

COURSE INFORMATION

Course Prefix/No: **WLD 111**

Course Title: **Arc Welding I**

Lec Hrs/Week: 2.0

Lab Hrs/Week: 6.0

Credit Hrs/Semester: 4.0 [DL ATTENDANCE/VA STATEMENT](#) [TEXTBOOK INFORMATION](#)

COURSE DESCRIPTION:

This course covers the safety, equipment, and skills used in the shielded metal arc welding process. Fillet welds are made to visual criteria in several positions.

COURSE COMPETENCIES:

Upon successful completion of this course, the student should be competent to perform the following tasks:

- Produce quality fillet welds on carbon steel using the shielded metal arc welding process in the:

1. Flat position
2. Horizontal position
3. Vertical position
4. Overhead position

MINIMAL STANDARDS/PERFORMANCE OBJECTIVES:

Note: The instructor will give the student instruction for the control of an arc and puddle during the course before testing the student. The instructor will give the student specifications for quality welds and cuts during the course before testing the student. These specifications will include, but will not be limited to the following items: placement of bead, undercut, suck-back and uniformity of beads. Inspection will be a visual nature by the instructor.

Given lectures, demonstrations, and specifications, the student will adjust machine settings, strike and control an arc, manipulate the electrodes and read the puddle to make quality fillet welds.

Given lectures, demonstrations, equipment and specifications, the student will demonstrate control of bead placement to make quality fillet welds.

Given lectures, demonstrations, equipment, and specifications, the student will make a check list of things that cause poor quality fillet welds and describe procedures to eliminate them with an accuracy of 70%.

Given lectures, demonstrations, equipment, and specifications, the student will demonstrate control of an arc and puddle to make quality fillet welds in the following positions: vertical, horizontal, flat and overhead.

Given guidelines of appropriate work attitudes, the student will exhibit proper behavior as identified in the Evaluation Strategies/Grading section of this outline.

COURSE REQUIREMENTS:

Students are responsible for attaining competencies through completion of the following course requirements:

Attendance

Students will be bound by the policies stated in the York Technical College Student Handbook. "Students must attend 80% of the hours assigned the class for a quarter to receive credit for the course."

In case a student does miss a class, the student is responsible for obtaining the material that was covered during the absence.

If a student is aware that a class will be missed, then the student should notify the instructor at the earliest possible date.

If a student misses a test because of illness or urgent emergency, it is the responsibility of the student:

Notify the instructor prior to the class period, or at the earliest possible date. At that time a new date for a make up test can be scheduled.

Students with unexcused absences during tests will be allowed to take a make up test at the discretion of the instructor.

The student has the burden to be sure that some arrangement was made with the instructor for taking a make up test.

Participation in Class Discussions

Completing Assigned Lab Projects and Tests

Shop Requirements:

The student will adhere to all safe behavior codes during shop use. These are, but not limited to, the following:

1. Safe work habits as outlined by the instructor
2. Proper dress codes as outlined by the instructor
3. Proper conduct as outlined by the instructor
4. Proper maintenance of work area

Academic Honesty:

"York Technical College adheres to the South Carolina TECH Student Code, approved by the State Board for Technical and Comprehensive Education on March 13, 1974 (revised last April 25, 1984). Copies of this code are available in the Library and from Student Services. ...Any student caught cheating or involved in any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action."

EVALUATION STRATEGIES/GRADING:

The grading scale will be the standard for York Technical College:

Grade Points

A 90 - 100

B 80 - 89

C 70 - 79

D 60 - 69

F 0 - 59

Evaluation Method Total Points

Lab/Shop projects 75%

Work Attitude 25%

1. Participation
2. Cooperation
3. Appearance
4. Effort
5. Safety
6. Responsibility
7. Professionalism
8. Attendance

ENTRY LEVEL SKILLS:

The student should exhibit traits of maturity (e.g. responsibility, seriousness or work, etc.) and should be able to read and write English, have good manual dexterity, good eyesight and good eye-hand coordination.

PREREQUISITES:

None

CO-REQUISITES:

None

TOPIC/CONTENT OUTLINE:

- A. Welding Machine Set Up
- B. Arc Welding in all Positions

Methods of Instruction

This course consists of 2 hours of class periods and 6 hours of laboratory. The class instruction includes lectures, demonstrations, discussions, and tests. The lectures are given while drawing on the blackboard, using overhead projections, or video tapes.

The lab consists of exercises that are self-paced using welding shop equipment. Instructors will work with each individual student to assure quality work. Students will be performing arc-welding of carbon steel in all positions throughout the semester.

