

## WELD 221 Adv. SMAW

**Credit Hours:** 3**Scheduled hours per week**

Lecture: .5

Lab: 2.5

Other: 0

**Catalog Course Description:**

Pipe certification utilizing the SMAW arc welding process according to the ASME Code.

**Prerequisites:** None**Requisites:** None**Course learning Outcomes:**

Students should learn the hands on skills required to set up there welding machine and also know all the hands on skills and also teach students technical knowledge. Student should be proficient in all welding positions including pipe.

**Topics to be studied:**

1. Safety
2. Equipment
3. Welding Terms and Definitions
4. Electrodes Angles
5. Weld Nomenclature
6. Welding Positions
7. Joint& Weld Classification
8. Weld quality identification
9. Bevel Plate Practicing in all positions
10. Bevel Plate AWS certification testing in all positions
11. 4 ½ inch Sch. 80 6G pipe practice
12. 4 ½ inch Sch. 80 6g Pipe AWS Certification test

**Relationship of course to program outcomes:**

Students will be proficient with “hands-on” skills in all welding posseses (SMAW,GTAW, FCAW, GMAW)	x
80% of all students will pass ASME welding test on plate 2G,3G and 4G positions and or 6G pipe test	x
Students will be able to perform destructive testing and recognize whether it passes or fails and also the daily functions of a (CWI)	x
Student will know the technology terminology used in the welding industry	x
Students will be able to demonstrate the ability to work ethically, effectively, and respectively with people of diverse backgrounds and with people who have different roles, social affiliations, and personalities.	x

<b>This course meets the following General Education Outcome(s):</b>	
<b>Composition and Rhetoric</b> Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	
<b>Science &amp; Technology</b> Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	x
<b>Mathematics &amp; Quantitative Skills</b> Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	x
<b>Society, Diversity, &amp; Connections</b> Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	
<b>Human Inquiry &amp; the Past</b> Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	
<b>The Arts &amp; Creativity</b> Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	
<b>5/3/2016</b>	

*\*Place an X by all the general education competencies met in this course.*

**Special projects or requirements of the course:**

Research paper  
Equipment "show and tell"

**Additional information:**

None

**Assessment of Outcomes:**

Outcomes will be measured by testing (quizzes and final exam)

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