



Wayne County Community College District

COURSE SYLLABUS

WLT 209 ADVANCED PIPE WELDING

CREDIT HOURS: 5.00

CONTACT HOURS: 75.00

COURSE DESCRIPTION:

This course is an advanced pipe welding class with topics involving welding of pipe using the shielded metal arc welding (SMAW) process. Topics include Multi-pass/hot-pass/cover-pass and out-of-position welding to finish weld coupons from WLT 208. Samples will be taken for face and root bending with dependable safety practices understood.

PREREQUISITES: *WLT 208*

EXPECTED COMPETENCIES:

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

- Practice safety using welding test equipment along with all hand tools and grinders
- Be able to weld fitted pipe root 1/8 E6010 with 90% accuracy
- Completes pipe (schedule 80) multi-pass using E7018 3/32 with 90% accuracy
- Uses 1/8 E7018 multi-pass on pipe (schedule 80) with 100% accuracy
- Weld fitted cap using 3/32 E7018 with 90% accuracy
- Weld fitted cap using 1/8 E7018 with 100% accuracy
- Cut test coupons for bend testing with 50% accuracy
- Prepare a 3/8" steel plate for welding in out-of-position processes
- Identify welding electrodes required to weld out-of-position weld joints
- Prepare and test coupons using the guided 'U' bend test and the tensile test procedures
- Calculate amperages required to produce certification welds
- Determine proper polarities needed to produce certification welds
- Complete a 5G or 6G pipe weld for examination with 75% accuracy
- Complete a 5G or 6G pipe certification weld for testing at National Testing and Research Laboratories; explain testing
- Explain reasons for using more than one welding process on pipe and tube
- Modify welding technique to obtain maximum weld bead quality

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