

OESM 225: ENVIRONMENTAL SAMPLING AND ANALYTICAL TECHNIQUES

Saturdays, 7:00 a.m. - 1:00 p.m.
Bldg 5, Rm 204

Course Description:

This class provides hands-on training on developing an effective field sampling program, selecting appropriate field sampling instruments & techniques, sample handling, and laboratory analytical methods. The class focuses on methods which are accepted as reputable by the U.S. Environmental Protection Agency.

Course Objectives:

Upon completion of the course, students are expected to be able to:

- § Describe relevant environmental regulations
- § Develop a written sampling plan as specified by US EPA
- § Develop a site safety plan
- § Identify appropriate health and safety measures for environmental sampling activities
- § Select appropriate sampling techniques, sampling instruments, and analytical methods
- § Follow environmental sampling protocols as listed in the sampling plan
- § Appropriately collect and package samples
- § Complete a chain-of-custody form
- § Select and conduct appropriate equipment decontamination methods
- § Comply with regulatory requirements regarding environmental sampling

Textbook:

Hazardous Materials Training Institute, 1997. "Site Characterization: Sampling and Analysis"

Student Evaluation:

Students must complete all of the following:

Two quizzes	60 points
Final Exam	80 points
Field Exercise	60 points

Grading:**A:** 180-200**B:** 160-179**C:** 130-159**D:** 100-129**F:** <100

Final grades are permanent. Final "I" grades will not be allowed in this class. Final "N" grades will be given only in very rare and exceptional cases.

HCC Grading Policies:

- a. *No Show Policy.* Students must attend both of the first two class sessions of the semester or may be dropped unless they notify the instructor or the Division Chair in advance of their absence.
- b. *Disappear Policy.* Students may receive an "F" grade if they do not officially drop their course by the drop deadline listed in the Academic Calendar of the current HCC catalogue or the schedule of classes.

Emergency Procedures:

- a. *Location of first aid kit:* In the back of classroom by the sink.
- b. *Evacuation of building:* Use Diamond Head and Ewa stairs and proceed to parking lot #2 (by the cafeteria). Assemble and wait for further instructions from the instructor.
- c. *Accident or Injury:*
 - 1. Call 911 for an ambulance. Give essential information:
 - Location -- building and room number, road to enter campus
 - Type of emergency and victim's condition
 - Your name and phone number
 - 2. Call 284-1270 (cell - Security):
 - To notify others that an ambulance has been summoned
 - To have Campus Security escort the ambulance to the location
 - To request other assistance

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WEEK	TOPICS	COMMENTS
1	Overview of Major Environmental Laws Basic Sampling Methods <i>Class Exercise: Sampling Strategies</i>	
2	Health & Safety Planning Written Sampling Plan Data Quality Objectives	
3	Quiz 1 Planning & Preparation for Field sampling Non-intrusive Field Investigation Methods Sampling Instruments & Techniques	Quiz 1 covers weeks 1 & 2
4	Sampling Instruments & Techniques (continued)	
5	Field Analysis Equipment Decontamination Biological Sampling <i>Class Exercise: Sampling Instrument & Techniques</i>	
6	Quiz 2 EPA Test Methods Laboratory Analytical Techniques <i>Demonstration: Laboratory Analytical Techniques</i>	Quiz 2 covers weeks 3, 4, & 5
7	Creating a Sampling Plan <i>Class Exercise: Sampling Plan Generation</i>	
8	Field Exercise Comprehensive Review	
9	Final Exam	Covers weeks 1 through 8