

# Dakota County Technical College

## WELD 1140: Gas Tungsten Arc Welding I

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: 3

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course will develop the skills necessary for the Gas Tungsten Arc Welding process on mild steel sheet and plate in the flat and horizontal positions. The skills necessary for manual Plasma Arc Cutting.  
Prerequisites: Must be taken at the 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/industry standards
4. PAC equipment setup and basic operation
5. Manual PAC straight cuts on  $\frac{1}{4}$ "
6. Manual PAC straight cuts on  $\frac{3}{8}$ "
7. Manual PAC piercing hole cuts on  $\frac{1}{4}$ "
8. Manual PAC piercing hole cuts on  $\frac{3}{8}$ "
9. Sandblaster setup and basic operation
10. Tungsten grinding equipment setup and basic operation
11. GTAW equipment setup and basic operation
12. Set correct gas flow
13. Master amperage and voltage(arc length) control
14. Master travel and work angles control
15. Master travel speed control
16. Master electrode and filler rod manipulation/control
17. Perform proper arc striking, restart, and crater fill techniques
18. Stringer beads in the flat position
19. Surfacing welds in the flat position
20. 1F single pass weld
21. 1G single pass weld
22. 1G multi pass weld
23. Surfacing welds in the horizontal position
24. 2F single pass weld
25. 2G single pass weld
26. 2G multi pass weld

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

None

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

As noted on course syllabus

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

None noted