



# Wayne County Community College District

## COURSE SYLLABUS

### WLT 208 PIPE WELDING

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**CREDIT HOURS:** 5.00

**CONTACT HOURS:** 75.00

**COURSE DESCRIPTION:**

This course covers the advanced processes utilized in the modern industry. Pipe joint welding in accordance with American Welding Society codes and specifications, including processed metallic inert gas, tungsten inert gas, shielded metal arc and soldering.

**PREREQUISITES:** WLT101, WLT102, WLT103, WLT104, WLT105

**EXPECTED COMPETENCIES:**

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

- Practice and follow all safety procedures for pipe welding
- Weld v-groove vertical up root/multi-pass and cover 3/8 plate with 100% accuracy
- Layout and prepare pipe with the included angle and root face to meet ASME specifications with 100% accuracy
- Learn to cut and prep pipe and proper fit up in 2G with 50% accuracy
- Weld fitted pipe/root 1/8 E6010 to 3/32 E7018 electrode 2G and explain hot pass with 60% accuracy
- Weld fitted pipe/TIG weld root 2G with 75% accuracy
- Fix/repair pipe that has weld flaws using grinder with 100% accuracy
- Continue root pass and fix/repair all samples or coupons, save coupons and test pieces with 75% accuracy
- Be able to cut/fit/tack weld root pass on coupons with 50% accuracy
- Cut coupon for root bend with 50% accuracy
- Be exposed to using seven inch grinder for proper grind for the land
- Prepare a 3/8" steel plate for welding in out of position processes with 100% accuracy
- Identify welding electrodes required to weld out of position weld joints
- Prepare pipe and tube for certification welding with 100% accuracy
- Calculate amperages required to produce certification welds with 100% accuracy
- 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 with 75% accuracy
- Explain reasons for using more than one welding process on pipe and tube
- Modify welding technique to obtain maximum weld bead quality with 50% and 100% expectation
- Identify the four positions (1G, 2G, 5G, and 6G) defined by the ASME code

**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