WELD 1010

Division: Career and Technical Education
Department: Welding Technology
Course: WELD 1010
Title: Oxy-acetylene Welding and Cutting Processes
Catalog Description:

This is a course designed for various trades and community members. This beginning course covers theory and practice of oxy-acetylene fusion welding of sheet steel, including cutting, welding, soldering, and braze welding of ferrous and non-ferrous metal. Muffler shops, farmers, and ranchers use oxy-acetylene equipment to make repairs and fabricate parts.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 4; Lecture: 2; Lab: 6
Clock/Hour Requirements: 120
Offered for Non-Credit: No
Prerequisites: None

Corequisites: None

Justification:

This course and WELD 1020 will match UVSC WELD 1100, and was approved by the program advisory committee. It meets the American Welding Society standards for Entry Level Welder Profile.

Student Learning Outcomes:

Upon successful completion, students will be able to:

- demonstrate safe shop practices while working with welding equipment
- demonstrate how to assemble and use oxy-acetylene equipment in all positions on several joint configurations
- demonstrate how to braze and solder joints
- make accurate cuts with an oxy-acetylene torch.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- proper safety techniques
- assembly and use of oxy-acetylene equipment
- brazing processes
- soldering processes

- cutting processes.

General Education Outcomes:

6) Apply computational skills to a variety of contexts.
Students will perform measurement, design, and fabrication functions as they pertain to laboratory experiences and welding projects. Students must be familiar with basic computational functions.

7) Apply scientific reasoning to a variety of contexts.
Students will understand the structural changes that take place in ferrous and non-ferrous materials during the welding process.

9) Respond with informed sensitivity to an artistic work or experience.
Students will visually inspect weld quality for appearance, uniformity, and consistency. Professional welding is judged heavily on the aesthetic aspect.

Key Performance Indicators:

In class:

- The students' knowledge and skills are tested through assignments, tests and quizzes. Assignments are worth 40%-50%, written tests are 30%-40%, and quizzes are 10%-20% of the total grade.

Following class:

- Upon completion of the course, competency will be demonstrated in subsequent courses and on projects.

Representative Text and/or Supplies:

- Larry Jeffus, *Welding Principles and Applications,* current edition, Delmar Publishers.

Optimum Class Size: 10
Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

Alan Palmer, M. Ed., Associate Professor

I hereby find this course consistent with the goals and resources of the Welding Technology Department:

Alan Palmer, M. Ed., Associate Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)