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Northeast Wisconsin Technical College

31-442-325 023422 Welding-Gas Service 2

Course Outcome Summary

Course Information

Description	31-442-325 WELDING-GAS SERVICE 2 ...position pipe welding utilizing gas metal arc welding and shielded metal arc welding processes, pipe fitup, and pipe weld testing according to API 1104 code. (Prerequisite: 31-442-315, Welding-Gas Service 1)
Total Credits	2
Total Hours	72

Course History

Last Revision Date 7/27/2012

Course Competencies

1. Discuss shield metal arc weld safety and equipment.

Learning Objectives

- 1.a. Analyze shield metal arc weld safety procedures and equipment
- 1.b. Demo: Running beads on pipe 12:00-3:00

2. Identify shield metal arc weld electrodes and demonstrate welding techniques.

Learning Objectives

- 2.a. Define shield metal arc weld electrodes and welding techniques
- 2.b. Demonstrate: Shield metal arc weld running bead on 6" diameter pipe: 12:00-6:00 1/8" E6010 tie-ins
- 2.c. Demonstrate 3G Keyhole Welding

3. Analyze the W N and A.P.I. 1104 Standards related to shield metal arc weld.

Learning Objectives

- 3.a. Examine W N Standards Fieldjoining SMAW
- 3.b. Demonstrate: 5G position-open single vee butt joint, SCH 40 pipe 1/8" diameter E6010

4. Identify common welding defects and problems.

Learning Objectives

- 4.a. Examine welding defects and problems
- 4.b. Demonstrate: 5G position-open single vee butt joint, SCH 40 pipe 1/8" diameter E6010

5. Describe welder qualification requirements for SMAW.

Learning Objectives

- 5.a. Identify requirements for SMAW on pipe
- 5.b. Demonstrate 56 position on pipe

6. Identify joint designs and weld symbols.

Learning Objectives

- 6.a. Identify various joint designs
- 6.b. Correctly label joints with appropriate symbol
- 6.c. Demo. welding service tees with SMAW and GMAW

7. Describe the correct method of laying out and constructing a full.

Learning Objectives

- 7.a. Layout of full size tee
- 7.b. Demonstrate welding of full size tee
- 7.c. Review SMAW process