Course Change Request

Date Submitted: 01/17/18 2:26 pm

Viewing: SENG 321: Industrial Safety Engineering

Last edit: 03/02/18 2:48 pm
Changes proposed by: kmabray

Catalog Pages referencing this course
- SENG - Safety Engineering (SENG)

Programs referencing this course
- CERT-CU51: Safety Engineering - Certificate
- BS-ENGS: Environmental Geosciences - BS

Faculty Senate Number

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashley Stokes</td>
<td><a href="mailto:stokes992@tamu.edu">stokes992@tamu.edu</a></td>
<td>9798453364</td>
</tr>
</tbody>
</table>

Rationale for Course

The proposed changes are part of a routine curriculum review.

Course prefix       SENG        Course number   321
Department          Chemical Engineering
College/School      College of Engineering
Academic Level      Undergraduate
Undergraduate course level justification (Select One)

Academic Level
- Graduate
- (alternate)

Effective term
- 2018-2019

Complete Course Title
- Industrial Safety Engineering

Abbreviated Course Title
- INDUSTRI SAFETY ENGR

Catalog course description
- Concepts of designing, operating and maintaining optimally safe systems, risk management, economic impact, legislation, performance measurement and accident investigation/analysis; principles and practices in industrial hygiene engineering, fire protection engineering and introduction to systems safety engineering.

Prerequisites and Restrictions
- Senior classification.

Concurrent Enrollment
- No

Should catalog prerequisites/concurrent enrollment be enforced?
- No

Crosslistings
- No

Crosslisted With

[Links to other courses and programs]

In Workflow
1. CHEN Department Head
2. Curricular Services Review
3. EN Committee Preparer UG
4. EN Committee Chair UG
5. EN College Dean UG
6. UCC Preparer
7. UCC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 01/17/18 2:40 pm
   Yossef Elabd (elabd): Approved for CHEN Department Head
2. 01/18/18 7:58 am
   Sandra Williams (sandra-williams): Approved for Curricular Services Review
3. 01/25/18 7:25 am
   Eileen Hoy (ehoy): Approved for EN Committee Preparer UG
4. 01/25/18 8:30 am
   Prasad Enjeti (enjeti): Approved for EN Committee Chair UG
5. 02/21/18 1:53 pm
   Prasad Enjeti (enjeti): Approved for EN College Dean UG
6. 02/21/18 1:57 pm
   Sandra Williams (sandra-williams): Approved for UCC Preparer
7. 03/05/18 8:40 am
   Sandra Williams (sandra-williams): Approved for UCC Chair

https://nextcatalog.tamu.edu/courseleaf/approve/
<table>
<thead>
<tr>
<th>Semester Credit Hour(s)</th>
<th>Contact Hour(s) (per week):</th>
<th>Lecture: 3</th>
<th>Lab: 0</th>
<th>Other: 0</th>
<th>Total: 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeatable for credit?</td>
<td>No</td>
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<tr>
<td>Three-peat?</td>
<td>No</td>
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<tr>
<td>CIP/Fund Code</td>
<td>1435010106</td>
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<tr>
<td>Default Grade Mode</td>
<td>Letter Grade(G)</td>
<td></td>
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<tr>
<td>Alternate Grade Modes</td>
<td>Satisfactory/Unsatisfactory</td>
<td></td>
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<tr>
<td>Method of instruction</td>
<td>Lecture</td>
<td></td>
<td></td>
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<tr>
<td>Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education)</td>
<td>Yes</td>
<td></td>
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</tbody>
</table>

**Learning Outcomes**

*Meets traditional face-to-face learning outcomes.*

Describe how learning outcomes are met or provide justification why they are not met.

*The learning outcomes are the same for on campus and distance learning student. All are provided through Ecampus for all students.*

**Hours**

*Meets traditional face-to-face hours.*

Describe how hours are met or provide justification why they are not met.

*Courses are required and uploaded to Ecampus. The students are able to view as required.*

| Will this course be taught as a distance education course? | Yes No |
| I verify that I have reviewed the FAQ for Export Control Basics for Distance Education. | Yes No |
| Is 100% of this course going to be taught in Texas? | Yes |
| Will classroom space be needed for this course? | Yes |

This will be a required course or an elective course for the following programs:

Required (select program)

Elective (select program)

Has/will this course be(en) submitted for core curriculum consideration? No

Has/will this course be(en) submitted for Writing or
# Course Syllabus

<table>
<thead>
<tr>
<th>Syllabus:</th>
<th>Upload syllabus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upload syllabus</td>
<td>SENG 321v2.pdf</td>
</tr>
</tbody>
</table>

| Letters of support or other documentation | No |

<table>
<thead>
<tr>
<th>Additional information</th>
<th>Reviewer Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sandra Williams (sandra-williams) (01/16/18 8:57 am): Rollback: You will need to attach a traditional syllabus and a non-traditional syllabus (if applicable) to this request.</td>
</tr>
<tr>
<td></td>
<td>Jim Herman (jherman) (03/01/18 9:30 pm): ADA statement and Honor code need updating.</td>
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<tr>
<td></td>
<td>Sandra Williams (sandra-williams) (03/02/18 2:47 pm): Update received. Concerns addressed.</td>
</tr>
<tr>
<td></td>
<td>Sandra Williams (sandra-williams) (03/05/18 8:40 am): UCC approved March 2018.</td>
</tr>
</tbody>
</table>

| Reported to state? | No |

Key: 14578
Instructor: Dr. Monir Ahammad  
Office: 223B JEB  
Email: monir@tamu.edu  
Office Hours: MW 1:00-2:00PM, or by appointment

TA & Grader: Ahmed Harhara  
422 JEB  
Ahmed.harhara@tamu.edu  
Office hour: Tue 9:00 – 10:00AM & Thurs 3:00 - 4:00 PM

Course Description: 
The course emphasizes the various safety related issues that arise in industrial settings, including health, security and environmental factors. A broad array of topics will be addressed including performance measurement and regulatory requirements, as well as the handling of toxic/flammable/explosive materials, fire protection, personal protective equipment, emergency response, and accident investigations. Design aspects are included to reduce hazards, and resolve noise and ventilation issues. While the material emphasizes industrial settings, construction as well as office environments are covered.

Learning Objectives: 
• Students will be able to recognize hazards and mitigate issues related to safety, health, environmental and security during the design, maintenance and operation of an industrial facility.
• Guidelines, processes and tools will be demonstrated and applied which address these issues, such as appropriate workplace safety equipment & handling of toxic substances.
• Various metrics will be provided for measuring and tracking trends in safety & environmental performance.
• Students will choose a topic of interest and work in teams to prepare a project report/term paper and presentation.


Course Materials / Lectures: Weekly lectures will be posted on the eCampus prior to class and available at: http://ecampus.tamu.edu. Log on with your Net ID.

Teams: Each student will be assigned to a team with 4 members (3-5 if necessary), who will work together to complete homework assignments and the project. Each team will also
summarize a major historic process safety incident in a 1-2 page report. The incident reports will count as two homework grades.

**Homework:** Homework will be assigned approximately every week. Each student will turn in their own copy of the homework, but it is expected that the team will meet to discuss each assignment at least once. Students are required to write their **correct** team number and the date and time the team met on the cover page of each homework assignment. Late homework will **not** be accepted, except when prior approval has been obtained from the teaching assistant.

**Attendance:** Class attendance is important for this course. Material will be covered in class beyond the text and there may be unannounced quizzes. See [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07) for the University rules regarding attendance.

**Project:** Topics will be distributed on October 4, selected on October 11, and confirmed by the Instructor on October 16. An abstract and outline are due on October 25 and the report due on November 22. The grading of the project is based on the abstract, outline, and written report.

**Exams:** There will be three exams during the term. All exams will be closed-book in class. Test 1 is scheduled on October 2; Test 2 is on November 6; Final Test on December 11 (final exam time slot).

**Make-Up Policy:** Communicate! Inform the instructor in advance if unable to take a quiz or exam. There will be no make-up exams or quizzes without a university excused absence or permission from the instructor before the exam.

**COURSE TOPICS:** The class will cover the topics pertinent to an industrial safety and health organization, as listed below.

1. Introduction to industrial safety and health
2. Concepts of hazard avoidance
3. Regulations
4. Management systems & information systems
5. Process safety, emergency response, incident investigations, and security
6. Buildings and facilities
7. Ergonomics
8. Health and toxic substances
9. Environmental management, ventilation and noise
10. Flammable and explosive materials
11. Personal protection
12. Fire protection
13. Electrical Hazards
14. Construction
METHODS OF EVALUATION:

1. Homework 15%
2. Quizzes 10%
3. Project 15%
4. Test 1 20%
5. Test 2 20%
6. Test 3 20%

GRADES:

90-100  A
80-89  B
70-79  C
60-69  D
<60  F

CLASS POLICY:
- No texting or cell phone use during class.
- All quizzes and exams are closed-book and closed-notes.
- Homework is due a week after assigned in class.
- Late homework will not be accepted without an excuse and prior approval.

NOTICES:

1. The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services at the White Creek complex on west campus or call 845-1637. For additional information visit http://disability.tamu.edu.

2. Academic Integrity Statement and Policy
   “An Aggie does not lie, cheat or steal, or tolerate those who do.”
   website link http://aggiehonor.tamu.edu
<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Chapter 1. Introduction to Industrial Safety and Health Management</td>
<td>Class introduction</td>
</tr>
<tr>
<td>4</td>
<td>Teamwork &amp; Exercise</td>
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<tr>
<td>6</td>
<td>Chapter 2. Safety &amp; Health Function</td>
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<tr>
<td>11</td>
<td>Chapter 2. Safety &amp; Health Function – cont’d</td>
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<tr>
<td>13</td>
<td>Video</td>
<td>Quiz 1</td>
</tr>
<tr>
<td>18</td>
<td>Chapter 3. Concepts of Hazard Avoidance</td>
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<tr>
<td>20</td>
<td>Chapter 4. Rules &amp; Regulations</td>
<td>Evaluation of team w/ homework</td>
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<tr>
<td>25</td>
<td>Chapter 5. Management Systems &amp; Information Systems</td>
<td></td>
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<tr>
<td>27</td>
<td>Chapter 5. Management Systems &amp; Information Systems – cont’d</td>
<td>Acknowledge team member eval w/hwk</td>
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<tr>
<td>September</td>
<td></td>
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<tr>
<td>2</td>
<td>Test 1</td>
<td></td>
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<td>4</td>
<td>Chapter 6. Bhopal Incident &amp; Process Safety Management</td>
<td>Project topics</td>
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<tr>
<td>9</td>
<td>Emergency Response, Incident Investigation &amp; Security</td>
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<tr>
<td>11</td>
<td>Chapter 7. Buildings and Facilities</td>
<td>Teams select topics</td>
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<tr>
<td>16</td>
<td>Chapter 7. Buildings and Facilities – cont’d</td>
<td>Instructor confirms topics</td>
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<tr>
<td>18</td>
<td>Chapter 8. Ergonomics</td>
<td>Quiz 3: Submit team member evaluations</td>
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<tr>
<td>23</td>
<td>Chapter 9. Health and Toxic Substances</td>
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<tr>
<td>25</td>
<td><strong>No class. Attend 4 papers at MKOPSC Symposium at Hilton</strong></td>
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<td>30</td>
<td>Chapter 10. Ventilation and Noise</td>
<td>Project abstract due</td>
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<td>October</td>
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<td>Chapter 10. Ventilation and Noise – cont’d</td>
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<td>6</td>
<td>Test 2</td>
<td></td>
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<td>8</td>
<td>Environmental Management</td>
<td></td>
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<tr>
<td>13</td>
<td>Environmental Management – cont’d</td>
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<tr>
<td>15</td>
<td>Chapter 11. Flammable &amp; Explosive Materials</td>
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<td>Chapter 12. Personal Protection</td>
<td>Quiz 4</td>
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<td>No Class – Reading day</td>
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<td>27</td>
<td>Chapter 13. Fire Protection</td>
<td>Project reports due</td>
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<td>29</td>
<td>Chapter 14 – 16. Highlights</td>
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<td>November</td>
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<tr>
<td>4</td>
<td>Project presentations</td>
<td>Submit evaluation of team members</td>
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<tr>
<td>6</td>
<td>Project presentations</td>
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<tr>
<td>11</td>
<td>Final Test; 3:30 – 5:30 pm</td>
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