



Wayne County Community College District

COURSE SYLLABUS

WLT 104 TUNGSTEN INERT GAS (TIG) WELDING

CREDIT HOURS: 5.00

CONTACT HOURS: 75.00

COURSE DESCRIPTION:

This course is designed for advanced gas tungsten arc welding (GTAW). This process of metal fusion is capable of producing high quality welds in cold rolled, stainless and aluminum. Emphasis will be on out-of-position welding, where students will be able to perform out-of-position welds using ferrous and non-ferrous metals.

PREREQUISITES: WLT101, WLT103

EXPECTED COMPETENCIES:

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

- Know and follow all safety practices
- Run stringer beads using 3/32 tungsten on 1/8 cold rolled steel (horizontal, vertical up and down and overhead) 3/32 and 1/16 filler rod with 50% accuracy
- Run tee/lap beads using 3/32 tungsten on 1/8 cold rolled steel (horizontal, vertical up and down and overhead) 3/32 and 1/16 filler rod with 80% accuracy
- Run inside/outside corners using 3/32 tungsten on 1/8 cold rolled steel (horizontal, vertical up and down and overhead) 3/32 and 1/16 filler rod with 80% accuracy
- Butt weld using 3/32 tungsten on 1/8 cold rolled steel (horizontal, vertical up and down and overhead) 3/32 and 1/16 filler rod with 80% accuracy
- Weld stainless steel tee/lap using 3/32 tungsten on 1/8 stainless steel (horizontal, vertical up and down and overhead) 3/32 and 1/16 stainless filler rod with 85% accuracy
- Continue Stainless Inside/Outside using 3/32 tungsten on stainless steel (horizontal, vertical up and down and overhead) 3/32 and 1/16 stainless filler rod with 85% accuracy
- Continue stainless butt weld and edge joint (horizontal, vertical up and down and overhead) with 100% accuracy
- Run aluminum stringers using 3/32 tungsten on 1/8 aluminum 3/32 and 1/16 aluminum filler rod (horizontal, vertical up and down and overhead) with 85% accuracy
- Continue tee/lap beads using 3/32 tungsten on 1/8 Aluminum 3/32 and 1/16 filler rod (horizontal, vertical up and down and overhead) with 90% accuracy
- Continue inside/outside corners using 3/32 tungsten on 1/8 Aluminum (flat) 3/32 and 1/16 filler rod (horizontal, vertical up and down and overhead) with 100% accuracy
- Simulate a repair ½ round stock chamfer end joint together use v-blocks to tack and finish weld with 85% accuracy
- Use the roller to fabricate a four inch ring 1/8 cold rolled welded to a plate 1/8 then to complete the exercise must use the weld turntable in the flat or at an angle with 85% 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