

**Application for a New Course v10.5**

|                                            |          |
|--------------------------------------------|----------|
| <b>Course ID</b> <i>Subject and Number</i> | ENGR 305 |
| <b>Date APPROVED</b>                       |          |
| <b>Date DENIED</b>                         |          |

**I. Systems and Catalog Information** Complete each item.

|     |                                                      |                                                                                                                                                                                |
|-----|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Course Developer                                     | Matthew Steele                                                                                                                                                                 |
| 2   | Course Teacher                                       | A member of the Engineering & Physics Department faculty                                                                                                                       |
| 3   | Course Title                                         | Environmental Health and Safety for Engineers                                                                                                                                  |
| 4   | Course Abbreviation (if title is over 30 characters) | EHS for Engineers                                                                                                                                                              |
| 5   | College                                              | College of Arts and Sciences                                                                                                                                                   |
| 6   | Department                                           | Engineering and Physics                                                                                                                                                        |
| 7   | Number of Credit Hours                               | 2                                                                                                                                                                              |
| 8   | Is the course Fixed Credit or Variable Credit?       | Fixed                                                                                                                                                                          |
| 9   | Is the course repeatable?                            | No                                                                                                                                                                             |
| 10  | Maximum number of times course may be repeated       |                                                                                                                                                                                |
| 11  | Maximum number of hours credit                       | 2                                                                                                                                                                              |
| 12  | Explanation for variable credit                      | N/A                                                                                                                                                                            |
| 13a | Course contact hours - LEC                           | 2                                                                                                                                                                              |
| 13b | Course contact hours - Lab                           | 0                                                                                                                                                                              |
| 13c | Course contact hours - Practicum                     | 0                                                                                                                                                                              |
| 13d | Course contact hours - Seminar                       | 0                                                                                                                                                                              |
| 13e | Course contact hours - Studio                        | 0                                                                                                                                                                              |
| 13f | Course contact hours - Online                        | 0                                                                                                                                                                              |
| 13g | Course contact hours - Colloquium                    | 0                                                                                                                                                                              |
| 13h | Course contact hours - Field Experience              | 0                                                                                                                                                                              |
| 13i | Course contact hours - Internship                    | 0                                                                                                                                                                              |
| 13k | Course contact hours - Research                      | 0                                                                                                                                                                              |
| 13m | Course contact hours - Workshop                      | 0                                                                                                                                                                              |
| 13n | Course contact hours - Other (specify)               | 0                                                                                                                                                                              |
| 14  | Instructor Workload                                  | 3                                                                                                                                                                              |
| 15  | Grade Mode (check all appropriate):                  | <input checked="" type="checkbox"/> Standard<br><input type="checkbox"/> Credit/No Credit (undergrad only)                                                                     |
| 16  | Maximum Enrollment                                   | 40                                                                                                                                                                             |
| 17  | <b>Catalog Description</b><br>(50 words or less)     | Provides an overview of environmental health and safety history, regulations, and their application for engineering professionals. In particular this course will include OSHA |

|     |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                                                                                                                                                                                                                                                                                                                                                             | regulations and permits, MSDS's, workplace hazards and engineering safeguards.                                                 |
| 18  | List any prerequisites (course/s, test scores, class standing, major, etc.)                                                                                                                                                                                                                                                                                                                                 | ENGL 111                                                                                                                       |
| 19  | List any co-requisites                                                                                                                                                                                                                                                                                                                                                                                      | None                                                                                                                           |
| 20  | If the course is cross listed, specify the Course ID(s) MUST have signature in Section V off all Department Chairs                                                                                                                                                                                                                                                                                          | No                                                                                                                             |
| 21  | Does this course have any special student costs? Yes/No<br><i>Attach a completed "Request to Add or Change Course Fees" form. Describe in section IV-F.</i>                                                                                                                                                                                                                                                 | No                                                                                                                             |
| 22a | How often will it be offered? <b>Fall</b>                                                                                                                                                                                                                                                                                                                                                                   | As needed                                                                                                                      |
| 22b | How often will it be offered? <b>Spring</b>                                                                                                                                                                                                                                                                                                                                                                 | Offered                                                                                                                        |
| 22c | How often will it be offered? <b>Summer</b>                                                                                                                                                                                                                                                                                                                                                                 | As needed                                                                                                                      |
| 23  | Frequency? All, odd, or even years?                                                                                                                                                                                                                                                                                                                                                                         | All                                                                                                                            |
| 24  | First semester this course will be offered<br><i>New courses may not be taught under their approved course ID until they appear in the catalog, therefore, no earlier than the coming fall.</i>                                                                                                                                                                                                             | Spring 2015                                                                                                                    |
| 25  | List course/s that should be deleted, include the last semester for course/s being deleted<br><i>A course cannot be deleted when it is a requirement in a degree plan in any department.</i>                                                                                                                                                                                                                | None                                                                                                                           |
| 26  | Is this course required for a degree/s? Yes/No<br><i>If "Yes," attach a revised degree plan(s) reflecting the placement of the new course.</i>                                                                                                                                                                                                                                                              | Yes. This course is part of the 5 ENGR 200-499 course for 15 hours outlined in the Bachelor of Science in Engineering Catalog. |
| 27  | Should the addition of this course be retroactively applied to the degree plan it supports? Yes/no and explain                                                                                                                                                                                                                                                                                              | No                                                                                                                             |
| 28  | Has this course been offered as a Special Topics course? Yes/No<br><i>If "Yes," specify the Course ID and enrollment for each term it was taught.<br/>(Note: New courses are NOT required to be taught as Special Topics courses prior to being approved. However, courses may be taught once as Special Topics before it is proposed. See the Course Descriptions section of the Catalog for details.)</i> | No                                                                                                                             |
| 29  | List any courses in which content overlaps the proposed course. (Course ID and Name)                                                                                                                                                                                                                                                                                                                        | None                                                                                                                           |

|  |                                                                                                             |  |
|--|-------------------------------------------------------------------------------------------------------------|--|
|  | Attach statement from instructor/dept chair of existing course justifying the new offering in Section IV-D. |  |
|--|-------------------------------------------------------------------------------------------------------------|--|

## II. Curriculum

|   |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <b>Degree Plan</b> Explanation of how this course affects degree requirements.                                     | This course does not affect degree requirements. It is already included in the catalog degree plan for engineering under the ENGR course electives (Choose 5 from ENGR 200-499). For the degree 15 hours from ENGR 200-499 courses must be completed (see attached pp. 61-63, 2014-15 catalog). This application is to formally add the course to the catalog, along with the appropriate content information, prerequisites, etc. |
| 2 | <b>Justification</b> State the justification for adding this course to the current curriculum. Represent the need. | Environmental Health and Safety is a section on the Fundamental of Engineering Exam, the first professional licensing exam for Engineers. This exam is taken during the Senior year prior to graduation. Knowledge and understanding of environmental health and safety regulations and practices is a fundamental part of Engineering Professional Practice. Additionally, the course will aid in meeting ABET requirements.      |

## III. Course Design

### 1. Audience and Course Goal

|   |                                                                |                                                                                                                                                                                                                                                                                                     |
|---|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Describe the intended audience, including prerequisite skills. | This is a required course for Engineering majors and intended to be completed during their Sophomore or Junior year. Non-majors interested in workplace safety and industrial hygiene may also enroll in the course.                                                                                |
| 2 | State the overarching course goal(s) in performance terms.     | 1- Ability to interpret and utilize the information provided by MSDS sheets<br>2- Develop skills to analyze engineering designs in a global, environmental and societal context<br>3- Understand the importance of environmental health and safety codes and regulations as professional engineers. |

## 2. Competencies and Measurements

| ABET Learning Objectives                                                                                                                        | Competencies                                                                                                             | Measurement                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 3(f) an understanding of professional and ethical responsibility                                                                                | Examine the ethical and legal responsibilities of professional engineers regarding environmental health and safety       | Homework, quizzes, and exams       |
|                                                                                                                                                 | Investigate applicable safety codes and regulations for permit and design requirements                                   | Homework, quizzes, and exams       |
| 3(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context | Interpret MSDS's sheets                                                                                                  | Homework and Exam                  |
|                                                                                                                                                 | Analyze system, component, or process designs for compliance with applicable environmental health and safety regulations | Project (ABET Rubric) and Homework |

## 3. Text and Resources

The required text for this course is *Occupational Safety and Health for Technologist, Engineers, and Managers 8<sup>th</sup> Edition*, by David L. Goetsch, Prentice Hall, 2000, ISBN 9780136742432.

2. For **combined undergraduate/graduate** courses, make two lists:
  - a. full publication information; label **Undergraduate**.
  - b. full publication information; label **Graduate**. Indicate number of pages required.

#### IV. Supporting Documentation

*Supporting documents must accompany proposal prior to preliminary approval by chair and dean.*

|   |                                                                                                                                                                                                                                                                                                                                         |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <b>Library</b> — Submit new course application and syllabus to the Dean of the Library. Consult with the director and establish a deadline for completion of the library report. <b>Attach</b> the signed copy of the Library report.                                                                                                   |
| 2 | <b>Instructional Design</b> — The application and syllabus must be reviewed by the Adams Center. <b>Attach</b> a copy of the Adams Center Review Letter.                                                                                                                                                                                |
| 3 | <b>Content Overlap</b> — Include one document for each course you listed in Section I-I. <b>Attach</b> statement from instructor/dept chair of existing course justifying the new offering.                                                                                                                                             |
| 4 | <b>Departmental Resources</b> — List the resources that support the course and are available only through the department, if applicable. <b>Attach</b> the list of the holdings and the location/s.                                                                                                                                     |
| 5 | <b>Resources</b> — List resources (other than library or departmental resources) that are needed to support this course (computers, lab equipment, other technology, etc.). <b>Attach</b> a complete list of all items and indicate possible sources or estimated cost of each. List the sources of any needed funds.                   |
| 6 | <b>Expenses</b> — List additional expenses needed to implement this course (full-time or part-time faculty, graduate or lab assistants, student employees, travel, special student costs, room renovation, storage facility, etc.). <b>Attach</b> a complete list of all items, the estimated cost of each and the source of the funds. |
| 7 | <b>Justification</b> — <b>Attach</b> all documents referred to in Section II-2                                                                                                                                                                                                                                                          |
| 8 | Syllabus — <b>Attach</b> the syllabus for the course based upon the anticipated first-semester offering.                                                                                                                                                                                                                                |
| 9 | Provide documentation for all additional attachments here                                                                                                                                                                                                                                                                               |

## V. Preliminary Approvals

All supporting documentation has been assembled and attached to this application. I believe this course is ready to be presented to appropriate councils. We have a plan to fund this new course.

Course Number and Name ENGR 305 Environmental Health and Safety for Engineers

### Primary Department

  
Department Chair  
11/12/14  
Date

  
Dean of the College  
11-24-14  
Date

### Cross-listing Department *Add more lines if multiple departments are cross-listing*

\_\_\_\_\_  
Department Chair  
  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Dean of the College  
  
\_\_\_\_\_  
Date

### Cross-listing Department *Add more lines if multiple departments are cross-listing*

\_\_\_\_\_  
Department Chair  
  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Dean of the College  
  
\_\_\_\_\_  
Date

**VI. Actions** *Place all actions on one page.*

Course ID: ENGR 305

Course Title: Environmental Health and Safety for Engineers

**1. College Academic Council:** (for all courses)

Note: Insert additional lines for College Academic Council action for each college involved in cross-listed courses

Approved ☒ Denied ☐

[Signature]  
College Dean or Director

Date

11-24-14

Approved ☒ Denied ☐

[Signature]  
College Dean or Director

Date

11/25/14

**2. Graduate Council:** (for graduate level courses)

Approved ☐ Denied ☐

\_\_\_\_\_  
Dean of Graduate School

\_\_\_\_\_  
Date

**3. Teacher Education Council:** (when applicable)

Approved ☐ Denied ☐

\_\_\_\_\_  
TEC Chair

\_\_\_\_\_  
Date

**4. University General Education Council:** (when applicable)

Approved ☐ Denied ☐

\_\_\_\_\_  
Provost's designee

\_\_\_\_\_  
Date

**5. University Undergraduate Academic Council:** (*undergraduate level courses*)

Approved ☐ Denied ☐

\_\_\_\_\_  
Vice Provost

\_\_\_\_\_  
Date

**6. Academic Provost:** (for all courses)

Approved ☐ Denied ☐

\_\_\_\_\_  
Provost

\_\_\_\_\_  
Date

**7. President of the University:** (for all courses)

Approved ☐ Denied ☐

\_\_\_\_\_  
President

\_\_\_\_\_  
Date

**Attach notes, comments, or conditions from appropriate councils:**