Course Change Request

Date Submitted: 01/17/18 2:07 pm

Viewing: **SENG 310 : Industrial Hygiene Engineering**

Last edit: 03/02/18 2:46 pm
Changes proposed by: kmabray

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

Programs referencing this course
- CERT-CUS: Safety Engineering - Certificate
- BS-EVEN: Bachelor of Science in Environmental Engineering

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
310

Department
Chemical Engineering

College/School
College of Engineering

Academic Level
Undergraduate

Undergraduate course level justification (Select One)

Academic Level (alternate)
Graduate

Effective term
2018-2019

Complete Course Title
Industrial Hygiene Engineering

Abbreviated Course Title
INDUS HYGIENE ENGR

Catalog course description
Application of scientific and engineering principles in the selection and design of control systems related to chemical, physical and ergonomic exposures in the process and manufacturing industries; relationships of criteria, analysis and specifications for the assessment and control of occupational related illnesses.

Prerequisites and Restrictions
- CHEM 107; MATH 308; PHYS 208; or approval of instructor.

Concurrent Enrollment
No

Should catalog prerequisites / concurrent enrollment be enforced?
Yes

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 (eiabd): Approved for CHEN Department Head
2. 01/18/18 7:57 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. 02/22/18 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
### Enforced Prerequisites / Concurrent Enrollment

<table>
<thead>
<tr>
<th>And/Or</th>
<th>Course Prefix/Number</th>
<th>Min Grade/Score</th>
<th>Academic Level</th>
</tr>
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<tbody>
<tr>
<td>And</td>
<td>CHEM 107</td>
<td>D</td>
<td>UG</td>
</tr>
<tr>
<td>And</td>
<td>MATH 308</td>
<td>D</td>
<td>UG</td>
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<tr>
<td>And</td>
<td>PHYS 208</td>
<td>D</td>
<td>UG</td>
</tr>
</tbody>
</table>

**Crosslistings**
- No Crosslisted With

**Stacked**
- No Stacked with

### Semester Credits

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit Hour(s) (per week):</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
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</tbody>
</table>

**Contact Hour(s)**

- Lecture: 3
- Lab: 0
- Other: 0
- Total: 3

**Repeatable for credit?**
- No

**Three-peat?**
- No

**CIP/Fund Code**
- 1435010106

**Default Grade Mode**
- Letter Grade(G)

**Alternate Grade Modes**
- Satisfactory/Unsatisfactory

**Method of instruction**
- Lecture

**Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education)**
- Yes

### 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

- I verify that I have reviewed the FAQ for Export Control Basics for Distance Education.
- Yes

**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)
Course Syllabus

Syllabus: Upload syllabus
Upload syllabus  SENG 310v2.pdf

Letters of support or other documentation: No

Additional information

Reviewer Comments
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.
Sandra Williams [sandra-williams] (01/18/18 7:57 am): Edits made to enforced prerequisites table to comply with listed catalog prerequisites.
Jim Herman [jherman] (03/01/18 9:29 pm): Late catch - ADA statement and Honor Code are out of date.
Sandra Williams [sandra-williams] (03/02/18 2:46 pm): Update received. Concerns addressed.

Reported to state: No
Instructor: Dr. Noor Quddus  
Email: nooralquddus@tamu.edu  
Telephone: (979) 985-1330  
Location: JEB 418  
Class Hours: MW 5:45 PM – 7:00 PM CHEN 108  
Office Hours: Thursday 9 AM – 12 PM

Course Description
Application of scientific and engineering principles in the selection and design of control systems related to chemical, physical and ergonomic exposures in the process and manufacturing industries; relationships of criteria, analysis and specifications for the assessment and control of occupational related illnesses.

Prerequisites:
None.

Overall Course Learning Outcomes
Objectives of the course are:
1. To introduce industrial hygiene engineering field from a historical standpoint and to describe the legal basis of health and safety in the U.S.
2. To focus on the chemical hazards (the problems arise from skin contact/inhalation of chemicals, the detection and control of airborne contaminants, and the thread of fire or explosion are discussed)
3. To discuss injuries as a result of sound, radiation, heat, biological agents, and accidents, and to introduce ergonomics.
4. To introduce important industries and application of safety principles.

Course topics:
- Introduction to Industrial Hygiene  
- Evaluation of hazards
- Anatomy, Physiology and Pathology (Lungs, skin, occupational dermatoses, ears, and eyes)  
- Air sampling
- Industrial toxicology  
- Direct reading instruments
- Gases, vapors and solvents  
- Methods of control of hazards
- Particulate matter  
- Local exhaust ventilation
- Industrial noise  
- Dilution ventilation of industrial workplace
- Ionizing radiation  
- General ventilation of nonindustrial occupancies
- Nonionizing radiation  
- Respiratory protection
- Thermal stress  
- Personal protective equipment
- Ergonomics  
- Industrial hygiene program
- Biological hazards  
- Hazard Communication
- Federal Regulations

Getting Started
To get started within this course, you will need to:
- Review the syllabus in its entirety
- Login to the course website, eCampus (see directions below), to:
ensure that you have access and the correct plug-ins installed,
update your user profile,
spend some time becoming familiar with the course layout, and
complete your “Profile” the “Breaking the Ice” forum.

Resource Materials & Course Technology

Textbook and Resource Materials (needed for the course):

Supplemental Textbook and Resource Materials (optional):
- Supplemental materials will be uploaded in the eCampus as needed.

You can purchase the textbooks from the University Bookstore [http://tamu.bncollege.com/](http://tamu.bncollege.com/). Notice: As a student at Texas A&M you are not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from independent retailers, including online retailers. Supplemental or optional materials can enhance your course mastery better providing you with extra information and resources, but they are not required.

eCampus:
This course will use the TAMU eCampus, powered by Blackboard Learn, as the virtual classroom. Within eCampus, you can find all course-related content and assessments (including but not limited to course materials, content, videos, activities, assessments, etc.). The recommended browsers for eCampus access are Mozilla Firefox or Google Chrome (Internet Explorer is not recommended). For additional information on support browsers for eCampus, please visit [http://tx.ag/eCampusBrowserSupport](http://tx.ag/eCampusBrowserSupport). To log in to eCampus:

- Go to [http://ecampus.tamu.edu](http://ecampus.tamu.edu)
- Click the Login button
- Use your TAMU NetID and password to log in

Once logged into eCampus, you will see a list of all courses for which you are enrolled in for the semester. To navigate to this course, click on the name of the course. If you have any problems logging into the course, please see the technology support section below.

Within eCampus, the course menu is located on the left. The syllabus and course introductory materials can be found within the “Getting Started” section of the course menu. The course content is presented within modules and can be accessed by click on the names of the modules within the menu. Course due dates are posted within the calendar. If you have any question about navigating the eCampus course website, please contact me. We also recommend that faculty record a short course introduction video which should include highlights from the syllabus and how to navigate eCampus.

Technology Requirements & Recommendations:
Technology Requirements:
- Reliable and frequent access to a computer and to the high-speed Internet. If you do not have frequent and reliable access to a computer with Internet connection, please contact the instructor to discuss your situation and determine an appropriate solution.
- To attend virtual office hours, students will need to make sure they have setup Bb Collaborate to run on their computer(s) and mobile devices. Please visit [http://blackboard.force.com/publicarticleview?id=kA770000000CbIW](http://blackboard.force.com/publicarticleview?id=kA770000000CbIW) to check your system requirements and test your connection.
  - It is required to have a microphone and webcam when using Bb Collaborate. While many students use a built in webcam, it is recommended to have a headset with a microphone, such as a smartphone headset, for the virtual office hours and group collaboration.

Technology Recommendations:
- Google Hangouts can also be used to work collaboratively in a virtual environment for group projects. Students will need to make sure they have claimed a TAMU Google account. To claim and learn more about your account, please visit [http://google.tamu.edu](http://google.tamu.edu).
Course Support

Teaching Assistant Support:
A graduate student from the Process Safety Center will be teaching assistant for this course. She will help students with quizzes, homework, exams and projects. Her contact details are:

Cassio Ahumada
Office hour: TBA
Office: JEB 307
Email: cassioahumada@tamu.edu

In addition to contacting the instructor or teaching assistant for course content related questions, there is a variety of campus resources for course support.

Academic Services Support:
The Office of Graduate & Professional Studies (OGAPS) offers graduate student services and advocates for graduate education for Texas A&M students who are both on-campus and at a distance. For additional information regarding OGAPS, visit: http://ogaps.tamu.edu/Home

Technology Support:
For technological issues related to eCampus and software, contact the TAMU Help Desk:

• Student eCampus Help Website, http://ecampus.tamu.edu/student-help.php
• TAMU IT Help Desk:
  o Website: http://hdc.tamu.edu/index.php (Online Chat is available)
  o Phone: (979) 845-8300
  o Email: helpdesk@tamu.edu
• For Library Reserves:
  o Phone: (979) 458-2197
  o Email: p-melgoza@tamu.edu

The TAMU Help Desk is open 24 hours a day 7 days a week. If your technical problems are unable to be resolved within 48 hours, please contact the instructor for additional assistance.

Course Activities and Assessments

<table>
<thead>
<tr>
<th>Assessment Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework assignments</td>
<td>15%</td>
</tr>
<tr>
<td>Quiz and in-class assessment</td>
<td>15%</td>
</tr>
<tr>
<td>Project/Term Paper</td>
<td>10%</td>
</tr>
<tr>
<td>Exam I</td>
<td>20%</td>
</tr>
<tr>
<td>Exam II</td>
<td>20%</td>
</tr>
<tr>
<td>Exam III</td>
<td>20%</td>
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</tbody>
</table>

Homework Assignment
Homework will be assigned as needed (could be on weekly basis), and will be due at the beginning of class of the assigned day. Homework will be performed and submitted by students individually or in teams assigned by the instructor. Late homework will not be accepted, except that prior approval has been obtained. Homework is generally not accepted after one week from the due date and will be considered zero point.

Quiz and In-class Assessments
The quizzes may be unannounced. Most quizzes will be about 10 minutes long. 6-8 quizzes will be taken and best 5 will be considered.

Project/Term Paper
Students will participate in a team project assigned by the instructor. Each team will be formed with three to four members. The grading of the project will be based on project proposal, draft report, and final report. The format of the report will be provided in the class.
Exams
Each of the three exams will be based on the class lectures, homework, and material covered, distributed, or assigned in class. All exams will be conducted during the regular class time. For the DL students, exams will be held on the same day or as declared.

Determination of Final Grades within the Course

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>90 - 100%</td>
</tr>
<tr>
<td>B</td>
<td>80 - 89%</td>
</tr>
<tr>
<td>C</td>
<td>65 – 79%</td>
</tr>
<tr>
<td>D</td>
<td>50 – 64%</td>
</tr>
<tr>
<td>F</td>
<td>Less than 50%</td>
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</table>

Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Lecture</th>
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<tbody>
<tr>
<td>Aug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Introduction</td>
<td>T1</td>
</tr>
<tr>
<td>30</td>
<td>Anatomy, Physiology, and Pathology (Lungs)</td>
<td>T2</td>
</tr>
<tr>
<td>Sep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>Anatomy, Physiology, and Pathology (Skin and Occupational Dermatoses)</td>
<td>T3</td>
</tr>
<tr>
<td>06</td>
<td>Anatomy, Physiology, and Pathology (Ears and Eyes)</td>
<td>T4</td>
</tr>
<tr>
<td>11</td>
<td>Industrial Toxicology</td>
<td>T5</td>
</tr>
<tr>
<td>13</td>
<td>Gases, Vapors and Solvents</td>
<td>T6</td>
</tr>
<tr>
<td>18</td>
<td>Particulate Matter</td>
<td>T7</td>
</tr>
<tr>
<td>20</td>
<td>Industrial Noise</td>
<td>T8</td>
</tr>
<tr>
<td>25</td>
<td>Ionizing Radiation</td>
<td>T9</td>
</tr>
<tr>
<td>27</td>
<td>Exam I</td>
<td></td>
</tr>
<tr>
<td>Oct</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Nonionizing Radiation</td>
<td>T10</td>
</tr>
<tr>
<td>04</td>
<td>Thermal Stress</td>
<td>T11</td>
</tr>
<tr>
<td>09</td>
<td>Ergonomics</td>
<td>T12</td>
</tr>
<tr>
<td>11</td>
<td>Biological Hazards</td>
<td>T13</td>
</tr>
<tr>
<td>16</td>
<td>Evaluation of Hazards</td>
<td>T14</td>
</tr>
<tr>
<td>18</td>
<td>Air Sampling</td>
<td>T15</td>
</tr>
<tr>
<td>23</td>
<td>Direct Reading Instruments</td>
<td>T16</td>
</tr>
<tr>
<td>25</td>
<td>Methods of control of Hazards</td>
<td>T17</td>
</tr>
<tr>
<td>30</td>
<td>Exam II</td>
<td></td>
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<tr>
<td>Nov</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>Local Exhaust Ventilation</td>
<td>T18</td>
</tr>
<tr>
<td>06</td>
<td>Dilution Ventilation of Industrial Workplace</td>
<td>T19</td>
</tr>
<tr>
<td>08</td>
<td>General Ventilation of Nonindustrial Occupancies</td>
<td>T20</td>
</tr>
<tr>
<td>13</td>
<td>Respiratory Protection</td>
<td>T21</td>
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<tr>
<td>15</td>
<td>Personal Protective Equipment</td>
<td>T22</td>
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<tr>
<td>20</td>
<td>Industrial Hygiene Program</td>
<td>T23</td>
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<tr>
<td>27</td>
<td>Government Regulation</td>
<td>T24</td>
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<tr>
<td>29</td>
<td>Exam III</td>
<td></td>
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<tr>
<td>Dec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>Project Report Submission</td>
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</tbody>
</table>
Course Policies

Attendance Policy: [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07)

Attendance and course participation will be measured by class attendance, video lectures watch, participation in discussion forums, assignments submission, participation in quizzes and exams. Students should be logging into the course to view videos and participate in the course 2-3 times per week. Students not participating in the course will be notified by the instructor.

Late Work Policy:

LATE WORK is not accepted. This course relies on discussion, interaction, and group work among class members. Therefore, it is essential that work is completed on schedule. At the beginning of every module, you should spend time planning. Read the learning modules in eCampus very carefully. Please do not wait until the last day to do the work. Punctuality is especially important when assignments impact your classmates. If your schedule impacts others, notify them and me and make alternative arrangements.

Course Copyright Statement:

The materials used within this course are copyrighted. These materials include, but are not limited to, the syllabi, quizzes, exams, lab problems, online handouts, course videos, etc. Because these materials are copyrighted, you do not have the right to copy or distribute these materials, unless permission is expressly granted.

Incomplete Grade:

Grades of “INCOMPLETE” will be given only for certifiable medical reasons or in other extraordinary circumstances arranged in advance. If you are planning to be away from your usual location (travel, vacation, etc.) during this course, consider dropping the course or discuss your situation with me and we can see if you will be disadvantaged by your mobility or impacting others’ work.

Communication Expectations:

Ways to contact the instructor and teaching assistant for this course includes direct communication during the office hours, email or eCampus discussion boards.

Course assignments, projects, and other assessments will be graded no later than 7 days after the due dates posted within the syllabus and eCampus calendar. If dates need to be adjusted based on unforeseen circumstances, an announcement will be sent from eCampus.

Minimum Technical Skills:

A participant of this course must be able to utilize a computer system and perform the following functions:

- Operate a Mac/PC computer’s system to manage files, install and execute computer programs.
- Connect, configure and use peripherals such as a headset, webcam or microphone.
- Navigate through the Internet and web pages using a browser (i.e. Firefox or Chrome).
- Use Microsoft Word or a similar word processing software that can output .pdf files.
- Use Microsoft Power Point or similar presentation software.
- Be familiar with how web conferencing software operates.

Netiquette Expectations:

Netiquette is network etiquette. Netiquette covers both common courtesy online and the informal when communication with other online. TAMU Instructional Technology Services provides some general netiquette rules that students and faculty are expected to follow in this course. For more information on netiquette, please visit [http://its.tamu.edu/Distance-Education/Aggie-Honor-Code-Nettiquette](http://its.tamu.edu/Distance-Education/Aggie-Honor-Code-Nettiquette)
Institutional Policies

Americans with Disabilities Act (ADA) Policy Statement:
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.
This course uses Blackboard Learn as its online platform. To know more about its accessibility standards please to their website. http://www.blackboard.com/Platforms/Learn/Resources/Accessibility.aspx.
If you find that course content or software are not accessible, please contact your course instructor or disability services so that appropriate accommodations to the learning environment can be made.

Academic Integrity Statement and Policy
For many years Aggies have followed a Code of Honor, which is stated in this very simple verse:

“An Aggie does not lie, cheat or steal, or tolerate those who do.”

The Aggie Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified. The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other. For more information, please visit http://aggiehonor.tamu.edu/

Student Rules:
Each student has the responsibility to be fully acquainted with and to comply with the Texas A&M University Student Rules. More specific rules, information and procedures may be found in various publications pertaining to each particular service or department. For more information, please visit http://student-rules.tamu.edu/

Statement of Plagiarism:
All materials generated by the instructor for this class (which may include but are not limited to syllabi and in-class materials) are copyrighted. You do not have the right to copy such materials unless the instructor expressly grants permission. As commonly defined, plagiarism consists of passing off as one’s own the ideas, words, writing, etc. which belong to another. Plagiarism is one of the worst academic violations, for the plagiarist destroys trust among others. If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, under the section “Scholastic Dishonesty.”

Export Control Statement:
United States export control laws regulate the release of goods and technologies that affect U.S. national security or foreign policy interests. Distance education students and course content MUST comply with these U.S. export control laws. If TAMU indicates that you are attempting to access course content from an IP address associated with a country currently subject to economic and trade sanction, your TAMU NetID account will be terminated and you will be contacted by the TAMU Export Control Office and the Office of Identity Management. For additional information visit, https://vpr.tamu.edu/resources/export-controls/resources.