

CEE-PUBH 5670
Hazardous Chemicals Handling and Safety
Spring Semester 2018

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Lecture and Labs (EL 221): 3:30-5:20 PM (W)
Office hours: 2:30-3:30 PM (W) or by appt.

Course Goals and Objectives: This course is designed to provide students with the necessary skills & knowledge to work safely in areas associated with hazardous chemicals. Topics covered include: regulations, exposure routes, toxicology, chemical & physical hazards, personal protective equipment, sampling, monitoring, decontamination, & emergency response procedures. **Students achieving a passing grade for the class and attending all class meetings will also be awarded a HAZWOPER 40 hour (OSHA 1910.120) completion certificate.**

Prerequisites by Topic: general chemistry

Topics	# of lectures (15)
Hazard Recognition	1
Regulatory overview (Legislation and regulations, Occupational safety and health program, medical surveillance program, OSHA's hazard communication standard)	1
Properties of Hazardous Materials (physical/chemical properties, fire and explosive hazards of chemicals, Manuals and chemical hazard coding systems)	1
Toxicology and Chemical Exposure (exposure routes, duration, frequency, limits)	1
Medical monitoring	1
Respiratory Protection (engineering controls, respiratory protection devices)	1
Air Sampling and Monitoring (sample collection methods, air monitoring instruments)	1
Personal Protective Clothing/Equipment (selection, donning/doffing, levels of protection)	2
Emergency response procedures (emergency response plan, site control, spill control, decontamination, field activities)	1
Health and Safety Programs and Plans	1
Special Operations (confined space entry procedures, material handling, shipping/transport)	1
Lab Exercises (Spill Response, Sampling at Hazardous Waste Site)	3

Suggested text and readings:

Class notes and hand-outs

See OSHA link: https://www.osha.gov/dte/training_faqs.html

Grading:

Quizzes	70%
Homework/labs/projects	15%
<u>Final Exam</u>	<u>15%</u>

General grading guidelines: A = 100-90%, B = 89-80%, C = 79-70%, D = 69-60%
Late assignments receive only 50% of the graded point total.

Dates of interest: Last day of classes (4/27). Final exam (5/2), (3:30-5:20 PM).