Dakota County Technical College

WELD 1111: Shield Metal 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 Shielded Metal Arc Welding process using E7018 and E6010 electrodes in the flat and horizontal positions. Students will receive instruction in equipment, technique, and will have opportunity to practice skill development with the Shielded Metal Arc Welding process. The skills necessary for Oxygen Fuel Cutting, manual and mechanized. 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 standards
4. OFC equipment setup and basic operation
5. Manual OFC straight cuts on ¼¿
6. Manual OFC straight cuts on 3/8¿
7. Manual OFC piercing hole cuts on ¼¿
8. Manual OFC piercing hole cuts on 3/8¿
9. Mechanized OFC straight cuts on 3/8¿
10. Mechanized OFC bevel cuts on 3/8¿
11. Angle grinder setup and basic operation
12. Belt sander setup and basic operation
13. SMAW equipment setup and basic operation
14. Perform arc blow control methods
15. Master amperage and voltage(arc length) control
16. Master travel and work angles control
17. Master travel speed control
18. Master electrode manipulation control
19. Perform proper arc striking, restart, and crater fill techniques
20. Stringer beads in the flat position with E7018 and E6010
21. Surfacing welds in the flat position with E7018 and E6010
22. 1F single pass weld with E7018 and E6010
23. 1F multi pass weld with E7018 and E6010
24. 1G single pass weld with E7018 and E6010
25. 1G multi pass weld with E7018 and E6010
26. Surfacing welds in the horizontal position with E7018 and E6010
27. 2F single pass weld with E7018 and E6010
28. 2F multi pass weld with E7018 and E6010
29. 2G single pass weld with E7018 and E6010
30. 2G multi pass weld with E7018 and E6010

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted