



Physical Hazards Control (OSHT 1209)

Credit: 2 semester credit hours (2 hour lecture, 1hour lab)

Prerequisite

Course Description

A study of the physical hazards in industry and the methods of workplace design and redesign to control these hazards. Emphasis on the regulation codes and standards associated with the control of physical hazards.

Required Textbook and Materials

1. Accident Prevention Manual for Business & Industry, Engineering and Technology by Philip E. Hagan, John F. Montgomery, James T. O'Reilly, 14th Edition. NSC Press.
 - a. ISBN number is: 978-0-87912-322-2
2. One, 2 – 3 inch 3 ring binder with pockets
 - a. Notebook paper for binder
 - b. *Organization of notebook; contents should include:
 - Cover page with first and last name
 - Title of course
 - Day and time of weekly class meeting
 - Semester (example, "Spring 2019")
 - Dividers labeled, syllabus, PPT. lectures, study questions, handouts, exams
 - USB Flashdrive
 - Calculator: Texas Instruments TI-30XA. **Other electronic media may not be used during an exam as your calculator.*

Course Objectives

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

1. Identify the common physical hazards in industry.
2. Design a hazard free work environment.
3. Utilize hazard recognition techniques to implement safe control practices.
4. Describe the hazard control measures used in workplace designs.
5. List Occupational Safety and Health Administration (OSHA) standards and other regulations.

Course Outline

- A. Welcome to LIT:
 1. Introduction of faculty and students
 2. Expectations
 3. Policies
- B. The Widget Project
 1. Information and guidelines for the project

2. The 5 processes
3. Resources
4. Examples
- C. Facilities-Safety Through Design
 1. What is it?
 2. Integrating safety through design into the design process
 3. Guidelines
- D. Buildings and Facility Layout
 1. General considerations
 2. Site selection
 3. Outside facilities
 4. Facility railways
 5. Facility layout
 6. Lighting
 7. Use of color
 8. Building structures
- E. Materials Handling and Storage
 1. Hand tools, jacks, hand trucks
 2. Hazardous materials
 3. Guidelines for lifting
 4. Shipping and receiving
- F. Hoisting and Conveying Equipment
 1. Hoisting apparatus
 2. Cranes
 3. Conveyors
 4. Manlifts
- G. Ropes, Chains, and Slings
 1. Fiber rope
 2. Wire rope
 3. Rigging
 4. Methods of attachment
 5. Working load
 6. Inspections
 7. Chains and chain slings
 8. Synthetic web slings
- H. Powered Industrial Trucks
 1. Safeguards
 2. General operating principles
 3. Lift trucks
 4. Inspection and maintenance
- I. Welding and Cutting
 1. Health hazards
 2. Safety hazards
 3. Controlling hazardous exposures
 4. Oxy-fuel welding and cutting

J. Fire Protection

1. Fire prevention activities
2. The chemistry of fire
3. Construction methods for fire methods
4. Factors contributing to industrial fires

K. Flammable and Combustible Liquids

1. General safety measures
2. Combustible-gas indicators
3. Loading and unloading tank cars
4. Loading and unloading tank trucks
5. Storage
6. Common uses of flammable and combustible liquids

L. Electrical Safety

1. Definitions
2. Electrical injuries
3. Electrical equipment
4. Grounding
5. Determining hazardous locations
6. Maintenance (LOTO)

Grading Scale

A = 90-100

B = 80-89

C = 70-79

D = 60-69

F = Less than 60

*Notebooks will be graded the evening of the final.

Course Evaluation

Final grades will be calculated according to the following criteria:

Test 1	15%
Test 2	15%
Presentation	30%
Notebook	10%
Final	30%

Course Policies

1. No food, drinks, or use of tobacco products in class.
2. Computers, telephones, headphones, and any other electronic devices must be turned off while in class or used only with permission of the instructor.
3. Do not bring children to class.
4. If you wish to drop a course, the student is 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.

5. Additional class policies as defined by the individual course instructor are in the addendum.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator, at (409) 880-1737 or visit her office located in the Cecil Beeson Building, room 116B.

**Students with special needs and/or medical emergencies or situations should communicate with their instructor regarding individual exceptions/provisions. It is the student's responsibility to communicate such needs to the instructor.

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 or obtained in print upon request at the Student Services Office. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document change.