**ENGT 105 – Occupational Safety**

**Master Syllabus**

**Course:** ENGT 105 – Occupational Safety **Course Credits:** 3-0-3

**Course Prerequisite:** None **ICCB Code: PCS # 1.2**

**Mode of Delivery: Traditional and Hybrid IAI #:** none

**Instructor: John Daum Dev/Rev Date: 07/17/13**

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**Projected Date of Initial Offering: Fall 2013**

**Prerequisite**

None

Description

This is an introductory course and is appropriate for operators, technicians, supervisors, and managers desiring to learn the fundamentals of occupational safety and health. Most topics discussed relate to the General Industry Standards established by the Occupational Safety and Health Administration (OSHA). This course identifies common hazards in business and industry and investigates various methods of controlling those hazards. This is primarily a lecture and discussion course; however, several hands-on demonstrations are used to enhance instruction.

This course was modified to meet the requirements of the Manufacturing Skills Standards Council (MSSC) and prepares the student for the Module 1 - Safety Exam for the Certified Production Technician (CPT) certification.

Applicable toward graduation where program structure permits:

* Certificate or Degree – All Certificates, A.A.S., A.L.S., A.A., A.S.
* Group Requirement – Business (AAS Only)
* Area of Concentration – Not Applicable

**Textbooks**

**•** OSHA Standards for General Industry (MANCOMM, 2011 ed) - to be provided in class.

• High-Performance Manufacturing, Portable Production Skills (MCGRAW-HILL, 2006) - purchase in RCC bookstore.

**COURSE OBJECTIVES:**

1. Identify the components of a safety and health program in general industry workplaces.
2. Analyze and perform safety and environmental inspections
3. Be familiar with general industry OSHA standards.
4. Develop and understand safe work behaviors in the workplace.
5. Instruct personnel to use equipment safely
6. Recognize job hazards and corrective actions
7. Monitor safe equipment and operation performance

**Course Competencies/Outcomes**

* Navigate Title 29, Parts 1900 to 1910, Code of Federal Regulations
* Complete an OSHA Form 300
* Exercise rights and responsibilities under the OSHAct
* Determine if injuries are compensable or non-compensable
* Identify ergonomic-related hazards in a work area
* Recognize the symptoms of repetitive strain injuries
* Select a method for isolating point-of-operation hazards
* Recognize fall protection methods
* Select personal protective equipment for the ear, face, head, hands, and feet
* Lift a load while minimizing stress on the back
* Measure heat stress (OSHA Heat Stress App for calculating heat index)
* Classify a fire
* Apply the fire triangle in fire prevention
* Operate a class A, BC, and ABC fire extinguisher
* Identify methods to assess noise conditions and recommend controls for noise hazards
* Remove bodily fluids from a work area using universal precautions
* Develop an emergency action plan
* Investigate an accident
* Conduct a job hazard analysis
* Receive a 30 Hour General Industry card (subject to meeting attendance requirements)
* Prepare for MSSC Safety Certification exam
* Receive a two-year American Heart Association CPR/AED card (subject to successful demonstration of skills)

**Core Abilities**

* Always conscious of hazards and works diligently to minimize risk.
* Works cooperatively with others and is a contributing member of a team.
* Learns from and interprets written information found in manuals, handbooks, graphs, and schedules.
* Locates the meaning of technical vocabulary.
* Organizes ideas and communicates oral messages appropriate to listeners and situations.
* Participates in conversation, discussion, and group presentations.
* Maintains records and notes.
* Demonstrates skills to control blood borne pathogens and perform core CPR skills.

**Course Outline**

1. August 19

 **Welcome, Introductions, Course & Syllabus Overview**

**Introduction to OSHA\*\***

1. Explain why OSHA is important to workers
2. Explain worker rights under OSHA
3. Discuss employer responsibilities under OSHA
4. Discuss the use of OSHA standards
5. Explain how OSHA inspections are conducted
6. Utilize helpful worker safety and health resources

2. August 26

Quiz 1: Intro to OSHA

Electrical Safety\*\*

A. Subpart S

3. September 9

**Hazard Communication\***

A. Subpart Z

Exit Routes, Emergency Action Plans, Fire Prevention Plans, and Fire Protection\*\*

A. Subpart E

B. Subpart L

4. September 16

**Exit Routes, EAPS, Fire Prevention/Protection (cont’d)**

**Quiz 2: Hazard Communication & Exit Routes, EAPs, Fire Prevention/Protection**

**Personal Protective Equipment: Respiratory, Eye, Head, Face, Foot, Hand, Body, Ear**\*

1. Subpart I

5. September 23

Walking and Working Surfaces\*

1. Subpart D

 **The Control of Hazardous Energy (Lockout/Tagout)\***

1. Subpart J

6. September 30

**Quiz 3: PPE, Walking/Working Surfaces and Lockout/Tagout**

**Flammable and Combustible Liquids**

1. Subpart H

**Conducting a Job Hazard Analysis**

7. October 7

**Permit-Required Confined Spaces**\*\*

A. Subpart J

**Calculating the Heat Index (OSHA App)**

8. October 21
**Midterm Exam** (covering information in the course up to this date)

**Materials Handling**\*\*

A. Subpart N

**Powered Industrial Vehicles**

9. October 28

 **Machine Guarding\***

A. Subparts O

10. November 4

 **Quiz 4: Materials Handling, PIVs and Machine Guarding**

**Welding, Cutting, and Brazing**

A. Subpart Q

**Recordkeeping**11. November 11
 **Introduction to Industrial Hygiene, including Blood borne Pathogens**

A. Subpart Z

**Managing Safety and Health\*\***

12. November 18

 **Quiz 5: Welding, Recordkeeping and Industrial Hygiene**

**Ergonomics**

**Safe Lifting Techniques**

13. November 25

**Scaffolding, Aerial Lifts, Fall Protection**

14. December 2

**Review for Final Exam**

**American Heart Association - CPR/AED Adult/Child**

15. December 9

 **Final Exam** (primary focus 2nd half of course)

**EVALUATION:**

Grade % Grade Description and Point Calculations

45 Written exams covering lecture, handouts, workshops, and other information as assigned

* 90 points each X 2 exams (midterm & final) = 180 points

41 Quizzes

* 32 points each X 5 quizzes = 160 points

14 Attendance, attitude, participation, homework, in-class assignments, and workshops

• 5 points per day X 14 days = 60 points

Grades will be calculated on a point system. Your final grade percentage will be a calculation of points earned compared to total possible points.

Final grade percentages are as follows:

A 90 – **100%** 360-**400 points**

B 80 – 89% 320-359 points

C 70 – 79% 280-319 points

D 60 – 69% 240-279 points

F 59% and below 239 points and below

***IMPORTANT NOTE:***

*Make-up exams and quizzes may not be given unless the student has made arrangements directly with the instructor prior to exam and quiz dates.*

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