



South Central College

MEAG 1500 Facility Maintenance

Course Outcome Summary

Course Information

Description	This course covers farm and residential electrical wiring. Practical 120/240 volt circuit wiring, electrical safety, device selection, installation methods, grounding, bonding and service entrance panels included. Students will be wiring circuits according to code. Plumbing processes of Polyvinyl Chloride (PVC) and copper will be included. Another component of this class includes; OxyAcetylene welding, gas torch and/or plasma cutting and several forms of Arc welding. Students will spend time in the welding lab completing the required welds. Electrical and welding safety will be stressed. (Prerequisites: None).
Total Credits	3
Total Hours	80

Types of Instruction

Instruction Type	Credits/Hours
Lecture	1/16
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. Practice shop safety rules

Learning Objectives

- Practice welding safety rules
- Practice electrical safety rules
- Practice plumbing safety rules

2. Read and interpret electrical wiring plans

Learning Objectives

- Locate and mark wiring routes

b. Identify and ground electrical system

3. Install 120/240 volt circuits

Learning Objectives

- a. Install switch and outlet boxes
- b. Connect receptacles, switches and fixtures
- c. Install a ground fault circuit interrupter

4. Estimate wiring costs

Learning Objectives

- a. Determine the type and size of service entrance equipment
- b. Create a Bill of materials for Wire, Boxes, Fixtures, and other required materials

5. Choose arc welding setting

Learning Objectives

- a. Select the proper arc welding electrodes
- b. Select the proper welding machine settings

6. Explain oxyacetylene equipment setup procedures

Learning Objectives

- a. Describe oxyacetylene flames
- b. Select proper oxyacetylene welding and cutting tips

7. Perform various welding operations

Learning Objectives

- a. Demonstrate various types of oxyacetylene welding beads and cutting
- b. Demonstrate various types of stick welding beads and cutting
- c. Demonstrate various types of inert gas welding beads
- d. Demonstrate plasma cutting

8. Solder elbows and tee to copper tubing

Learning Objectives

- a. Demonstrate proper soldering procedures
- b. Demonstrate flaring copper tubing

9. Examine various plastic pipe applications

Learning Objectives

- a. Glue elbows and tee to plastic pipe
- b. Explain other types of plastic systems used in plumbing besides PVC

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) 332-5847.

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.