

# **WELD 241 - Welding Technology 4 Course Outline**

**Approval Date:** 05/10/2018

**Effective Date:** 08/13/2018

## **SECTION A**

**Unique ID Number** CCC000593623

**Discipline(s)** Welding

**Division** Career Education and Workforce Development

**Subject Area** Welding

**Catalog Description** This is the capstone class of Welding Technology and applies the manipulative skills of welding with fabricating techniques. The student will be required to use the skills developed by drafting a project, prepare a materials list, time estimate, and then amount of time to fabricate the project. This is the fourth semester in a series of Welding Technology courses leading to an A.S. Degree or Certificate. This class prepares the student for AWS Qualification Tests in the use of stick electrodes and inert gas processes. Students will need to purchase some safety equipment.

**Schedule Description**

## SECTION D

**Condition on Enrollment**

**1a. Prerequisite(s)**

WELD 240 with a minimum grade of c or better

**1b. Corequisite(s):** *None*

**1c. Recommended:** *None*

**1d. Limitation on Enrollment:** *None*

## SECTION E

**Course Outline Information**

**1. Student Learning Outcomes:**

- A. Apply the use of Personal Protective Equipment (PPE)
- B. Apply common terminology related to safety
- C. Works cooperatively with others in shop setting
- D. Perform open root pipe welding with SMAW in 1G and 2G positions.
- E.

- a. Application forms
- b. Personal appearance and attitudes
- c. Unions
- d. Codes and laws
- e. Employee responsibilities
- f. Employer responsibilities
- g. Trade ethics
- C. Application
  - a. Design project
  - b. Draft project
  - c. Develop materials list and time estimate
  - d. Fabricate and weld project
- D. Research paper
  - a. Developing theme
  - b. Researching area of welding
  - c. Write and edit paper
- E. AWS Qualification Tests
  - a. Identify test requirements
  - b. Set-up welding process to specified parameters
  - c. Perform Qualification Test
  - d.

**4. Methods of Instruction:**

**Activity:**

**Individualized Instruction:**

**Lab:**

**Lecture:**

**Projects:**

**Other:** Lectures with white board and computer presentations Visual laboratory demonstrations of welding techniques Hands-on laboratory activities

**5. Methods of Evaluation:** Describe the general types of evaluations for this course and provide at least two, specific

2. Students will be required to read selections from their textbook and lecture notes in order to perform lab exercises. (example: place a root, filler and cap welds on an eight inch pipe with E7018 electrodes in the 2G position)

B. Writing Assignments

1. Students will prepare a project which will include: drafting the project, creating a materials list, establishing a time estimate, and fabricating the project.

3. Students will identify, analyze and formulate corrective actions to pass Qualification Tests. (example: establish parameters to avoid "hot shortness")

C. Other Assignments

1. Each student shall research a topic of their choosing, comp

