Alexandria Technical and Community College

WELD 1612: GMAW-P & Advanced Processes

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 0
Lab Hours/Week: 6
OJT Hours/Week: *.*

Prerequisites:
This course requires the following prerequisite
WELD 1603 - Gas Metal Arc Welding I (Number of Years Valid: 5)

Corequisites: None
MnTC Goals: None

In this course learners are given an opportunity to practice skill development with the Gas Metal Arc Welding-Pulse (GMAW-P) process and are introduced to other variations on the GMAW process, including Metal Core (MCAW), Flux Core Arc Welding (FCAW), and GMAW-Spray. Learners are also introduced to GMAW welding on aluminum. The primary emphasis is on learners practicing skills in a supervised environment.

B. COURSE EFFECTIVE DATES: 01/17/2020 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Understand advanced welding processes and applications.
2. Understand electrical theory.
3. Identify needs of GMAW-Spray, MCAW, and FCAW equipment.
4. Display proper selection of advanced welding processes.
5. Apply GMAW-Pulse to basic joints.
6. Apply GMAW-Spray to basic joints.
7. Apply MCAW to basic joints.
8. Apply FCAW to basic joints.
9. Apply aluminum and stainless steel to basic joints.

D. LEARNING OUTCOMES (General)

1. Develop and demonstrate the skills required for producing GMAW-P welds to entry level industry standards.
2. Develop and demonstrate the skills required for producing GMAW-spray and MCAW welds to entry level industry standards.
3. Develop and demonstrate the skills required for producing FCAW welds to entry level industry standards.
4. Develop and demonstrate the skills required for producing aluminum GMAW 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