WELD 1607: Gas Tungsten Arc Welding

A. COURSE DESCRIPTION

Credits: 4
Lecture Hours/Week: 1
Lab Hours/Week: 3
OJT Hours/Week: *.*
Prerequisites:
This course requires the following prerequisite
   WELD 1602 - OAW/Thermal Cutting (Number of Years Valid: 5)
Corequisites: None
MnTC Goals: None

Learners receive instruction in theory, equipment, and technique, and have an opportunity to practice skill development with the GTAW (TIG) welding process on mild steel, aluminum, and stainless steel. The goals are to be able to properly set up GTAW welding equipment and to perform welds in the flat and 2-F positions to an industry acceptable level of quality for entry-level employment. Learners are introduced to out-of-position welding. The primary emphasis is on learners conducting supervised practice to achieve the required skill level. Prerequisite: WELD1602

B. COURSE EFFECTIVE DATES: 01/12/2009 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Understand the GTAW/TIG process and its applications.
2. Understand the advantages and limitations of GTAW.
3. Display knowledge of GTAW safety.
4. Identify GTAW equipment.
5. Demonstrate proper GTAW equipment settings.
6. Identify GTAW filler materials.
7. Understand proper filler metal selection.
8. Demonstrate proper filler metal technique.
9. Display GTAW factors of control.
10. Demonstrate five basic joint designs on multiple materials.
11. Demonstrate stringer beads and padding in multiple positions.

D. LEARNING OUTCOMES (General)

1. The learner will demonstrate knowledge of process theory, principles, application, and equipment set-up.
2. The learner will develop and demonstrate the skills required for producing welds in all positions.
3. The learner will demonstrate knowledge of correct welding technique.
4. The learner will develop and demonstrate the skills required for producing flat and horizontal welds to entry level industry standards.
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted