter from TAMU-CC Services for Students with Disabilities Office with you when you come see me. 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. It is important that you contact them in a timely fashion as it may take several days to review requests and prepare accommodations.

**Class Conduct:**
(1) 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 removed from class for the day. Repeated disruptive behavior will make the student subject to dismissal from the class for the semester.

(2) This course is a course on the environment, health and safety. As a result, everyone is a safety officer during the progress of this course. If at any time during this course students intentionally participate in unsafe or unethical behavior, those parties involved will be removed from the class that day or indefinitely based on severity. If at any time you or someone else observes an unsafe/improper act, please inform the instructor or make an on the spot correction of their actions, immediately. If a student is found to have knowledge of an unsafe/improper act without informing the instructor, he or she may be subsequently disciplined, as well.

(3) During lecture or lab, **cell phones and other electronic devices** will be on silent or turned off during class time. As professionals in the field, it is not always practicable for individuals to turn their cell phones off or miss calls. Therefore, if you must take a call or send a message to someone during class, please leave the classroom quietly from the rear and hold your conversation outside the classroom. If cell phone disrupts the class, you will be asked to leave and not return that class period. Computers, tablets and other 21st Century educational devices are permitted during class but NEVER DURING EXAMS.

**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 that successfully complete this course in full attendance will receive a 40-Hour HAZWOPER Certificate. 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 4370 HAZARDOUS WASTE OPERATIONS
AND EMERGENCY RESPONSE
FALL 2014
Tentative Topics and Schedule

Aug. 28  LECTURE:  Introduction, Syllabus, Topic Schedule & Internet Resources Sheet
Overview of Environmental Laws and Regulations
Chapter 1: The Hazardous Materials Management System
LAB:  Complete & Print IS 100.b & 700.a Certifications (On your own)
http://training.fema.gov/IS/crslist.aspx

***Copies of ICS 100 and ICS 700 Certifications are due no later than September 11, 2014. ***

(Sept. 03) Last day to register or add classes

Sept. 04  LECTURE:  Hazardous Waste Management and Hazardous Waste Concepts
LAB:  Chapter 2: Health and Safety

Sept. 11  NIMS ICS 100 and 700 training certificates due today.
LECTURE:  Managing the Incident Video
Chapter 3: The Incident Management System
LAB:  The Emergency Operations Center Video
Developing ICS Forms and Incident Action Plans
Assign ICS Roles and Responsibilities.

Sept. 18  LECTURE:  Chemical and Physical Properties of Hazardous Materials
LAB:  Hazmat Chemistry Demonstration.

Sept. 25  LECTURE:  Chapter 5: Site Management and Control
Emergency Response Guidebook and ERG Exercise
Teamwork Video
LAB:  Review for Exam I and Lab Quiz I.

Oct. 02  LECTURE:  Exam I
LAB:  Lab Quiz I

Oct. 09  LECTURE:  Chapter 6: Identify the Problem
Site Safety Plans
LAB:  Sampling and Chain of Custody
GHS/HAZCOM 2013 and Safety Data Sheets

Oct. 16  LECTURE:  Chapter 7: Hazard and Risk Evaluation
Air Monitoring Instruments Video
LAB:  Monitoring Equipment, Selection and Techniques

Oct. 23  LECTURE:  Chapter 8: Personal Protective Clothing and Chemical Protective Clothing
Selection and Use of PPE and CPC
LAB:  Don, Fit and Doffing of SCBA’s
Static Electricity Video & Confined Space Entry Video
LAB:  Review for Exam II and Lab Quiz II.

Nov. 06  LECTURE:  Exam II
LAB:  Lab Quiz II

(Nov. 07  Last day to drop classes)

Nov. 13  LECTURE:  Chapter 11: Decontamination. Spill Response Techniques and Materials: Over-packing a Container; Decontamination Corridor Set-up;
LAB:  Tabletop Exercise

Nov. 20  LECTURE:  Chapter 12: Terminating the Incident.
LAB:  Final Exercise – Full Level A Spill Response Drill.

Nov. 27-28  Thanksgiving Holiday! No Lecture or Lab.
RECOMMENDED: Study for Final Exam

(Dec. 01  Last Day to Withdraw from the University)
(Dec. 02  Last Day of Classes)
(Dec. 03  Reading Day)

Dec. 04  LECTURE:  Final Exam
LAB:  No Lab Quiz

(Dec. 09  Last Day to Apply for December 2014 Graduation)
(Dec. 11-12  Grading Days)
(Dec. 13  Fall Commencement)
(Dec. 15  Final Grades Due by Noon)