

# Dakota County Technical College

## WELD 1120: Gas Metal Arc Welding I

### A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: \*.\*

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Students will receive instruction in equipment, technique, and will have opportunity to practice skill development with the Gas Metal Arc Welding Short Circuiting and Spray Arc transfer on mild steel plate and sheet metal. Flat position and horizontal welding will be emphasized. The goal is to be able to perform welds in the flat and horizontal position to an industry acceptable level of quality for entry-level employment. Practice to achieve the required skill level is conducted by supervised instruction.

Prerequisites: To be taken at same time as Welding Safety and Theory I

**B. COURSE EFFECTIVE DATES:** 08/27/2012 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

#### **D. LEARNING OUTCOMES (General)**

1. Demonstrate and follow all safety practices
2. Visual inspection of welds and cuts per applicable code or standard
3. Perform all work orders in accordance with shop standards
4. Iron worker setup and basic operation
5. Band saw setup and basic operation
6. GMAW equipment setup and basic operation
7. Set and use the correct amperage (wire feed speed/stick out),
8. Set the correct voltage
9. Master travel and work angles control
10. Master travel speed control
11. Master electrode manipulation control
12. Perform proper arc striking, restart, and crater fill techniques
13. Stringer beads in the flat position with short circuit and spray metal transfers
14. Flat Position Surfacing Welds with short circuit and spray metal transfers
15. 1F single pass weld using short circuiting metal transfer on sheet steel
16. 1G single pass weld using short circuiting metal transfer on sheet steel
17. 1F single pass weld using spray arc metal transfer on plate steel
18. 1G multi-pass weld using short circuiting metal transfer on plate steel
19. Stringer beads in the horizontal position with short circuit and spray metal transfers
20. Horizontal Position Surfacing Welds with short circuit and spray metal transfers
21. Flat Position Surfacing Welds with short circuit and spray metal transfers
22. 2F single pass weld using short circuiting metal transfer on sheet steel
23. 2G single pass weld using short circuiting metal transfer on sheet steel
24. 2F single pass weld using spray arc metal transfer on plate steel
25. 2G multi-pass weld using short circuiting metal transfer on plate steel

#### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

None noted