

Safety, Health, and Environment I Fall 2026 Semester

PTAC 1408_2A1 Online Course

Credit: 4 semester credit hours (4 hours lecture)



Prerequisite/Co-requisite: None. Complete the Online Orientation and answer yes to 7+ questions on the Online Learner Self-Assessment:

<http://www.lit.edu/depts/DistanceEd/OnlineOrientation/OOStep2.aspx>

Course Description

An overview of safety, health, and environmental issues in the performance of all job tasks in the process industry. *This course is time-bound, structured, and completed totally online.*

Course Objectives

Upon completion of this course, the student will be able to:

1. Describe the components of a typical plant safety and environmental program and the role of a process technician in relation to safety, health, and the environment;
2. Identify the functionality of safety, health and environmental equipment used.

INSTRUCTOR CONTACT INFORMATION

Instructor: LG Williams

Email: lwilliams4@lit.edu

Office Phone: 409-247-5355

Office Location: ExxonMobil PTAC Building, Office 212

Office Hours: Monday & Wednesday 11:00 AM - 12:30 PM

REQUIRED TEXTBOOK AND MATERIALS

Safety, Health, and Environment, 2nd Edition

NAPTA / 2020 / Pearson / Available

ISBN: 978-0-13-557249-8

ATTENDANCE POLICY

You are required to log on weekly to Blackboard and review the week's course material. Additionally, you are required to check your LIT emails weekly.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an “F” in the course.

STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16-week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

Course Schedule (*Subject to Change*)

Date	Topic	Reference
8/24/2026	Introduction to Safety, Health, and Environment Discussion #1	Chapter 1
8/26/2026	Types of Hazards and their Effects Intro Spring 2026 Syllabus Test	Chapter 2
8/31/2026	Recognizing Chemical Hazards Discussion #2	Chapter 3
9/2/2026	Recognizing Biological Hazards Assignment #1	Chapter 4
9/7/2026	Labor Day Holiday	LO/TO Control Valve Practice
9/9/2026	Test #1 Chapters 1-4 Discussion #3	Chapters 1-4
9/14/2026	Equipment and Energy Hazards	Chapter 5
9/16/2026	Fire and Explosion Hazards Discussion #4	Chapter 6 LO/TO Control Valve Evaluation
9/21/2026	Pressure, Temperature and Radiation Hazards	Chapter 7
9/23/2026	Hazardous Atmospheres and Respiration Hazards Discussion #5	Chapter 8
9/28/2026	Test #2 Chapters 5-8	Chapters 5-8
9/30/2026	Working Area and Height Hazards Discussion #6	Chapter 9
10/5/2026	Hearing and Noise Hazards Assignment #2	Chapter 10
10/7/2026	Construction, Maintenance, and Tool Hazards	Chapter 11

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	Discussion #7	LO/TO Feed Pump Practice
10/12/2026	Vehicle and Transportation Hazards Natural Disasters and Inclement Weather	Chapter 12 Chapter 13
10/14/2026	Test #3 Chapters 9-13 Discussion #8	Chapters 9-13
10/19/2026	Physical Security and Cybersecurity	Chapter 14 LO/TO Feed Pump Evaluation
10/21/2026	Recognizing Ergonomic Hazards Discussion #9	Chapter 15
10/26/2026	Recognizing Environmental Hazards	Chapter 16
10/28/2026	Introduction to Hazard Controls Discussion #10	Chapter 17
11/2/2026	Engineering Controls: Alarms and Indicator Systems	Chapter 18
11/4/2026	Test #4 Chapters 14-18 Discussion #11 Assignment #3	Chapters 14-18
11/9/2026	Engineering Controls: Process Containment and Process	Chapter 19 LO/TO Heat Exchanger Practice
11/11/2026	Administrative Controls: Programs and Practices Discussion #12	Chapter 20
11/16/2026	Permitting System / Lockout/Tagout	Chapter 21
11/18/2026	Personal Protective Equipment and First Aid Discussion #13	Chapter 22
11/23/2026	Monitoring Equipment	Chapter 23
11/25/2026	Administrative Agency Holiday Discussion #14	
11/30/2026	Fire, Rescue and Emergency Response Equipment	Chapter 24
12/2/2026	Discussion #15	
12/7/2026	Test #5 Chapters 19-24	Chapters 19-24
8/24/2026	Final Exam Chapters 1-24	Chapters 1-24

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Assignments	20%
Discussions	10%
Tests	40%
Final	30%

Grade Scale

90 – 100 A

80 – 89 B

70 – 79 C

60 – 69 D

0 – 59 F

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the [Student Catalog & Handbook](#).

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at <https://lit.edu/online-learning/online-learning-minimum-computer-requirements>. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](#).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many

students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

Course Outline

- A. Introduction
 - 1. Introduction of faculty and students
 - 2. Review Syllabus
 - 3. Review Class Policies
- B. Safety, Health, & Environment-
 - 1. Overview
 - 2. Different government agencies & regulations.
 - 3. Industry organizations that develop S.H.E. standards.
 - 4. Role of the operator in S.H.E. matters.
- C. Hazards and Their Effects
 - 1. Hazards found in work place.
 - 2. Effects of hazards on health.
 - 3. Effects of hazards on environment.
- D. Chemical Hazards
 - 1. Organic and inorganic chemical hazards.
 - 2. Introduction to MSDS
- E. Biological Hazards
 - 1. Biological hazards in the workplace
 - 2. Role of government relating to biological hazards.
- F. Equipment and Energy Hazards
 - 1. Hazards of process equipment.
 - 2. Hazards caused by energy sources; i.e. electricity, steam, etc.
- G. Fire and Explosive Hazards
 - 1. The fire triangle
 - 2. Government regulations relating to fire & explosives.

H. Pressure, Temperature and Radiation Hazards

1. "Process variable Hazards"
2. Government regulations dealing with process variable hazards.

I. Atmospheric and Respiration Hazards

1. Respiratory hazards.
2. "Confined space" hazard.
3. Government regulations dealing with atmospheric & respiratory hazards.

J. Work Area and Height Hazards

1. "Work area" hazard
2. Fall protection and confined space entry.
3. Government regulations dealing with "work area, fall and confined space hazards"

K. Hearing and Noise Hazards 1. Noise & how it affects hearing.

2. Types of hearing protection
3. Government regulations regulating noise hazards

L. Construction, Maintenance, & Tool Hazards

1. Hazards associated with construction in the process area. 2. Hazards of tools used by process operators
3. Appropriate government regulations.

M. Vehicle and Transportation Hazards

1. Forklift, power truck, and other forms of transportation.
2. Appropriate government regulations.

N. Natural disasters

1. Hurricanes and storms
2. Emergency plans
3. Governmental agencies

O. Physical and Cyber-Security

1. Terrorists and insiders
2. Workplace violence
3. Government regulations

P. Ergonomic Hazards

1. Ergonomic stress
2. Lifting and working at heights
3. Government and industry guidelines

Q. Environmental hazards

1. Hazardous chemical classifications
2. EPA regulations

R. Hazard Controls

1. Engineering, Administrative and PPE
2. Why, When and How controls are applied

S. Alarms and Indicator systems

1. Fire alarms and detection systems

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2. Interlocks and shutdowns
- T. Process containment and Process Upset Controls
 1. Containment and control systems
 2. Flares and relief valves
- U. Administrative Controls
 1. Policies and procedures
 2. Training and HAZOPS
- V. Permitting Systems
 1. Lockout devices
 2. Types of permits: hot work, confined space, safe work, etc
 3. Government regulations and industry guidelines
- W. PPE and First Aid
 1. Respiratory and hearing
 2. Eye and face
 3. Foot and legwear
- X. Monitoring Equipment
- Y. Emergency Response

Course Requirements

1. Post weekly, online responses to student-to-student and student-to-instructor discussions.
2. Complete the online test, quizzes and assignments by the due dates shown on the course calendar
3. Log onto Blackboard and access the course a minimum of three times per week.

Course Policies

1. You must log onto Blackboard and access this course a minimum of three times per week.
2. No cheating of any kind will be tolerated. Students caught cheating or helping someone to cheat can and will be removed from the class for the semester. Cheating can result in expulsion from LIT.
3. If you wish to drop a course, the student is responsible for initiating and dropping the course. If you stop logging-in to the course and do not complete the course drop process, then you will receive an "F" grade for the course
4. Internet Usage – Students are expected to use proper net etiquette while participating in course emails, assignment submissions, and online discussions.
5. If a test is missed due to an emergency situation, the student will have one week to make it up; otherwise a grade of 0 will be assigned.

6. A student who wishes to drop a course is responsible for initiating and completing the drop process. A student who stops coming to class, and fails to drop the course, will earn an "F" in the course.

ADDITIONAL COURSE POLICIES/INFORMATION FOR MR. WILLIAMS ONLINE STUDENTS:

STUDENT BEHAVIOR EXPECTATIONS

- Students are expected to be in the class room and ready for instruction at the beginning of the face-to-face class period. Habitual tardiness will be dealt with on a one-to-one basis and may lead to being marked absent.
- Keep in mind that each student comes from a different background and brings with her/him a different set of beliefs and values.
- Disrespect for others will not be tolerated, online or face-to-face.

MY RESPONSE TIME

- I only return calls that leave a voicemail. I prefer emails though.
- The best way to reach me is through my LIT email, lwilliams4@lit.edu.
- I usually respond to emails within 24 hours unless the email is received after noon on Fridays, weekends, campus holidays or days when I am required to travel.

MY LIT EMAIL

- Not communicating with me because your LIT email is not working is not a valid reason for no response. LIT email is how we communicate with you. Get it working so you don't miss any important information (contact the help desk for assistance).
- I will email an announcement to your LIT email the first day of class. Please respond to it so we both know your LIT email is working.

MY BLACKBOARD MESSAGES

- Check the Send-to-Email box above Blackboard Messages text box if you want a faster response.
- If you use Blackboard Messages to contact me, and I don't respond within 24 hours, please send the same email message to my LIT email, lwilliams4@lit.edu

MY BLACKBOARD ANNOUNCEMENTS

- Announcements in Blackboard are posted to the Announcements web page that you see when you log into class. They are important, so be sure to read them.
- "I did not see it" is not an acceptable reason for missing an announcement!

MY TECHNOLOGY REQUIREMENTS

- Use Chrome or Firefox as your browser. Edge and Safari do not work well with Blackboard.
- If you do class assignments on a cell phone, a tablet, or a netbook, make sure you are seeing all assignments as they are presented on a desktop computer.
- Papers (assignments) are to be submitted using Microsoft Word or preferably, as a PDF. If one of these methods is not used, formatting problems are the responsibility of the student.
- Not having the correct technology, device or internet is not a valid excuse for not doing assignments or tests.
- Problems with Blackboard are to be addressed by the HELP DESK. I can only help you with content and understanding the material.

MY DUE DATE POLICIES

- All discussions, assignments, and tests have due dates. It is your responsibility to know the due dates and get material submitted on time.
- Late work is frowned on. Students may submit late work, but 10 points will be taken off for each class DAY that it is late.
- For students who were absent, the student must request the work and have until the next class period to turn it in. After the next class period, the work will be considered late and will have 10 points deducted for each class DAY that it is late.
- If a face-to-face test is missed due to an emergency situation, the student will have one week to make it up; otherwise a grade of 0 will be assigned. Absent students will receive the same test as those who took it on test day for the first missed test only. Missing more than 1 test will result in future test(s) being all free response answers.
- For online classes that are required to write papers; the papers must be submitted to SafeAssign to check for plagiarism (its automatic). In most cases, the student has 3 submissions to correct any problems. However, all submissions MUST be made by the due date.

MY GRADING POLICIES

- For face-to-face classes who have a quiz at the beginning of class; these quizzes cannot be made up. However, 3 lowest assignment grades will be dropped at the end of the semester. Fully online classes do not take these quizzes.
- I grade student work Monday through Friday during my office hours.

- All grades are recorded in Gradebook on Blackboard.
- It is the student's responsibility to make sure their grades on their work match their grades in Blackboard Gradebook. If there is a discrepancy, please contact me and be prepared to show the graded work if requested.
- Grading rubrics are available on writing assignments.
- If Blackboard locks up or submits something early, I will only restart a test one time. The test must be started completely over. If it messes up again, the student will be required to come to my office and take a face-to-face test

MY ACADEMIC HONESTY AND PLAGIARISM POLICIES

- Academic honest is expected on all assignments. See LIT handbook for more information about academic honesty and the penalty for breaking academic honesty.
- Plagiarism is submitting someone else's work, either published or not, as your own, and is not allowed.
- Plagiarism includes everything from using AI to write your writing assignments, patchworking sentences together from the internet, to using another class mates work. Because you are only required to write 2 pages, putting cited quotes is not allowed either. Please read the specific assignment for rules.
- All writing assignments are submitted to a plagiarism checker in Blackboard to be reviewed for plagiarism and AI content.
- Most writing assignments may be redone 2 times to reduce what is identified in SafeAssign. If the bibliography is cited, that will not result in points being deducted. Please read each assignment instructions for the particular policy on plagiarism for that specific assignment.
- Students who plagiarize or use AI may receive a 0 on the assignment or may receive an F for the entire course.