



CME 470 Professionalism, Ethics, and Safety

Fall 2008

University of Kentucky College of Engineering, Paducah

Lecture: 10:10AM-11:00AM M CLC 202

Course Web Page: <http://www.engr.uky.edu/~silverdl/CME470/>

INSTRUCTOR:	Dr. David L. Silverstein	
	209 Crounse Hall (270) 534-3132 (Office) SilverDL@engr.uky.edu	Office Hours: Open door policy-- when I am there, I am usually available. To guarantee availability, make an appointment.
CATALOG COURSE SUMMARY:	Detailed lectures and supervised discussions on standards of ethics and safety as they relate to the engineering profession. Emphasis will be on safety in plant design and safety practice in the laboratory and plant. Sociologic problems inherent with air, water, and waste management and professional ethics will be addressed.. Prereq: Engineering standing.	
TEXT:	<i>Chemical Process Safety: Fundamentals with Applications, 2nd Edition</i> by Daniel Crowl. Additional materials will be made available during the semester. Significant out-of-class reading and viewing assignments will be made.	
COURSE OBJECTIVES:	This course is designed to develop in the student an understanding and appreciation of safety practices in the laboratory and chemical process industry through the use of lectures, AV material and problem solving sessions. Professionalism and ethical behavior are discussed with the view that they are characteristics expected of all scientists and engineers.	
COURSE EXPECTATIONS:	At the conclusion of this course, you should be able to: <ol style="list-style-type: none"> 1) Analyze and deal with potential and current problems of safety and health in the workplace. 2) Solve mathematically some hazard related problems. 3) Clearly explain the benefits of ethical personal and data practices in the engineering field. 4) Conduct safety inspections in laboratories facilities and list considerations for plant safety. 5) Justify the need for a code of ethics in engineering practice 6) Continue to learn about safety, ethics, and professionalism. 	
COURSE POLICIES:	<p>Attendance is required at all lectures. Unannounced quizzes on reading or lecture material will be administered during classes. Bring your calculators to all classes. Calculators with communication or text storage capability are not permitted on exams. Homework assignments will be distributed in class. No food is permitted in class. Use of tobacco products are not permitted in UK classrooms. Cell phones must be silenced and stowed during class.</p> <p>Homework is due within the first five minutes of the scheduled start of the period for which it is assigned. Late homework will receive no credit.</p> <p>Homework must be submitted on 8.5"x11" green engineering paper (except for computer printouts), one side per page. All pages should be numbered and contain your name. Multiple pages should be secured by paper clip and not folded or stapled. Individual solutions should stand alone-- no reference to the source of the original problem should be required to understand the context and meaning of the solution you present. Each solution should contain a problem statement, a list of assumptions, a diagram (if appropriate), and a solution containing adequate steps and explanations to ensure understanding of your solution by the instructor. The final solutions to a homework problem must be boxed or otherwise distinguished from the remainder of the problem.</p> <p>Problems solved using a computer must contain all information required to reproduce your solution. Among other things, this means a spreadsheet printout only containing numbers is not sufficient. The formulas used must be included on the printout. All numbers must be identified and labeled with appropriate units. You must submit the data file for problems solved with computers. Specific guidelines for completing programming problems will be provided with the first programming assignment.</p> <p>Homework assignments are individual tasks. No copying of solutions is permitted. You are, however, encouraged to work in small groups to discuss methods of solving the homework problems. Bear in mind that setting problems up is the most difficult part of most problems, and failure to practice setting problems up independently will likely result in an inability to set problems up on exams. You must indicate whom you work with on assignments completed with assistance from a group. Certain assignments may be designated group problems and must be solved as a</p>	

	<p>group. Details on group problems will be provided when assigned.</p> <p>Any disputes regarding grading must be resolved within 5 school days of the original issuance of the grade. Requests to re-grade a problem may result in the entire assignment being re-graded and adjustments to all scores being made. This can potentially result in a decrease of score. Any grades not challenged within the five school day period are considered final. This applies to both homework and exams.</p> <p>Cheating is strictly forbidden, and anyone found doing so will be turned over to the University Registrar and dealt with in accordance with University policy. Working together on homework is encouraged, but each person must independently write-up their own work and cite any assistance they have had from classmates. Copying homework (problems, graphs, figures, computer files, etc.) between individuals is considered cheating.</p>												
GRADING:	<table> <tr> <td>Final Exam:</td><td>25%</td></tr> <tr> <td>Midterm Exam</td><td>25%</td></tr> <tr> <td>Class Participation:</td><td>10%</td></tr> <tr> <td>Homework Assignments/Quizzes:</td><td>20%</td></tr> <tr> <td>Scavenger Hunt:</td><td>10%</td></tr> <tr> <td>Oral Presentation:</td><td>10%</td></tr> </table> <p>A weighted grade of 90 or above is guaranteed an A, 80 or above at least a B, 70 or above at least a C, and 60 or above at least a D. A grade of E will be assigned to anyone earning a weighted grade below 60.</p> <p>For grades near the endpoints in the above distribution, consideration will be given to homework performance, class participation, and performance trends as a function of time.</p> <p>Homework and exam problems will be graded based on the following factors: correct assumptions, correct diagrams, legibility, clarity, neatness, identification of paper, clearly defined answer, correct approach to problem, and the correct answer. These criteria will be weighted according to the instructor's judgment for a particular problem. Special grading methods may apply to specific problems or problem sets as noted by the instructor.</p>	Final Exam:	25%	Midterm Exam	25%	Class Participation:	10%	Homework Assignments/Quizzes:	20%	Scavenger Hunt:	10%	Oral Presentation:	10%
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FIRE SAFETY:	<p>In the event of a fire, all students, faculty and staff should leave the building through the nearest exit and gather in the parking lot in front of Crounse Hall. A fire alarm should be treated as indicative of an actual fire.</p>												
INCLEMENT WEATHER:	<p>WKCTC inclement weather policy will be followed for this class. If start of classes is delayed due to inclement weather, this class will start at 11:10 AM.</p>												
EXAMINATIONS:	<p>The mid-term exam will be closed book, closed notes. The schedule given for such exams may change with at least two class periods notice or with class consent if shorter notice is given. No make-up hour exams will be given except with the advance consent of the instructor.</p> <p>The Final Exam will be comprehensive (closed book, closed notes). It is scheduled for Monday, December 8, from 10:45 AM- 12:45 PM. The date and time for this exam is scheduled by the Registrar and cannot be changed. There will be no make-up Final Exam.</p>												

Course Schedule

Period	Date	Reading Assignment	Problems Due
Lecture	08/18	Professionalism and Ethics	
Lecture	08/25	Toxicology	Problem Set #1
Holiday	09/01	Labor Day	
Lecture	09/08	Industrial Hygiene	Problem Set #2
Lecture	09/15	Toxic Release, Fires, and Explosions	Problem Set #3
Lecture	09/22	Hazard Identification	Problem Set #4
Lecture	09/29	Risk Assessment	Problem Set #5
EXAM	10/06	Midterm Exam	
Lecture	10/13	Ethics Discussion	Problem Set #6
Lecture	10/20	Bhopal Case Study	Problem Set #7
Lecture	10/27	Safety Investigations/Industrial Speaker	Problem Set #8
Lecture	11/03	Laboratory Safety	Problem Set #9
Lecture	11/10	Safeguarding Plants from Terror	Problem Set #10
Lecture	11/17	Safety Reviews [AIChE Meeting]	
Lecture	11/24	Oral Presentations	
Lecture	12/01	Scavenger Hunt	
Final Exam	12/08	Comprehensive Final Examination	10:45 AM - 12:45 PM

All material on this schedule is subject to change at instructor's discretion for pedagogical reasons.