



Wayne County Community College District

COURSE SYLLABUS

WLT210 WELDING CERTIFICATION

CREDIT HOURS: 5.00

CONTACT HOURS: 75.00

COURSE DESCRIPTION:

This course covers advanced theory and hands-on application of skills necessary to pass American Welding Society procedures. Practice and theory in shielded metal arc, tungsten inert, metallic inert gas welding in piping, tubing and plate in common alloy metals.

PREREQUISITES: WLT101, WLT102, WLT103, WLT104, WLT105

EXPECTED COMPETENCIES:

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

- Possess an understanding of Flux-core/MIG/TIG and SMAW certifications
- Properly prepare plates mild steel (3/8 and 1/2) for 1G SMAW V-GROOVE flat using E6010 for root and E7018 for multi/cover-pass; sample will be taken and bend tested along with a visual 75% accuracy; flaws will be discussed
- Properly prepare plate 3/8 mild steel for 1G GMAW V-GROOVE in the flat using .035/.045 wire; cut coupon for face and root bend with 75% accuracy
- Properly prepare plate 3/8 mild steel for 1G GTAW V-GROOVE in the flat using 3/32 or 1/8 mild steel filler rod; cut coupon for face and root bend
- Using Flux-core a properly prepare plate one inch plate for 1G V-GROOVE cut coupon for face and root bend with 75% accuracy
- Using a liquid penetrant test to detect flaws that are open to the surface e.g., cracks, seams, laps, lack of bond, porosity in all weld processes with 100% understanding
- Bend test pipe coupons with schedule 80 pipe
- Perform liquid dye examination exercises on fillet welds
- Perform magnetic particle inspection exercises on groove welds
- Perform exercises on destructive guided bend tests on groove welds

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