WELD 200R

Division: Career and Technical Education
Department: Welding Technology
Course: WELD 200R
Title: Practical Welding
Catalog Description:

This course is a continuation of WELD 1000. More advanced techniques of welding are taught on shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, and cutting processes. Special needs of specific students may also be covered, e.g., welding problems or techniques, qualification, certification, and fabrication projects.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 2; Lecture: 1; Lab: 3
Clock/Hour Requirements: 60
Offered for Non-Credit: No
Prerequisites: WELD 1000 or equivalent

Corequisites: None

Justification:

This course is designed to give students and the general public a chance to improve on their welding skills in areas of their choice. Our program advisory committee approved this course. Skills are taught to American Welding Society (AWS) standards.

Student Learning Outcomes:

Upon successful completion, students should 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 and use arc welding equipment in all positions on several joint configurations
- demonstrate and use gas metal arc welding equipment in all positions on several joint configurations
- demonstrate and use gas tungsten arc welding equipment in all positions on several joint configurations
- use proper cutting techniques in oxy-acetylene, plasma, air arc, and oxygen lance.

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
- use and care of arc welding equipment
- advanced arc-welding techniques
- Gas Metal Arc Welding (GMAW) fundamentals
- Gas Tungsten Arc Welding (GTAW) fundamentals
- 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 asthetic 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:

- Students will demonstrate competencies learned by being able to weld with confidence at home or on the job.

Representative Text and/or Supplies:

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

Optimum Class Size: 10
Maximum Class Size: 2

Signatures:

I hereby submit this course syllabus:

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

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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:

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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:

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

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Michelle Olsen, MLS, Campus Librarian (Richfield Campus)