

Course Information

Date Submitted: 1/2/2013

Current Prefix and Number: CME - Chemical Engineering , CME 470 - PROFESSIONALISM, ETHICS AND SAFETY

Other Course:

Proposed Prefix and Number:

What type of change is being proposed?

Major Change

Should this course be a UK Core Course? No

1. General Information

a. Submitted by the College of: College of Engineering

b. Department/Division: Chemical & Materials Engineeri

c. Is there a change in 'ownership' of the course? No

If YES, what college/department will offer the course instead: Select...

e. Contact Person

Name: Kimberly Anderson

Email: kimberly.anderson@uky.edu

Phone: 7-4815

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

f. Requested Effective Date

Semester Following Approval: Yes OR Effective Semester:

2. Designation and Description of Proposed Course

a. Current Distance Learning (DL) Status: N/A

b. Full Title: PROFESSIONALISM, ETHICS AND SAFETY

Proposed Title: Professionalism, Ethics and Safety

c. Current Transcript Title: PROFESSIONALISM, ETHICS AND SAFETY

Proposed Transcript Title:

d. Current Cross-listing: none

Proposed – ADD Cross-listing :

Proposed – REMOVE Cross-listing:

e. Current Meeting Patterns

LECTURE: 1.0

Proposed Meeting Patterns

LECTURE: 2.0

f. Current Grading System: ABC Letter Grade Scale

Proposed Grading System: PropGradingSys

g. Current number of credit hours: 1

Proposed number of credit hours: 2

h. Currently, is this course repeatable for additional credit? No

Proposed to be repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester? No

2i. Current Course Description for Bulletin: 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.

Proposed Course Description for Bulletin: Detailed lectures and supervised discussions on standards of ethics and safety as they relate to the chemical engineering profession. Emphasis will be on safety in plant design and process operations, laboratory safety, hazardous risk management, regulation and oversight.

2j. Current Prerequisites, if any: Prereq: Engineering standing.

Proposed Prerequisites, if any: Engineering Standing. Concurrent CME 455

2k. Current Supplementary Teaching Component:

Proposed Supplementary Teaching Component:

3. Currently, is this course taught off campus? Yes

Proposed to be taught off campus? Yes

If YES, enter the off campus address: Chemical Engineering Program at Paducah

4. Are significant changes in content/student learning outcomes of the course being proposed? Yes

If YES, explain and offer brief rationale: Is is proposed to increase CME 470 from 1 credit to 2 credits. Recent changes in ABET accreditation standards have increased expectations regarding student preparation in the area of chemical process safety and risk management. The proposed increase in contact hours will allow expanded treatment of these topics and in-depth exploration via case studies.

5a. Are there other depts. and/or pgms that could be affected by the proposed change? Yes

If YES, identify the depts. and/or pgms: BS Chemical Engineering Program delivered at Engineering Extended Campus in Paducah

5b. Will modifying this course result in a new requirement of ANY program? Yes

If YES, list the program(s) here: BS in Chemical Engineering

6. Check box if changed to 400G or 500: No

Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2. How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4. Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6. How do course requirements ensure that students make appropriate use of learning resources?

7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8. How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (<http://www.uky.edu/UKIT/>)?

9. Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10. Does the syllabus contain all the required components? NO

11. I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|BJSTOK0|Barbara J Brandenburg|College approval for ZCOURSE_CHANGE CME 470|20121009

SIGNATURE|JMETT2|Joanie Ett-Mims|Undergrad Council approval for ZCOURSE_CHANGE CME 470|20121126

Chemical and Materials Engineering
University of Kentucky

CME 470
Professionalism, Ethics, and Safety
2 credit hours
Fall 2013
TR 1:00 – 1:50

Instructor: Dr. Eric Grulke
Office Address: 359 RGAN Building
Email: egrulke@engr.uky.edu
Office Phone: 257-6097

Office hours: Will be scheduled

Course Description:

Detailed lectures and supervised discussions on standards of ethics and safety as they relate to the chemical engineering profession. Emphasis will be on safety in plant design and process operations, laboratory safety, hazardous risk management, regulation and oversight.

Prerequisites: Engineering standing and concurrent enrollment in CME 455

Student Learning Outcomes:

At the end of this course, the student should be able to:

1. analyze and evaluate potential and current problems of safety and health in the workplace
2. propose solutions to safety, health or environmental hazards related to the workplace
3. identify and propose solutions for ethical and professional issues for the practicing chemical engineer
4. conduct safety inspections in laboratories and plant facilities; report results and implement solutions
5. locate additional information about safety, ethics and professionalism in the literature (life-long learning)
6. contribute to a multi-disciplinary team to solve professional, ethical and safety problems

Course goals or objectives: Graduates with chemical engineering B.S. degrees will be responsible for the formulation, implementation and oversight of safety and risk management procedures in the laboratory and in the chemical industry, and will encounter ethical issues impacting both their employer and the greater community.

Required Materials:

Text: Charles B. Fleddermann, Engineering Ethics , Fourth Edition, Prentice Hall, New Jersey, 2011

Reference Text: D.A. Crowl and J.F. Louvar, Chemical Process Safety: Fundamentals with Applications, Second Edition, Prentice Hall, New Jersey, 2002.

Description of Course Activities and Assignments

Course lectures are a significant learning tool and attendance is important. Homework problems, analysis of journal articles, completion of web modules and case studies will reinforce the concepts of the course. Short, succinct communications are an essential part of a technical career. There will be several assignments for which each team will be required to prepare two-page memoranda that defend technical solutions, present opinions on ethical issues, and address environmental, health or safety issues. Quizzes on current events will be used to motivate life-long learning activities.

Course Assignments

- 10 Homework Assignments
 - 5 Team-Based Memoranda and Case Studies
 - 5 Quizzes
 - 1 Final Exam
- See Course grading below for grade distribution.

Summary Description of Course Assignments

Homework Assignments will be related to material covered in class and will also include analysis of journal articles and completion of web modules

Team-Based Memoranda and Case Studies will require a two-page memoranda that defend technical solutions, present opinions on ethical issues and address environmental, health or safety issues.

Quizzes will cover current events

Final Exam will be a comprehensive review of the entire course.

Course Grading

Homework Assignments	40%
Team-Based Memoranda & Case Studies	30%
Quizzes	10%
Final Exam	20%

Grading will be based on each student’s composite (raw) score; scores in the range > 90% will be guaranteed a grade of “A”, 80% or above at least a “B”, 70% or above at least a “C”, and 60% or above at least a “D”.

Final Exam Information

Date, time, location will be included once this information is available.

Mid-term Grade

Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/Registrar/AcademicCalendar.htm>)

Course Policies:

Excused Absences:

Students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Verification of Absences

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

Academic Integrity

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of

ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of *Student Rights and Responsibilities* (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

Accommodations due to disability:

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Course Schedule:

Week:	Module:	Topic:
1	Introduction	Team Selections – Resume Update
2	Process & Plant Safety	Components of Process Safety
3	Process & Plant Safety	Safety Regulations & Standards
4	Process & Plant Safety	Risk Assessment & Risk Management
5	Process & Plant Safety	Toxicology, MSDS; Hazardous Waste Management
6	Process & Plant Safety	Chemical Reactivity Hazards & Explosions
7	Process & Plant Safety	Team Case Study #1 (Plant Safety)
8	Laboratory Safety	Evaluation of Laboratory Safety; Inspections
9	Sustainable Engineering	Sustainable Manufacturing; Ethics of Product Stewardship
10	Sustainable Engineering	Team Case Study #2 (Green Engineering)
11	Ethics & Integrity	Ethics and Personal Career Development
12	Ethics & Integrity	Ethical Issues in the Industrial Setting
13	Ethics & Integrity	Ethical Issues Related to Research
14	Ethics & Integrity	Intellectual Property
15	Ethics & Integrity	Team Case Study #3 (Ethics in Chem. Eng. Practice)