

# SFT 372 - SAFETY AND INDUSTRIAL TECHNOLOGY

*College of Information Technology and Engineering  
Department of Safety Technology*

**Semester & Year:** Spring, 2006

**Classroom Location:** Marshall University, Huntington Campus, Gullickson Hall - Room 121  
Tuesday & Thursday 12:30 - 1:45 PM

**Required Text:** *29CFR 1910 OSHA General Industry Regulations (Updated thru September 1, 2003)*, Mangan Communications, Inc., 315 West 4<sup>th</sup> Street, Davenport, Iowa 52801  
ISBN 1-932249-08-7 Phone 563/323-6245 or 800/767-3759 www.mancomm.com

**Pre-requisites:** PHY 210 Concurrent

**Instructor:** Clair Roudebush PhD CSP

212 Communications Building  
Personal Office Phone: (304) 696-3068  
Departmental Office Phone: (304) 696-4664  
Departmental Fax: (304) 696-3070  
Email: roudebush@marshall.edu

**Course Description:** An introductory course in safety and health principles that is designed to prepare students to manage, supervise, coordinate, and evaluate safety and health problems in the workplace.

## **Course Outcome Objectives:**

COO #1 - The student will be able to successfully complete two (2) competency examinations encompassing safety engineering terms and regulatory standards.

COO #2 - The student will be able to successfully complete one (1) timed competency examination testing their ability to identify and discern OSHA regulatory standard for specific industrial hazards.

COO #3 - The student will be able to successfully complete a competency mathematical examination testing their ability to apply trigonometry and algebraic formulas to solving of safety engineering problem sets.

COO #4 - The student will be able to successfully apply safety engineering principles to the evaluation of a specific machine guarding situation.

COO #5 - The student will be able to utilize problem solving skills to propose a solution to the specific machine guarding problem that meet all regulatory standards and safety engineering principles.

COO #6 -The student will be able to develop a PowerPoint presentation which meets the organization criteria described in the Course Activities Section of this syllabus.

**Adaptive Methods for Disabilities:** Students with disabilities who believe that they may need accommodations in this class are encouraged to contact Dr. Roudebush as soon as possible to better ensure that such accommodations are implemented in a timely fashion. A reasonable period of time must be given to Dr. Roudebush when making your initial request for any accommodation.

**Course Activities:**

Interim Examinations – There will be two (2) to three (3) interim exams throughout the semester. Make-up exams will only be given under extreme cases as determined by instructor. Make-up exams may or may not be of the same proportioned variety.

Machine Safeguarding Report - This course activity entails analyzing a machine safeguarding scenario and developing a technical report of your findings. Late assignments will incur a 5% penalty per day (including weekends)

Machine Safeguarding Oral PowerPoint Presentation - This course activity entails orally presenting your machine safeguarding scenario findings to the class in the form of a PowerPoint presentation. Oral presentations will be evaluated using the categorical criteria listed below. Late assignments will incur a 5% penalty per day (including weekends)

**Oral Presentation Evaluation Criteria:**

Category	Low Criteria	Evaluation	High Criteria
PowerPoint Outline	- Minimal Info Provided	10 11 12 13 14 15 16 17 18 19 20	Extensive Info Provided
Introduction	- Nothing Given	5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10	Subject Stated Scope & Goal Stated
Delivery Technique	-No Eye Contact - Distracting Body Moves	5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10	Good Eye Contact Audible Voice Humor
Organization	- Confusion	10 11 12 13 14 15 16 17 18 19 20	On Subject
Knowledge of Subject	- Reading Notes	5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10	No Notes Used
PowerPoint Visual Aids	None Used	10 11 12 13 14 15 16 17 18 19 20	Effectively Utilized
Time	Over/Under	5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10	Within Time Limits

In-class Exercises, Out-of-class Activities & Class Participation – The criteria used to evaluate this student activity includes:

- homework and in-class assignments will only be accepted on the day they are due – students are excused a maximum of two assignments before 0% is assigned for uncompleted assignments
- student’s contribution to classroom discussions throughout the semester
- student’s ability to raise relevant topical questions.

**Evaluation / Grade Computation:** Course grades are based on “weighted” percentage averages. Your final grade will be derived by multiplying each individual Student Activity score by the weighted percentage and summing all of the weighted percentage averages. *All late assignments will incur a 5% penalty per day (including weekends & holidays)*

Student Activity	Individual Score	Weighted %	Weighted % Average
Interim Exams		x 0.50	
Machine Safeguarding Report		x 0.20	
Machine Safeguarding Oral PowerPoint Presentation		x 0.15	
In-class exercises, Out-of-class activities & Class Participation		x 0.15	
Grand Total =			

Evaluation Scale				
90% & Above = A	80% - 89% = B	70% - 79% = C	60% - 69% = D	59% & Below = F

## Bibliography

- Abercrombie, S. A. 1981. *Dictionary of terms used in the safety profession*. Park Ridge, IL: American Society of Safety Engineers.
- Chandler, R. L., Iannaccone, M., and Toki, A. Eds. 1995. *Best’s Safety Directory: Industrial Safety, Hygiene, Society*. 1995 ed., Vol. 2. Oldwick, NJ: A.M. Best Company.
- Colangelo, V. J. and Thornton, P. A. 1981. *Engineering aspects of product liability*. Metals Park, OH: American Society for Metals.
- Confer, R. and Conner, T. 1994. *Occupational health and safety: Terms, definitions, and abbreviations*. Boca Raton, FL: Lewis Publishers.
- DeReamer, R. 1980. *Modern safety and health technology*. New York: Wiley & Sons, Inc.
- Ferry, T. 1990. *Safety and health management planning*. New York, NY: Van Nostrand Reinhold.
- Ferry, T. S. 1988. *Modern accident investigation and analysis* (2nd ed.). New York: John Wiley & Sons.
- Goetsch, D. L. 1993. *Industrial safety and health: In the age of high technology*. New York: Maxwell Macmillan International.

- Grimaldi, J. V. and Simonds, R. H. 1989. *Safety management*. Homewood IL: Richard D. Irwin.
- Hale, A. R., and Glendon, A. I 1987. *Individual behavior in the control of danger*. New York: Elsevier Science Publishers B.V.
- Heinrich, H. W., Petersen, D., and Roos, N. 1980. *Industrial accident prevention*. New York: McGraw-Hill Book Company.
- Malasky, S. W. 1982. *System safety: Technology and application*. 2nd ed. New York, NY: Garland STPM Press.
- Mansdorf, S. Z. 1993. *Complete manual of industrial safety*. Englewood Cliffs, NJ: Prentice Hall.
- OSHA Training Institute. 1994. *A guide to voluntary compliance in safety and health*. Atlanta, GA: Georgia Tech Research Institute.
- Occupational Safety and Health Administration. 2001. *Code of federal regulations, title 29 sections 1910.134, 1910.1000, 1910.1200*. Rockville, MD: Government Institutes.
- Roland, H. E., and Moriarty, B. 1990. *System safety engineering and management* (2nd ed.). New York: John Wiley & Sons, Inc.
- Seiden, R. M. 1984. *Product safety engineering for managers: A practical handbook and guide*. Englewood Cliffs, NJ: Prentice-Hall.
- United States Department of Labor, 1991. *All about OSHA*. Washington, DC: U. S. Government Printing Office.
- United States Department of Labor. 1990a. *OSHA compliance manual: What is OSHA*. Washington, DC: U.S. Government Printing Office.
- United States Department of Labor. 1990c. *OSHA compliance manual: Inspections*. Washington, DC: U.S. Government Printing Office.

### Internet Web Sites

Occupational Safety & Health Administration - Washington DC	<a href="http://www.osha.gov">http://www.osha.gov</a>
US Centers for Disease Control	<a href="http://www.cdc.gov">http://www.cdc.gov</a>
US Dept. of Health and Human Services	<a href="http://www.os.dhhs.gov">http://www.os.dhhs.gov</a>
US EPA	<a href="http://www.epa.gov">http://www.epa.gov</a>
US FEMA	<a href="http://www.fema.gov">http://www.fema.gov</a>
US National Institutes of Health	<a href="http://www.nih.gov">http://www.nih.gov</a>
US National Library of Medicine	<a href="http://www.nlm.nih.gov">http://www.nlm.nih.gov</a>
World Health Organization	<a href="http://www.who.ch">http://www.who.ch</a>