

COURSE OUTLINE

Revision: David Weber, August, 2011

DEPARTMENT:	Manufacturing Technology
CURRICULUM:	Welding Fabrication Technology
COURSE TITLE:	Pipe (SMAW/GTAW) Shielded Metal/Gas Tungsten Arc Welding
COURSE NUMBER:	WFT 228
TYPE OF COURSE:	Vocational Preparatory
COURSE LENGTH:	1 Quarter
CREDIT HOURS:	7
LECTURE HOURS:	22
LAB HOURS:	110
CLASS SIZE:	25
PREREQUISITES:	All WFT 100 level classes, 220, 227

COURSE DESCRIPTION:

Students will learn more advance configurations and position for welding with the E 7018 Shielded Metal Arc Welding process as well as combining Gas Tungsten Arc Welding (GTAW) on pipe including vertical and overhead. This course will prepare students for AWS pipe certification testing procedure as well as cutting and beveling pipe with oxy fuel and hand tools.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Communication - Communicate and work in groups to complete minimum skills activities.
2. Personal Responsibility - Tack, production weld, and finish as required for assigned activities. Demonstrate consistent safe work habits including citizenship. Demonstrate consistent quality workmanship per industry standards.

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STUDENT LEARNING OUTCOMES ADDRESSED: (cont.)

3. Critical Thinking and Problem Solving - Formulate and communicate a plan of action for assigned fabrication and maintenance projects.

GENERAL COURSE OBJECTIVES:

At the end of the course the student will be able to:

1. Identify components of Shielded Metal Arc Welding equipment
2. Identify components of Gas Tungsten Arc Welding equipment
3. Explain SMAW principles of operation
4. Explain GTAW principles of operation
5. Safely transport, assemble, adjust, and maintain GTAW / SMAW equipment
6. Perform assigned laboratory exercises using GTAW / SMAW

TOPICAL OUTLINE	APPROX. HOURS
I. Components of a SMAW system	5
II. Components of a GTAW system	5
III. Operating principles of SMAW E 7018, and GTAW on pipe	6
IV. Setup & use of pipe cutting and beveling systems	6
V. Techniques for using GTAW on open root fit-up configurations.	<u>110</u>
Total	132

Detailed Topical Outline is available separately

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