Department:

Industrial Welding Technology

Course Description:

This course will provide instruction and experience in the Gas Metal Arc Welding (GMAW) process. The course will cover setting up the GMAW workstation, electrode classification, selection, and use, welding, and inspection.

Course Competencies:

Upon completion of the course, the student should be able to:

1. Explain the concepts of Gas Metal Arc Welding (GMAW).
2. Demonstrate the safe and correct setup of the GMAW workstation.
3. Relate GMAW electrode classification with base metals and joint criteria.
4. Demonstrate proper electrode selection and use based on metal types and thicknesses.
5. Build pads of weld beads with selected electrodes in the flat position.
6. Build pads of weld beads with selected electrodes in the horizontal position.
7. Produce basic GMAW welds on selected weld joints.
8. Perform visual inspection of GMAW welds.

Course Content:

A. GMAW Short Circuit Workstation Setup
   1. Pad welding
   2. AWS-1 welding test
   3. AWS2-4-3 (70S6 plate test with backing)
B. GMAW Spray Transfer Workstation Setup
   1. Pad welding
   2. AWS-3 welding test
   3. AWS2-4-5 (70S6 plate test with backing)
C. Flux Cored Arc Welding (FCAW) Workstation Setup
   1. Pad welding
   2. AWS-2 welding test
   3. AWS2-4-9 (70T6 plate test with backing)

Learning Assessments:

Course competencies will be assessed by quizzes, tests, project work, demonstrations, observation, assignments, and written papers.
IWT 135 – Gas Metal Arc Welding I
Prerequisite: None
3 Credit Hours (Lecture/Lab)

Instructional Materials:

ISBN: 9780826930514

Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students must complete the “Disabilities Self-Identification Form” at this link: https://highlandcc.edu/pages/disability-services.

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.