



Wayne County Community College District

COURSE SYLLABUS

WLT101 Arc/Oxygen-Acetylene Welding

CREDIT HOURS: 5.00

CONTACT HOURS: 75.00

COURSE DESCRIPTION:

This introductory course in arc welding covers theory and practice, and proper procedures for various welding positions. Topics include AC and DC welding, electrode identification, classification and proper applications to typical operations. This course is also designed for students who need knowledge of oxy-acetylene welding and a degree of skill required by the industry. Also, an introduction into CNC plasma cutting (programming), silver soldering, plastic and spot welding is presented.

PREREQUISITES: *None*

EXPECTED COMPETENCIES:

Upon completion of this course, the student will be able to:

- Know and follow all arc/oxy-acetylene welding safety practices
- Strike and maintain arc E6010/E7018 using proper machine settings/stringer (1/8 electrode) with 50% accuracy
- Run stringer beads E6010/E7018, various sizes, with 80% accuracy
- Know amperage and polarity controls with 100 % accuracy
- Continue stringers using E6013/E6011 (1/8) with 80% accuracy
- Butt weld 3/8 material and destruct test E6010/E7018 using 1/8 electrode with 100% accuracy
- Simulate v-groove lay stringers E7018 (1/8) Electrode (root/multi-pass and cover-pass), and introduce students to electric wire wheel for proper joint preparation with 40% accuracy
- Continue stringers in simulated v-groove with 90% accuracy
- Lap weld 3/8 material E7024/E7018 in the flat using 1/8 electrode with 70% accuracy (Midterm)
- Weld fillets Inside/Outside corner in the flat using E6010 and E7018 1/8 electrode
- Set-up and shut-down Oxy-Acet station correctly
- Utilize protective welding gear and demonstrate proper use of hand and power tools with 100% accuracy
- Use light torch and adjust to each basic flame correctly with 100 % accuracy
- Puddle and do stringer bead with 75% accuracy
- Weld 1/8" mild steel lap joints with 80% accuracy
- Braze butt and lap joints with 90% accuracy
- Perform silver soldering with 90% accuracy
- Weld cast iron and braze all basic joints with 90% accuracy
- Solder / copper tube (map gas) with 100% accuracy
- Weld plastic stringers with 70% accuracy
- Operate CNC plasma cutter and introduce the spot welder with pull test with 80% accuracy

ASSESSMENT METHODS:

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

GRADING SCALE:

90%-100% = A
80%-89.9%= B
70%-79.9%= C
60%-69.9%= D
<60% = E