

TECHNOLOGY 334: Hazard Control in Industrial Operations

2007-08 Catalog Data: TECH 334 Hazard Control in Industrial Operations (3 Credits)

Catalog Description: Study of common industrial equipment, processes, materials, and materials handling systems as they relate to the design and use of guards and protective devices. Emphasis on OSHA requirements.

Prerequisites: None

Co-requisites: None

Textbook

- Safety Engineering and Practices, Spellman and Whiting, 1999.

Instructor: Dennis Cesarotti, Ph.D., C.I.H, C.S.P.

Learning Objectives	Relational ABET Learning Outcomes
<p>Identify the common hazards in industrial operations.</p> <p>State how OSHA, EPA, DOT, and other standards apply to industrial settings.</p> <p>Be aware of the common hazard control techniques used in industry.</p> <p>Apply/design control measures to industrial processes.</p> <p>Develop strategies to reduce and eliminate potential hazard in the industrial setting.</p> <p>State how hazard control fits into a</p>	<p>A. An appropriate mastery of the knowledge, techniques, skills and modern tools of their disciplines.</p> <p>B. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.</p> <p>C. An ability to conduct, analyze and interpret experiments and apply experimental results to improve processes.</p> <p>F. An ability to identify, analyze and solve technical problems.</p> <p>G. An ability to communicate effectively in writing.</p> <p>H. An ability to communicate effectively orally.</p> <p>J. An ability to understand professional, ethical and social responsibilities.</p> <p>K. A respect for diversity and a knowledge of contemporary professional, societal and global issues.</p>

comprehensive safety program in the industrial setting.	
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Topics Covered:

I. Be able to recognize safety, health, and environmental hazards in the workplace.

A. Common workplace hazards include:

1. Chemical exposure
2. Hazardous Materials
3. Electricity
4. Hazardous machinery
5. Falls
6. Confined Spaces
7. Environmental Issues

II. Be aware of means and methods that may be used to control the hazards.

A. Engineering Controls

1. Ventilation
2. Machine Guarding
3. Electrical
4. Material Handling
5. Air and Waste water emissions
6. Hazardous Materials
7. Fire Protection

B. Administrative Controls

1. Job rotation
2. How to write SOP's/Safety programs
3. Safe electrical work practices

C. Personal Protective Equipment

1. PPE Audits
2. Eye and Face
3. Body
4. Feet
5. Head
6. Hands
7. Respiratory system