

COLLEGE OF SCIENCE AND ENGINEERING TECHNOLOGY
Department of Agricultural Sciences and Engineering Technology
Sam Houston State University

COURSE SYLLABUS
ETSM 4369 – Environmental Safety Management
Fall, 2017

Course Title: Environmental Safety Management
Course ID: ETSM 4369 - 01
Credit Hours: 3-hour undergraduate course
Delivery: Online setting lecture
Delivery Time: Online (Weekly)
Instructor: Tareq I. Ismail, Ph.D.
Office: PIRKLE ENGINEERING TECH CTR 420E
Office hours: T & Th (11:00 a.m. - 1:00 p.m.)
Virtual Hours: Skype (by appointment)
E-mail: txi003@shsu.edu
Skype user name: **tareq.ismail007**

Catalog Data: ETSM 4369 - An examination of principles of integrating total safety management into an effective environmental safety management system. Comprehension of laws and regulations that protect our environment and human health. The course will cover Hazard communication (HAZCOM) and Hazard waste operations (HAZWOPER). The role of occupational safety and health administration (OSHA), U.S. department of transportation (DOT), and Environmental protection agency (EPA).

Prerequisites: None

Textbook: Dr. Charles E. Thomas, Ph.D., Process Technology: Safety, Health, and Environment; 3rd Edition (February 8, 2011)

Reference: Michael R. Speegle, MS, Safety, Health, and Environmental Concepts for the Process Industry; 2nd Edition (January 1, 2012)

Course objectives:	To prepare students for occupational and safety health responsibilities in today's complex environments. Thoroughly prepares students for current and future realities in the field of occupational safety and health. Enhances The students' understanding and demonstrate real world relevance.
Topics:	<p>This course systematically addresses</p> <ul style="list-style-type: none"> ➤ A full range of safety, health and environmental issues that relate to the process industry. ➤ Comprehensive discussion on conducting a job hazard analysis. ➤ Review of hazards associated with operating systems common to the chemical industry. ➤ OSHA regulations. ➤ Features hazards associated with liquids, gases, vapors, particulates, toxic metals and more. ➤ Complete range of safety, health and environmental issues as defined by the CAPT curriculum. ➤ New safety problems, line-drawings, study/review questions and instructor directed applications that enhance learning and retention of new text material.
Course vs. objectives:	<p>The course supports the following outcomes in providing the students with:</p> <ul style="list-style-type: none"> ➤ Concise, focused, basic coverage of the field's latest issues and trends: Thoroughly prepares students for current and future realities in the field of occupational safety and health ➤ provides an up-to-date, practical teaching resource: Focuses on the basic safety-related needs of people in the workplace ➤ Combines theory and principles in realistic settings: Focuses on the new challenges of occupational safety and health in global workplace environments, and the changing roles of safety/health professionals ➤ Integrating safety, science and theory with process equipment and systems.

SYLLABUS

Session Date	Chapter Number	TOPIC	Assignment	Due
Aug 24	1	Introduction to Process Safety	#1 (ch1)	Sep 03 @ 11:59pm
Aug 29	2	Hazard Classification	#2 (ch2)	Sep 03 @ 11:59pm
Aug 31	2	Hazard Classification	#2 (ch2)	Sep 03 @ 11:59pm
Sep 05	3	Routes of Entry and Environmental Effects	#3 (ch3)	Sep 10 @ 11:59pm
Sep 07	3	Routes of Entry and Environmental Effects	#3 (ch3)	Sep 10 @ 11:59pm
Sep 08		Twelfth Class Day - Last Day to Drop Without a "Q" and Receive 100% Refund.		
Sep 12	4	Gases, Vapors, Particulates, and Toxic Metals	#4 (ch4)	Sep 17 @ 11:59pm
Sep 14	4	Gases, Vapors, Particulates, and Toxic Metals	#4 (ch4)	Sep 17 @ 11:59pm
Sep 19	5	Hazards of Liquids	#5 (ch5)	Sep 24 @ 11:59pm
Sep 21	5	Hazards of Liquids	#5 (ch5)	Sep 24 @ 11:59pm
Sep 25		Exam I	Ch (1-5)	Sep 25 @ 11:59pm
Sep 26	6	Hazardous Chemical Identification: Hazcom, Toxicology, and Dot	#6 (ch6)	Oct 01 @ 11:59pm
Sep 28	6	Hazardous Chemical Identification: Hazcom, Toxicology, and Dot	#6 (ch6)	Oct 01 @ 11:59pm
Oct 03	7	Fire and Explosion	#7 (ch7)	Oct 08 @ 11:59pm
Oct 05	7	Fire and Explosion	#7 (ch7)	Oct 08 @ 11:59pm

Oct 10	8	Electrical, Noise, Heat, Radiation, Ergonomic, and Biological Hazards	#8 (ch8)	Oct 15 @ 11:59pm
Oct 12	8	Electrical, Noise, Heat, Radiation, Ergonomic, and Biological Hazards	#8 (ch8)	Oct 15 @ 11:59pm
Oct 17	9	Safety Permit Systems	#9 (ch9)	Oct 22 @ 11:59pm
Oct 19	9	Safety Permit Systems	#9 (ch9)	Oct 22 @ 11:59pm
Oct 24	10	Personal Protective Equipment	#10 (ch10)	Oct 29 @ 11:59pm
Oct 26	10	Personal Protective Equipment	#10 (ch10)	Oct 29 @ 11:59pm
Oct 30		Exam II	Ch (6-10)	Oct 30 @ 11:59pm
Oct 31	11	Engineering Controls	#11 (ch11)	Nov 5 @ 11:59pm
Nov 02	11	Engineering Controls	#11 (ch11)	Nov 5 @ 11:59pm
Nov 07	12	Administrative Controls	#12 (ch12)	Nov 12 @ 11:59pm
Nov 09	12	Administrative Controls	#12 (ch12)	Nov 12 @ 11:59pm
Nov 10		Last Day to Drop Full-Term Courses with a "Q"		
Nov 14	13	Regulatory Overview: OSHA, PSM, EPA, NFDA, and DOT	#13 (ch28)	Nov 19 @ 11:59pm
Nov 16	13	Regulatory Overview: OSHA, PSM, EPA, NFDA, and DOT	#13 (ch29)	Nov 19 @ 11:59pm
Nov 20		Review/ work on final project		
Nov22-24		Thanksgiving Holidays for Students and Faculty		
Nov27-30		Final project (power point & Project paper) IDEA evaluation		Dec 01 @ 11:59pm

HERE ARE THE RULES FOR ETSM 4369 – Environmental Safety Management

1. READINGS

Prior to each class, you are required to read the material indicated in the syllabus. You are expected to go through both the text and examples.

2. ASSIGNMENTS

There is **ABSOLUTELY** no make-up for the assignments (Exams, Homework, etc.). **Each student is required to do the assigned homework.** All assignments should be turned on line. Refer to syllabus for each assignment due dates. The deadline to turn in an assignment on the due date is before midnight (11:59 PM).

3. TESTS

There will be three exams and final comprehensive exam as indicated in the syllabus. No make-up exams will be given, except in very exceptional circumstances (e.g., documented illness).

4. Lectures

I will do my lectures online. You will be notified of updates and any changes via e-mails.

5. Communication with class

All my communication outside the class will be via e-mail. I tends to send a lot of e-mails to remind you that I have updates with reading to assignments, Homework assignments, exams, exam reviews, deadlines, and recommendations for both Homework and exams. I respond to students' e-mails. I encourage you to check your e-mails frequently for updates.

6. OFFICE HOURS:

I am available via e-mail.

Virtual Hours:

I am also available via Skype.

e-mail:

txi003@shsu.edu

Skype user name: tareq.ismail007

7. GRADING

My teaching philosophy is to encourage cooperation not competition; therefore, the grades will not be curved.

You Also have many opportunities to be rewarded for your work, per the following mix:

- 60% Reading, Paper Assignments, and/or Homework
- 20% Exams (10% 1st Exam and 10% 2nd Exam)
- 20% Final project (10% Power point and 10% project paper)

The following scale will be used to determine letter grades:

- 87 -100 A
- 70-86.99 B
- 57-69.99 C
- 40-56.99 D
- 0 - 39.99 F

8. IF YOU HAVE A DIAGNOSED LEARNING DIFFERENCE:

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely due to their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail disability@shsu.edu). They should then plan with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired. SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see <http://www.shsu.edu/dept/academic-affairs/documents/aps/students/811006.pdf>

The above reference is so well written, it is adopted from (Foy D. Mills, Jr., Ph.D.) syllabus.

9. Religious Holidays:

University policy states that a student who is absent from class for the observance of a religious holy day shall be permitted to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. A student who wishes to be excused for a religious holy day must present the instructor with a written statement describing the holy day(s) and the travel involved.

10. Note:

Your homework questions will be on your exam. So, study the homework before each exam.

You are strongly encouraged to see me in my office (even in non-office hours, in which case you should make an appointment). The best way to contact me will be through Email. Before coming to see me, calling me, or emailing me, please think your questions through in advance, and read the corresponding text in your book or notes.

Please, come to see me if you have any questions!

ETSM 4369 – Environmental Safety Management – Final Project

Topic: From what you have learned in class develop an Environmental Safety Management program suited for your own industry (Build a Check list of things to be corrected at your work place and what you are going to do to make them safe)

Final project is done on Power point 5% and Project paper 5%. The project paper includes everything you have done in the power point with comprehensive details.

An example of previous student project (might be the same or different topic) will be provided to class to help you follow format.

It is your project/ your industry!

You might want to consider some systems of safety such as:

- Workplace Accidents and the Human Factor.
- Hazard Recognition.
- Toxic Hazards.
- Fire Hazards.
- Process Hazards: Pressure, Steam, Electricity.
- Noise and Vibration Hazards.
- Hazards of Temperature.
- Hazards of Process Sampling.
- Control of Hazards: Engineering Controls.
- Control of hazards: Administrative Controls.
- Personal Protective Equipment (PPE).
- Hazard Communication (HAZCOM).
- Respiratory Protection.
- Process Safety Management (PSM).
- Permit Systems.

- Hazardous Waste Operations (HAZWOPER).
- OSHA and DOT.
- The Environmental Protection Agency.
- Stress, Drugs and Violence.

In general, cover the topics that were developed in class.

Extra credit will be given for original ideas you cover in the final project. Please identify all topics you are addressing in the table of content.

Extra credit up for grab to whom is willing to do extra work

+1% Extra credit for creativity in the presentation in the final project, i.e. visual aid, charts, original (New) ideas, etc.

+Extra credit (TBD) will be given for doing extra assigned HW applied to overall HW total %

Note: You will make the report interesting – It must keep me awake while I read it. A standard everyday report will only get you to **70 percent. The other 30 percent is in your ability to make it interesting.**

NOTE: The courses syllabus and above Scope and Sequence or Course Schedule/Outline can change based upon the classes progress as a whole, or bad weather, etc... Pay attention to announcements and periodical changes. You will receive an announcement for any changes and they will be made here also.