



WLD 160 - Welding Certification Practices

Catalog Description

Transfer Status: NT

Prerequisite: WLD 28, WLD 30, WLD 32, WLD 34, WLD 36, WLD 42, WLD 56, WLD 156

Unit(s): 1.00-2.00

Lab: 51.00-102.00 Contact hours/0.00-0.00 Out of class hours/51.00-102.00 Total hours/1.00-2.00 Unit(s)

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Course Description: This is a supervised lab experience to help prepare students to meet the required standard for qualification papers in welding codes using American Welding Society (AWS) and American Society of Mechanical Engineers (ASME) specifications. Students will practice skills in shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux core arc welding (FCAW), and gas tungsten arc welding (GTAW), in all positions on plate and pipe, in preparation for weld performance tests with certified welding inspectors (CWI) or contractors. This course may be repeated to a maximum of 2.00 units to complete the entire curriculum of the course. Pass/No Pass only. Open Entry/Open Exit.

Objectives

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

1. Follow proper safety protocols when operating welding and cutting equipment.
2. Perform at code level on open groove plate and pipe joints.
3. Demonstrate destructive testing of welds in accordance with the AWS and ASME codes.
4. Follow procedures using the SMAW, GMAW, FCAW, and GTAW welding processes meeting AWS and ASME specifications for qualification.

Course Content

Topic Titles / Suggested Time Topic	
	<u>Lab</u>
<u>Topics</u>	<u>Lab Hrs</u>
Introduction and safety	1.50
SMAW welding processes related to AWS and ASME codes	8.25
GMAW welding processes related to AWS and ASME codes	8.25
FCAW welding processes related to AWS and ASME codes	8.25
GTAW welding processes related to AWS and ASME codes	8.25
Open groove plate and pipe joint welding	8.25
Destructive testing methods for AWS and ASME codes	8.25
Total Hours:	51.00

Methods of Instruction

- A. Demonstrations
- B. Laboratory Experiments
- C. Welding

Methods of Evaluation

- A. Class participation
- B. Practical Evaluations

Examples of Assignments

Reading Assignments

1. Read the manual for the GTAW equipment and describe the steps for proper setup to the instructor.
2. Read the American Society of Mechanical Engineers (ASME) section IX code book for proper GTAW procedures and discuss with instructor.

Writing Assignments

1. Maintain a written log of your daily welding activities.
2. Write a summary of the American Welding Society requirements for certification.

Out-of-Class Assignments

1. Not applicable

Recommended Materials of Instruction

Other Learning Materials

All tools listed in the Butte College Welding Technology Program Guide.

A full list of tools can be found at www.butte.edu/departments/careertech/welding/tools.html

Minimum Qualifications

Welding

Created/Revised by: Robinson, Donald

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