

Chemical Engineering 5310

Laboratory Safety

Fall Semester, 2004

Purpose of Course: To provide the technical and cultural background necessary to operate and manage a laboratory safely.

Course credit: 1 credit

Course times: TTh 1:05 - 2:44 PM 104A Chemical Sciences, 4 weeks
Classes meet: Nov. 2, 4, 16, 18, 30, Dec. 7, 9, 14, 16
(No class week of Nov. 8 or Thanksgiving week)

Instructors: Dr. Daniel A. Crowl, Herbert H. Dow Professor for Chemical Process Safety
202B Chemical and Engineering Sciences Building
487-3221
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Office hours: By appointment.

Web Page: www.dancrowl.com
Click on the course page tab.

Prerequisites: Graduate student status

Grading: _____ Certificate of completion will be placed in student record file for regulatory purposes.
10% Homework Assignments
45% Exam on Department Safety Manual and course material
45% on Job Safety Analysis Project

Textbook: None.
Handouts and supplemental references will be used extensively.
Copies of lecture overheads will be provided.

Exams: One towards end of course on course material.

Projects: A major project will be assigned involving a Job Safety Assessment (JSA) evaluation of an actual experiment. This will include the completion of the JSA form, and a presentation to the class on what hazards were identified and how they were managed.

Attendance: Attendance is mandatory due to regulatory training requirements. You must sign an attendance sheet for each class. If you miss more than two classes you will need to take the course over.

(OVER)

Laboratory Inspections: During the 3rd week of class (week of Dec. 1) we will do a number of laboratory inspections. If you have a lab that you would like to have inspected, please volunteer your lab.

Course Outline: Week Content

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| 1 | Introduction
Defining the hazardous properties of chemicals.
Toxicology
Flammability
Reactivity
Industrial hygiene
Safety Management |
| 2 | Regulatory requirements.
Safety Manual
Chemical Storage
Chemical Inventory
Safety Equipment
Safety Procedures
Hazardous Waste Disposal |
| 3 | Laboratory inspections
Hazard identification, including laboratory visits.
Introduction to Job Safety Assessment (JSA). |
| 4 | Job Safety Assessments, including individual presentations.
Exam |