APPLICATION FOR NEW COURSE

1. Submitted by College of Engineering Date 5/8/2007

   Department/Division offering course Civil Engineering

2. Proposed designation and Bulletin description of this course

   a. Prefix and Number CE 507 b. Title* Const. Safety & Health

   *NOTE: If the title is longer than 24 characters (including spaces), write A sensible title (not exceeding 24 characters) for use on transcripts

   c. Lecture/Discussion hours per week 3 d. Laboratory hours per week 0

   e. Studio hours per week 0 f. Credits 3

   g. Course description

   The course will develop an understanding of: safety and health; cost and human impact; hazard and risk analyses; psychological facts of organizational culture and climate; design safe work procedures for the execution of particular types of work; and individual versus management level improvement in safety and health procedures in the construction process.

   h. Prerequisites (if any)

   Engineering standing and CE 303 or consent of instructor.

   i. May be repeated to a maximum of 0 (if applicable)

4. To be cross-listed as

   Prefix and Number _____ Signature, Chairman, cross-listing department

5. Effective Date Fall 2007 (semester and year)

6. Course to be offered ☑ Fall ☐ Spring ☐ Summer

7. Will the course be offered each year? ☑ Yes ☐ No
   (Explain if not annually)

8. Why is this course needed?

   Understanding Construction Safety and Health issues promotes safer working environments for construction workers, on-site personnel, and visitors to construction sites. The course will equip students to understand sources of risk and methods to mitigate risks.

9. a. By whom will the course be taught? Dr. William Maloney

   b. Are facilities for teaching the course now available? ☒ Yes ☐ No
   If not, what plans have been made for providing them?

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10. What enrollment may be reasonably anticipated? 10-12

11. Will this course serve students in the Department primarily? ☑ Yes ☐ No

Will it be of service to a significant number of students outside the Department? ☐ Yes ☑ No
If so, explain.

Will the course serve as a University Studies Program course? ☐ Yes ☑ No

If yes, under what Area?

12. Check the category most applicable to this course

- ☐ traditional; offered in corresponding departments elsewhere;
- ☑ relatively new, now being widely established
- ☐ not yet to be found in many (or any) other universities

13. Is this course applicable to the requirements for at least one degree or certificate at the University of Kentucky? ☑ Yes ☐ No

14. Is this course part of a proposed new program: ☐ Yes ☑ No
If yes, which?

15. Will adding this course change the degree requirements in one or more programs? ☐ Yes ☑ No
If yes, explain the change(s) below (NOTE – If "yes," a program change form must also be submitted.)

16. Attach a list of the major teaching objectives of the proposed course and outline and/or reference list to be used.

18. If the course is 400G or 500 level, include syllabi or course statement showing differentiation for undergraduate and graduate students in assignments, grading criteria, and grading scales. ☑ Check here if 400G-500.

19. Within the Department, who should be contacted for further information about the proposed course?

Name William Maloney Phone Extension 257-3236

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Signatures of Approval:

April 3, 2007 Date of Approval by Department Faculty	George E Blandford Reported by Department Chair
4/21/08 Date of Approval by College Faculty	Richard D Swengen Reported by College Dean
*Date of Approval by Undergraduate Council	Reported by Undergraduate Council Chair
*Date of Approval by Graduate Council	Reported by Graduate Council Chair
*Date of Approval by Health Care Colleges Council (HCCC)	Reported by HCCC Chair
*Date of Approval by Senate Council	Reported by Senate Council Office
*Date of Approval by University Senate	Reported by Senate Council Office

*If applicable, as provided by the Rules of the University Senate

CE507 Construction Safety and Health
Department of Civil Engineering
University of Kentucky
Fall, 2008

Instructor: Prof. William F. Maloney
151B Oliver H. Raymond Building
Telephone: 859-257-3236
Fax: 859-257-4404
e-mail: maloney@engr.uky.edu

Course Hours: 3:00 — 4:15 Tuesday & Thursday

Office Hours: 2:00 — 3:00 Tuesday and Thursday and by appointment

We all have extremely busy schedules. You have other classes and possibly a job. I have my research, committee assignments, and administrative responsibilities. I have set aside these hours to be available to meet with students to discuss class questions or issues, curriculum matters, program matters, or any other issue a student wishes to discuss. I make a commitment to being available during these times. If you are unable to come in during these times, please call or see me to make an appointment to come in. I want to be able to meet with you to answer your questions, so please make an appointment if my office hours are inconvenient.

I want to encourage you to use e-mail to send me questions you may have rather than our playing telephone tag or you coming by to see me and I'm not in. My e-mail address is given above. I check my e-mail periodically during the day and will answer any questions I receive immediately.

Course Description:
The Occupational Safety and Health Act was passed in 1970. In the 37 years since then, safety performance in the construction industry has improved. Despite this improvement, approximately 1200 workers are killed on construction sites each year. Thousands are injured. At the same time, there are firms that have outstanding safety records and have recorded millions of man-hours worked without a lost time injury.

The course will examine the terminology of safety; the cost impact of poor safety; accident/incident causation; hazard identification and analysis; risk mitigation and control; accident investigation; safety training; design of safety programs; safety culture and climate; and safety certification.

Course Format: The course will use lecture, discussion, workshops, field trips, student presentations, and guest speakers to meet the course objectives listed below.

Course Objectives: The objectives for the course are to:

1. Develop the student's understanding of safety and health in the construction process.
2. Develop the student's understanding of the cost and human impact of poor safety and health practices on the construction workforce.
3. Develop the student's ability to conduct hazard and risk analyses
4. Develop the student's understanding of the psychological facts of organizational culture and climate on safety performance.
5. Develop the student's ability to design safe work procedures for the execution of particular types of work.
6. Develop the student's understanding of the role of the individual and the role of management in improving health and safety in construction.
7. Develop the student’s understanding of safety training.
8. Certify each student as having completed the OSHA 10 hour course.

Course Outcomes: Upon completion of this course students will be able to:

1. Design an effective health and safety program for a construction company and construction project.
2. Conduct hazard and risk analyses.
3. Design a health and safety program for all levels of a construction organization.
4. Design safe work methods and procedures for construction activities.

Course Requirements:

The work to be required in this course will consist of the following:

Midterm exam	30%
Final exam	30%
15 page term paper	20%
2 – 5 page papers	20%
Total	100%

Two 5-page papers are required, one on each of the following topics:

- Make the case for the development and implementation of a project health and safety program
- An exploration of a construction industry occupational disease

An in-depth term paper on a topic of the student's choosing that addresses the issues of health and safety in construction. The topic must be approved by the instructor.

Topics that would be suitable would be:

- Developing a safety culture in a small construction company
- A comparison of occupational health practices in construction in the United States and another country
- The use of safety incentives
- Measuring safety and health performance in construction

Graduate Student Requirement: In addition to the above requirements, graduate students taking the course will be required to prepare a 10 page paper on a topic selected from a list of topics provided by the instructor.

Course Grades:

Final grades will be assigned according to the grading scale as shown below:

A	90 and above
B	80 – 89
C	70 – 79
D	60 – 69
E	59 and below

Graduate students earning less than 70 will receive an E.

The University of Kentucky describes these grades in the University Bulletin as follows:

A – represents exceptionally high achievement as a result of aptitude, effort, and *intellectual initiative* [Emphasis added].

To reflect this, 10% of the value of each paper assignment may be earned through intellectual initiative. Initiative is the ability to act and make decisions without the help or advice of other people. Your ability to identify and use materials and approaches that go beyond those specified in the course materials will be recognized and rewarded. In business, one of your goals must be to distinguish yourself and/or your firm from other engineers and firms. You do this by making your work different from that of your competitors. How you do this requires the exercise of intellectual initiative. Absent the use of intellectual initiative, the highest score that one

could earn on an assignment is 90.

B – represents high achievement as a result of ability and effort.
C – represents average achievement.
D – represents the minimum passing grade.
E – represents unsatisfactory performance and indicates failure in the course.

A final numerical score will be determined. You will receive, at a minimum, the letter grade assigned to the numerical scale as shown above. In the event that I deem it necessary to adjust the scale, you may receive a higher letter grade; in no instance will you receive a lower letter grade.

If you disagree with the grading of an assignment, you must submit a written statement of your disagreement and the assignment to me within two class periods after the graded assignment has been returned. The assignment will then be completely regraded.

Required Materials:
Construction Safety Management and Engineering edited by Darryl G. Hill, American Society of Safety Engineers, 2004,

Plagiarism:
From the University of Kentucky "Student Rights and Responsibilities" Section II 3.1, 1988"

"All academic work, written or otherwise, submitted by a student to their instructor or other academic supervisor, is expected to be the result of their own thought, research, or self-expression. In any case in which a student feels unsure about a question of plagiarism involving their work, the student is obligated to consult the instructor on the matter prior to submission.

When a student submits work purported to be their own, but which in any way borrows ideas, organizations, wording, or anything else from another source without appropriate acknowledgement of the fact, the student is guilty of plagiarism.

Plagiarism includes reproducing someone else's work, whether it be a published article, a chapter of a book, a paper from a friend or a computer file or whatever. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as heir own. 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 alone.

When a student's assignment involves research in outside sources of information, the student must carefully acknowledge what, where, and how outside sources have been employed. If words are someone else's, 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 plagiarism. However, nothing in these Rules shall apply to those ideas which are generally and freely circulated as to be a part of the public domain."

Cheating:
From the University of Kentucky "Student Rights and Responsibilities" Section II 3.2, 1988":

"Cheating is defined by its general usage. It includes, but is not limited to, the wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding himself or another on any academic work which is considered in any way in the determination of the final grade. Any question of definition shall be referred to the University Appeals Board."

"The minimum penalty for an academic offense, plagiarism or cheating, is an E for the assignment for which the offense took place."

Graduation Writing Requirement
Prerequisites
This is a writing-intensive (W) course approved to fulfill the upper tier of the graduation writing requirement (GWR). To receive W credit for this course, you must have successfully completed the first-year writing requirement (ENG 104 or its equivalent) and have completed at least 30 hours of coursework.

Learning Outcomes
- Write a paper that is essentially free of mechanical errors (grammar, punctuation, spelling, and syntax) and awkwardness, using a style that is appropriate to the purpose and audience.
- Demonstrate an ability to discover, evaluate, and clearly present evidence in support of an argument in the subject area and utilize documentation that conforms to the formats and the citation conventions of the subject area.
- Be aware that composing a successful text frequently takes multiple drafts, with varying degrees of focus on generating, revising, editing, and proofreading.
- Write a capable, interesting essay about a complex issue (discipline-specific) for a general university audience.

Assignments
The writing assignments for this course will be:
Two 5-page papers are required, one on each of the following topics:
- Make the case for the development and implementation of a project health and safety program
- An exploration of a construction industry occupational disease
- An in-depth paper (15 pages) on a topic of the student's choosing that addresses the issues of health and safety in construction. The topic must be approved by the instructor.

Each of these assignments must be submitted as a draft. The draft will be reviewed by the instructor who will then return the reviewed paper at the next class period. The author should then take the draft and have it reviewed in a peer review workshop. The student will then revise the draft by addressing the comments of the instructor and the peer review counselor. The revised paper should then be resubmitted.

Grading
- **To pass the course, students must submit all written assignments (in draft and final form) and earn a grade of C or higher on each.**
- If you fail to achieve a C grade on the final version of any writing assignment, you will receive an E for the course.
- Any writing assignment that receives a D or below must be revised to reflect competency and resubmitted. An assignment may be resubmitted only once.
- For a resubmission, the paper must be revised and resubmitted within one week of the return of the original revised paper.

SACS Assessment
Please submit two copies of each your final paper to the instructor. One copy will be graded by the instructor; the second copy will be used for SACS assessment and should be a clean copy, with only your social security number listed at the top of the page, with all other identifying information (your name, instructor name, and course and section number) removed.

CE 507 Construction Safety and Health 2008 Fall Semester Syllabus			
Date	**Topic**	**Assignment**	**Due**
Aug. 28	Course Overview and Introduction		
Sept. 2	The Impact of Accidents	Chapters 1 & 4 Handouts	
Sept. 4	Why Accidents Occur	Chapter 3 Handouts	
Sept. 9	Use of Safety Incentives – Prof. Paul Goodrum	Chapter 8 Handouts	
Sept. 11 16	Good Safety Practices: Demonstrated Management Commitment; Staffing for Safety and Safety Planning	Chapters 2 & 9 Handouts	
Sept. 18 23	Key Practices: Safety Training and Education; Worker Involvement and Participation; Recognition and Reward	Chapters 11 & 31 Handouts	
Sept. 25	Management of Subcontractor Safety		
Sept. 30	Incident/Accident Investigation	Chapter 10 Handouts	
Oct. 2	Planning for Safety	Chapter 9 Handouts	
Oct. 7	The Designer's Role in Construction Worker Safety	Handouts	
Oct. 9	The Owner's Role in Safety	Chapter 6 Handouts	**1st Paper Due**
Oct. 14	Occupational Health and Diseases	Chapter 26 Handouts	
Oct. 16	**Midterm Exam**	**Material covered in class through Oct. 14**	
Oct. 21 23	Safety Culture	Handouts	
Oct. 28	Safety Climate	Handouts	
Oct. 30 Nov. 4	Behavioral Safety	Handouts	
Nov. 6	Job Hazard Analysis	Handouts	**2nd Paper Due**
Nov. 7	OSHA 10 hour course – UA Local 452 - 525 De Roode St		
Nov. 11	No Class		
Nov. 13	No Class		
Nov. 14	OSHA 10 hour course – UA Local 452 - 525 De Roode St		
Nov. 18	Job Hazard Analysis	Handouts	
Nov. 20	Risk Mitigation and Control	Chapters 15-25 Handouts	
Nov. 25	Term Paper Work Session		

Nov. 27	Thanksgiving Holiday – No Class		
Dec. 2	Risk Mitigation and Control	Chapters 15-25 Handouts	**Term Paper Due**
Dec. 4 9	Elements of a Project Safety and Health Program	Handouts	
Dec. 11	Safety and Health Issues for Women Future Trends in Construction Safety	Chapter 33 Chapter 35	
Dec. 19	**FINAL EXAM – 3:30**		

Required Text: Construction Safety Management and Engineering, edited by Daryl C. Hill. Published by the American Society of Safety Engineers