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Course Outline for WLDT 73

WELDING WORKPLACE SAFETY

Effective: Spring 2018

I. CATALOG DESCRIPTION:

WLDT 73 — WELDING WORKPLACE SAFETY — 1.00 units

This course provides the safety knowledge required to operate safely in a welding or construction workplace environment. This course will emphasize hazard identification, avoidance and control as a means to proactively create a safe workplace environment. OSHA safety standards will be emphasized throughout to maintain consistency with workplace environment. This course meets the 10 hour OSHA construction safety training requirements.

1.00 Units Lecture

Grading Methods:

Letter or P/NP

Discipline:

- Welding

	<u>MIN</u>
Lecture Hours:	18.00
Total Hours:	18.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

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

- A. Explain OSHA safety standards as they relate to welding/construction workplace safety;
- B. Describe employer/employee construction safety rights and responsibilities;
- C. Identify the focus four hazards;
- D. Explain personal protective equipment usage and requirements;
- E. Identify health hazards in the welding/construction workplace;
- F. Describe materials handling equipment and safe usage;
- G. Explain hand and power tool safe usage;
- H. Describe safe scaffold usage;
- I. Explain safe operations around cranes, derricks, hoists, elevators & conveyors;
- J. Recognize safe operations around excavations;
- K. Identify safe operations around stairways and ladders;

V. CONTENT:

- A. OSHA basic construction safety standards with emphasis on identification, avoidance and control of welding construction workplace hazards (29CFR-1910)
- B. Employer
 1. Rights as they pertain to welding construction safety
 2. Responsibilities as they pertain to welding construction safety
- C. Employee
 1. Rights as they pertain to welding construction safety
 2. Responsibilities as they pertain to welding construction safety
- D. Focus four hazards
 1. Fall protection hazards, working at heights
 2. Electrical hazards, shock avoidance
 3. "Struck by" hazards
 4. "Caught in between" hazards
- E. Personal Protective Equipment (PPE)
 1. Eye protection
 2. Head protection
 3. Hand protection
 4. Foot protection
 5. Hearing protection
- F. Health hazards in welding construction
 1. Heat illness
 2. Fire prevention
 3. Silica

- 4. Noise
- 5. Confined spaces
- G. Material handling
 - 1. Proper lifting techniques
 - 2. Rigging
 - 3. Forklift
 - 4. Stacking and storing materials
- H. Safe and proper usage
 - 1. Hand tools
 - 2. Power tools
- I. Scaffold systems and their safe usage
- J. Safe operations in/and around
 - 1. Cranes
 - 2. Derricks
 - 3. Hoists
 - 4. Elevators
 - 5. Conveyors
- K. Working safely around excavations
- L. Safe operations in/and around
 - 1. Stairways
 - 2. Ladders
- M. OSHA 10-hour safety training requirements

VI. METHODS OF INSTRUCTION:

- A. **Lecture** -
- B. Textbook reading assignment; additional internet and/or print assignment
- C. **Field Trips** -
- D. Presentation of audio-visual materials
- E. Class and group discussions

VII. TYPICAL ASSIGNMENTS:

- A. Lectures
 - 1. OSHA standards
- B. Reading assignment:
 - 1. Read the textbook chapter on materials handling
 - 2. Locate and read an article off the internet authored in the last 90 days on the subject of electrical shock hazards, write a summary of what you read
- C. Homework:
 - 1. Read the textbook chapter in Hand Tools and answer the following:
 - a. What is a rasp?
 - b. What is the correct way to use a hack saw?
- D. Class and group discussions:
 - 1. Class discussion: What is the purpose of hearing protection?
 - 2. Group discussion: What do you do if you see something unsafe?
- E. Audio-visual materials:
 - 1. Video of welding processes
- F. Field trip:
 - 1. Visit a local manufacturing company
- G. Research project:
 - 1. Identify a story on a recent construction workplace accident and what was the cause.

VIII. EVALUATION:

- A. **Methods**
 - 1. Exams/Tests
 - 2. Quizzes
 - 3. Class Participation
 - 4. Class Work
 - 5. Home Work
- B. **Frequency**
 - 1. Midterm and Final Examinations midway and the end of semester
 - 2. Weekly quizzes
 - 3. Class participation daily
 - 4. Class work evaluated daily
 - 5. Weekly homework evaluation

IX. TYPICAL TEXTS:

- 1. Occupational Safety and Health Administration (OSHA) (2017). *Safety and Health Regulations for Construction* (29 CFR 1926 ed.). Washington , DC: Occupational Safety and Health Administration .
- 2. Occupational Safety and Health Administration (OSHA) (2017). *Safety and Health Regulations for General Industry* (29 CFR 1910 ed.). Washington , DC: Occupational Safety and Health Administration .
- 3. Occupational Safety and Health Administration (2015). *Falling Off Ladders Can Kill* (3625 ed.). Washington DC, DC: Occupational Safety and Health Administration .

X. OTHER MATERIALS REQUIRED OF STUDENTS: