



South Central College

WELD 1035 Introduction to Gas Metal Arc Welding (GMAW)

Course Outcome Summary

Course Information

Description	This course will introduce concepts related to Gas Metal Arc Welding (GMAW) process. Topics introduced include: using the metal arc transfers of short circuiting, globular, spray arc, pulsed spray arc. Also introduced are how various shielding gases affect gas metal arc welding. Individual practice time will be dedicated to welding on mild steel in all welding positions. (Prerequisites: None)
Total Credits	2
Total Hours	48

Types of Instruction

Instruction Type	Credits/Hours
Lecture	1 / 16
Lab	1 / 32

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. Discuss basic elements of gas metal arc welding (GMAW) including materials and process involved.

Learning Objectives

Use basic welding terminology.
Define when to apply square wave, pulse, and balance control settings to specific welds.
Explain variables such as the effect of changing arc length on a weld.

2. Prepare welding equipment to accomplish given gas metal arc welding tasks.

Learning Objectives

Identify proper steps to accomplish a given task.

Select the appropriate amperage setting.

3. Identify proper equipment for performing welding.

Learning Objectives

Identify types of wire feed welding equipment and their uses.

Select appropriate wire.

Select appropriate shielding gas.

Describe proper welding consumables and fluxes for a selected process.

4. Discuss appropriate steps to complete GMAW tasks.

Learning Objectives

Identify appropriate start stop points.

Describe general weld joint configurations

Prepare metal appropriately.

5. Practice a variety of gas metal arc welding.

Learning Objectives

Clean and prepare the metal to be welded, assure good metal fit-up, apply weld-through primer if necessary, and clamp as required.

Apply proper equipment settings and programs to weld on specific base metals.

Practice using the proper steps in welding with gas metal arc equipment.

Practice using the proper steps in welding a multiple pass weldment.

6. Demonstrate safety in a lab setting.

Learning Objectives

Locate eye protection, eye wash, and emergency power kill switch.

Operate power tools safely.

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

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