



South Central College

# WELD 1101 Welding Fundamentals

## Course Outcome Summary

### Course Information

<b>Description</b>	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)
<b>Total Credits</b>	2
<b>Total Hours</b>	64

### Types of Instruction

Instruction Type	Credits/Hours
Lab	2/64

### 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](http://www.southcentral.edu/disability)

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.