



WELD 1313

Division: Career and Technical Education

Department: Industrial Technology

Course: WELD 1313

Title: Welding Inspection A

Catalog Description:

This course is for welding technology majors. It presents skills and techniques to assist welders to better perform their duties. Qualification testing weld procedures are studied. The course includes inspection procedures and destructive testing for the various welding defects.

General Education Requirements: N/A

Semesters Offered: TBA

Credit/Time Requirement: Credit: 1; Lecture: 1; Lab: 0

Clock/Hour Requirements: 15

Offered for Non-Credit: Yes

Prerequisites: WELD 1020

Corequisites: WELD 1303

Justification:

This course has been approved by the program advisory committee. Course material meets American Welding Society Certified Welding Inspector (CWI) requirements.

Student Learning Outcomes:

Upon successful completion, students will be able to:

- interpret codes and specifications
- interpret blueprints and drawings
- obtain a working knowledge of weld symbols and destructive testing symbols
- perform destructive tests on welds.

Content:

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

- requirements for inspectors

- duties of an inspector
- understanding and working knowledge of symbols, welding specifications, and qualification of welding procedures
- qualification of welders and welding operators
 - plate and structural members
 - pipe welding
 - welding position
 - testing of qualification welds
 - qualification records
 - retests
 - standardization of tests
- weldment defects
 - dimensional defects
 - structural discontinuities
 - defective properties
- testing of welds (destructive)
 - chemical tests
 - metallographic tests
 - hardness tests
 - mechanical tests.

General Education Outcomes:

1) Read effectively, constructively, and critically.

Students will read the required text, as well as other assigned readings. Students must be able to answer questions on exams and synthesize information into laboratory experiences.

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:

Student Learning Outcomes will be assessed by two or more of the following Key Performance Indicators:

- assignments
- tests
- quizzes
- competency in subsequent courses and on the job
- visually inspect their welds
- destructive testing procedures on weldments in future projects.

- *Welding Inspection Technology*, current edition, Education Department, American Welding Society.
- 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 Industrial Technology Department:

Alan Hart, AAS, Instructor, 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)