

## WELD 171 Welding Theory

**Credit Hours:** 1**Scheduled hours per week**

Lecture: 0.5

Lab: 0.5

Other: 0

**Catalog Course Description:** Theory of all ARC welding processes; equipment function and their use. Methods and procedures application.**Prerequisites:** None**Corequisites:** None**Course learning Outcomes:** Students should learn to use the basics of welding theory in any area of welding. The outcome should depict the student's abilities to communicate orally and in writing the technical terminology that is commonly used in the welding industry.**Topics to be studied:**

1. Welding processes
2. Welding procedures
3. Weld joint design
4. Material types
5. Welding symbols
6. Preheat requirements
7. Post weld heat treatment
8. Welding equipment
9. Cutting equipment
10. Nondestructive and destructive testing methods

**Relationship of course to program outcomes:**

Students will be proficient with "hands-on" skills in all welding processes (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	
Students will be able to perform destructive testing and recognize whether it passes or fails and also the daily functions of a (CWI)	
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

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

<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.	
<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>	

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

**Additional information:**

None

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