

Eastern Illinois University
New Course Proposal
AET 4773, Safety for Engineering and Technology Professionals

This format is to be used for all courses submitted to the Council on Academic Affairs and/or the Council on Graduate Studies.

Please check one: ☒ New course ☐ Revised course

PART I: CATALOG DESCRIPTION

1. Course prefix and number, such as ART 1000: AET 4773

2. Title (may not exceed 30 characters, including spaces): Safety for Eng and Tech Pros

3. Long title, if any (may not exceed 100 characters, including spaces): Safety for Engineering and Technology Professionals

4. Class hours per week, lab hours per week, and credit [e.g., (3-0-3)]: 3-0-3

5. Term(s) to be offered: ☐ Fall ☐ Spring ☐ Summer ☒ On demand

6. Initial term of offering: ☐ Fall ☐ Spring ☒ Summer **Year:** 2014

7. Course description:

AET 4773 includes issues related to safety issues in the engineering and technology workplace. OSHA requirements for employers and accident investigation scenarios will be examined. Students will develop an emergency action plan. Best practices such as ANSI, ASME, NFPA, CSB, and the EPA will be discussed.

8. Registration restrictions: a. Equivalent Courses

• **Identify any equivalent courses** (e.g., cross-listed course, non-honors version of an honors course).

• Indicate whether coding should be added to Banner to restrict students from registering for the equivalent course(s) of this course. ☐ Yes ☒ No

b. Prerequisite(s)

• **Identify the prerequisite(s)**, including required test scores, courses, grades in courses, and technical skills. Indicate whether any prerequisite course(s) MAY be taken concurrently with the proposed/revised course.

n/a

• Indicate whether coding should be added to Banner to prevent students from registering for this course if they haven't successfully completed the prerequisite course(s). ☒ Yes ☐ No

If yes, identify the minimum grade requirement and any equivalent courses for each prerequisite course:

Upper division students

c. Who can waive the prerequisite(s)?

☐ No one ☒ Chair ☐ Instructor ☐ Advisor ☐ Other (Please specify)

d. Co-requisites (course(s) which MUST be taken concurrently with this one):

n/a

e. Repeat status:

☒ Course may not be repeated.

☐ Course may be repeated once with credit.

Please also specify the limit (if any) on hours which may be applied to a major or minor.

f. Degree, college, major(s), level, or class to which registration in the course is restricted, if any:

n/a

g. Degree, college, major(s), level, or class to be excluded from the course, if any:

n/a

9. Special course attributes [cultural diversity, general education (indicate component), honors, remedial, writing centered or writing intensive]

n/a

10. Grading methods (check all that apply): ☒ Standard letter ☐ CR/NC ☐ Audit ☐ ABC/NC
("Standard letter"—i.e., ABCDF—is assumed to be the default grading method unless the course description indicates otherwise.)

Please check any special grading provision that applies to this course:

☐ The grade for this course will not count in a student's grade point average.

☐ The credit for this course will not count in hours towards graduation.

If the student already has credit for or is registered in an equivalent or mutually exclusive course, check any that apply:

☐ The grade for this course will be removed from the student's grade point average if he/she already has credit for or is registered in _____ (insert course prefix and number).

☐ Credit hours for this course will be removed from a student's hours towards graduation if he/she already has credit for or is registered in _____ (insert course prefix and number).

11. Instructional delivery method: (Check all that apply.)

☒ lecture ☐ lab ☐ lecture/lab combined ☐ independent study/research
☐ internship ☐ performance ☐ practicum or clinical ☐ study abroad
☐ Internet ☒ hybrid ☐ other (Please specify)

PART II: ASSURANCE OF STUDENT LEARNING

1. List the student learning objectives of this course:

1. Explain the role OSHA plays in American workplaces
2. Identify employer responsibilities with respect to the OSHA general duty clause and due diligence
3. Illustrate the importance of standards agencies in OSHA compliance
4. Differentiate the terms "shall" and "should" with OSHA regulations, compliance, and *post facto* investigations
5. Analyze workplace accidents from the point of view of and OSHA compliance officer
6. Argue for or against an employer's actions related to a workplace accident
7. Evaluate an OSHA compliance officer's recommendations and citations for accident investigations
8. Examine emerging industries for safety issues
9. Create an emergency action plan (EAP) for an emerging industry
10. GRAD STUDENT ONLY: Develop a safety policy portfolio for a facility with workers.

a. If this is a general education course, indicate which objectives are designed to help students achieve one or more of the following goals of general education and university-wide assessment:

- EIU graduates will write and speak effectively. 5,6,7,8,9
- EIU graduates will think critically. 4,5,6,7,8,9
- EIU graduates will function as responsible citizens. 1,2,3,4,5,6,7,8,9

Objective	Write and Speak Effectively	Think Critically	Function as responsible citizens
1			X
2			X
3			X
4		X	X
5	X	X	X
6	X	X	X
7	X	X	X
8	X	X	X
9	X	X	X

b. If this is a graduate-level course, indicate which objectives are designed to help students achieve established goals for learning at the graduate level:

- Depth of content knowledge 5,6,7,8,9, 10
- Effective critical thinking and problem solving 5,6,7,8,9,10
- Effective oral and written communication 1,2,3,4,5,6,7,9,10
- Advanced scholarship through research or creative activity 5,6,7,8,9,10

Objective	Depth of content	Effective Critical Thinking and problem solving	Effective written and oral communication	Advanced scholarship through research or creative activity
1			X	
2			X	
3			X	
4			X	
5	X	X	X	X
6	X	X	X	X
7	X	X	X	X
8	X	X	X	X
9	X	X	X	X
10	X	X	X	X

2. Identify the assignments/activities the instructor will use to determine how well students attained the learning objectives:

The course will require discussion from all the students in the class. The effectiveness of the students' communication on their respective understandings of the topics will be generally assessed. The course will require students to create safety programs and protocols and to assess existing programs and protocols. The effectiveness that each student exhibits at doing this will be assessed through their written and oral reports.

Objective	Assign/ Quiz	Individual Projects	Group Projects	Midterm Exam	Final Exam
1	X	X	X	X	X
2	X	X	X	X	X
3	X	X	X		
4	X	X	X	X	X
5	X	X	X		
6	X	X	X		
7	X	X	X		
8	X	X	X		
9		X	X		

3. Explain how the instructor will determine students' grades for the course:

The instructor will determine students' grades through measured participation in the course discussions (either in class or asynchronous through LMS), student paper evaluation, and student project evaluation.

	Percent of Final grade
Assignments/Quizzes	20%
Individual Projects (3 projects)	20%
Group Projects (2 projects)	20%
Midterm Exam	20%
Final Exam	20%

4. For technology-delivered and other nontraditional-delivered courses/sections, address the following: a. Describe how the format/technology will be used to support and assess students' achievement of the specified learning objectives: LMS will be used to enhance the students' experience for both the face-to-face and hybrid courses. Many documents and reports are online and this will mitigate the dissemination of these to the students.

a. Describe how the integrity of student work will be assured: The academic integrity will be insured by the nature of the assignments. Since the assignments will be specific to current topics, it will be difficult for students to plagiarize from other sources. In addition, the nature of the cognitive requirements of the assignments will require that students spend time creating thoughts rather than simply solving problems with a single answer. Where necessary the plagiarism software type features of LMS will be used.

b. Describe provisions for and requirements of instructor-student and student-student interaction, including the kinds of technologies that will be used to support the interaction (e.g., e-mail, web-based discussions, computer conferences, etc.): Much of the class will be delivered through the face-to-face interaction. However,

particularly in the case where the class is delivered as a hybrid, LMS will be utilized to improve student interaction that some may be unwilling to do in the classroom. This will be done through web-based discussions and any webinars that are available on-line that would support the course material.

5. For courses numbered 4750-4999, specify additional or more stringent requirements for students enrolling for graduate credit. These include:

a. course objectives; Graduate students will have the following course objectives:

- Design a safety documentation protocol for a workplace
- Evaluate training materials for accuracy
- Make recommendations for improved effectiveness of safety training materials

b. projects that require application and analysis of the course content;

- Graduate students in the course will have an additional individual project to write safety protocol and policy documents for a workplace
- Graduate students will be required to evaluate project presentations as presented in the class for training effectiveness and quality of content

c. separate methods of evaluation for undergraduate and graduate students.

- Graduate students will be graded with the same scale and expectation of accuracy in writing and presentation as undergraduate students
- The additional projects that grad students will have additional points available, but the projects will require a substantial amount of additional work for the graduate students compared to the expectation of the undergraduate students.

6. If applicable, indicate whether this course is writing-active, writing-intensive, or writing-centered, and describe how the course satisfies the criteria for the type of writing course identified. (See Appendix *.)

PART III: OUTLINE OF THE COURSE

Provide a week-by-week outline of the course's content. Specify units of time (e.g., for a 3-0-3 course, 45 fifty-minute class periods over 15 weeks) for each major topic in the outline. Provide clear and sufficient details about content and procedures so that possible questions of overlap with other courses can be addressed. For technology-delivered or other nontraditional-delivered courses/sections, explain how the course content "units" are sufficiently equivalent to the traditional on-campus semester hour units of time described above.

Week	Topic	Unit (45-minute equivalent)
1	Introduction, safety philosophy	1 (3)
2	Ethical issues surrounding safety	1 (3)
3	OSHA, history and roles	1 (3)
4	Safety organizations, NFPA, ANSI, ASME, ASSE, CSB	1 (3)
5	OSHA, general industry and construction standards	2 (3)
6	OSHA, general industry and construction standards	2 (3)
7	Focus Four	2 (3)
8	Hazard Communication, MSDS, GHS	2 (3)
9	Documentation, training, emergency action plans	3 (3)
10	Inspections, audits, and reports	3 (3)
11	Accident and incident investigations	3 (3)
12	Case Studies: general duty clause	4 (3)
13	Case Studies: documentation	4 (3)

14	Case Studies: emerging industries	4 (3)
15	Case Studies: emergency action plans	4 (3)

This particular safety course will be focused on the search for regulations than on the specific regulations. Student will learn about the reasons and causes of safety lapses and how to prevent them. The course will focus on case-studies so that students can better see the application of the regulations and best-practices. The course also focuses on documentation techniques

PART IV: PURPOSE AND NEED

1. Explain the department's rationale for developing and proposing the course.

Safety in construction and general industry settings goes beyond learning a set of regulations. Learning to manage safety training, protocols, and documentation must accompany these in order to effectively foster a "safety culture." Currently, as the Applied Engineering and Technology program within the School of Technology expands and revises its curriculum it is the belief of industry and the faculty that a familiarity with safety and safety protocol is essential for graduates to be prepared for the workforce.

a. If this is a general education course, you also must indicate the segment of the general education program into which it will be placed, and describe how the course meets the requirements of that segment. n/a

b. If the course or some sections of the course may be technology delivered, explain why. Some of the supplemental learning modules will be delivered through technology based media. Since much of the material and resources are available through on-line resources, this will be the most economical way to disseminate the material and to provide multiple avenues for learning.

2. Justify the level of the course and any course prerequisites, co-requisites, or registration restrictions.

This course will require some prerequisite knowledge associated with their degree concentrations related to manufacturing or construction. The course will also be available for graduate student who have not previously taken the course since the subject matter is deemed to be important in manufacturing and constructions environments.

3. If the course is similar to an existing course or courses, justify its development and offering.

The accrediting body for Applied Engineering and Technology, ATMAE, has requirements for curriculum in safety that is aligned with this course. The course HST 3350: Industrial Safety does not meet this by its objectives although the title of the course may sound similar.

a. If the contents substantially duplicate those of an existing course, the new proposal should be discussed with the appropriate chairpersons, deans, or curriculum committees and their responses noted in the proposal.

Although the course does not significantly overlap HST 3350, a conversation was held with the HST department. In those discussions, it was agreed that the course title should be called "Safety for Engineering and Technology Professionals" and the course description should include mention of this specifications so that potential confusion could be avoided between this course and HST 3350.

b. Cite course(s) to be deleted if the new course is approved. If no deletions are planned, note the exceptional need to be met or the curricular gap to be filled.

n/a

4. Impact on Program(s): This course will be an elective for the AET programs.

a. For undergraduate programs, specify whether this course will be required for a major or minor or used as an approved elective.

b. For graduate programs, specify whether this course will be a core requirement for all candidates in a degree or certificate program or an approved elective. This course will not be a core requirement for any School of Technology graduate core. It will be made available as an elective.

If the proposed course changes a major, minor, or certificate program in or outside of the department, you must submit a separate proposal requesting that change along with the course proposal. Provide a copy of the existing program in the current catalog with the requested changes noted.

PART V: IMPLEMENTATION

1. Faculty member(s) to whom the course may be assigned:

Dr. Isaac Slaven, or other approved School or Technology graduate faculty with appropriate qualifications/certifications

If this is a graduate course and the department does not currently offer a graduate program, it must document that it employs faculty qualified to teach graduate courses.

2. Additional costs to students: none

Include those for supplemental packets, hardware/software, or any other additional instructional, technical, or technological requirements. (Course fees must be approved by the President's Council.)

3. Text and supplementary materials to be used (Include publication dates): Since OSHA provides much of the material free-of-charge through online resources, no text book will be required.

PART VI: COMMUNITY COLLEGE TRANSFER

If the proposed course is a 1000- or 2000-level course, state either, "A community college course may be judged equivalent to this course" OR "A community college course will not be judged equivalent to this course." A community college course will not be judged equivalent to a 3000- or 4000-level course but may be accepted as a substitute; however, upper-division credit will not be awarded.

PART VII: APPROVALS

Date approved by the department or school: 4/11/13

Date approved by the college curriculum committee: 10/21/13

Date approved by the Honors Council (*if this is an honors course*):

Date approved by CAA: CGS:

*In **writing-active courses**, frequent, brief writing activities and assignments are required. Such activities -- some of which are to be graded -- might include five-minute in-class writing assignments, journal keeping, lab reports, essay examinations, short papers, longer papers, or a variety of other writing-to-learn activities of the instructor's invention. Writing assignments and activities in writing-active courses are designed primarily to assist students in mastering course content, secondarily to strengthen students' writing skills. In **writing-intensive courses**, several writing assignments and writing activities are required. These assignments and activities, which are to be spread over the course of the semester, serve the dual purpose of strengthening writing skills and deepening understanding of course content. At least one writing assignment is to be revised by the student after it has been read and commented on by the instructor. In writing-intensive courses, students' writing should constitute no less than 35% of the final course grade. In **writing-centered courses** (English 1001G, English 1002G, and their honors equivalents), students learn the principles and the process of writing in all of its stages, from inception to completion. The quality of students' writing is the principal determinant of the course grade. The minimum writing requirement is 20 pages (5,000 words).

Student Success Center

<http://www.eiu.edu/~success/>

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Career Services

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