South Central College

WELD 1101  Welding Fundamentals

Course Outcome Summary

Course Information

Description
This course includes introduction and skill development in Oxy/Fuel welding, cutting, brazing, and torch cutting, Gas Metal Arc Welding (GMAW), Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW), metal preparation and safe operation of machines involved in the above applications. (Prerequisites: None)

Total Credits 2
Total Hours 64

Types of Instruction

<table>
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<th>Instruction Type</th>
<th>Credits/Hours</th>
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<tr>
<td>Lab</td>
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Pre/Corequisites
None

Institutional Core Competencies

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Demonstrate safe welding shop behaviors
   Learning Objectives
   Describe safe operation of common welding shop tools
   Perform safe operation of common welding shop tools

2. Perform oxy/fuel welds
   Learning Objectives
   Adjust oxy/fuel torch to proper flame setting
   Perform oxy/fuel beads, flat tee welds, vertical up, and flat butt welds
   Perform oxy/fuel brazed flat tee, lap, and flat butt welds

3. Perform SMAW weld
Learning Objectives
Adjust welder to correct settings
Perform flat and vertical (lap down T - 3F) welds
Perform lap joint (down T - 2F) welds

4. Perform GTAW weld
Learning Objectives
Adjust welder to correct settings
Perform flat and vertical (lap down T - 3F) welds

5. Identify metals and joint types
Learning Objectives
Distinguish between ferrous and non-ferrous metals
Identify different joint types
Identify proper welding application for use with metals and joints

6. Perform oxy/fuel torch cutting
Learning Objectives
Adjust torch flame for cutting
Maintain torch equipment

7. Perform plasma cutting
Learning Objectives
Use correct techniques for various metal thicknesses
Perform cuts that are straight, curved, and circles

SCC Accessibility Statement
South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

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