

SOUTHEAST COMMUNITY COLLEGE
TRANSPORTATION OCCUPATIONS
WELDING TECHNOLOGY
COURSE SYLLABUS
February 6, 2024

I. CATALOG DESCRIPTION

Course Number: WELD1070
Course Title: GMAW Theory and Lab
Prerequisite(s): University Ag Education or Technical Skills Instructor student, or with permission of welding program chair

Catalog Description: Study of Gas Metal Arc Welding theory, safety and applications. Study and use of various filler wires and shielding gases and welding power source set-up. Beginning welding of carbon steel with the Gas Metal Arc Welding process on various joint configurations. Note: this class will not meet welding program criteria and is not available to students wishing to enter the welding program.

Credit Hours: 3.0
Class Hours: 15
Lab Hours: 90
Total Contact Hours: 105

II. COURSE OBJECTIVES: *Course will:*

A. GMAW

1. Discuss and demonstrate proper set-up of a GMAW power source.
2. Cover Gas Metal Arc welding various joints and configurations.
3. Cover Gas Metal Arc welding carbon steel in all positions on various joints.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. STUDENT LEARNING OUTCOMES: *Student will be able to:*

1. GMAW

- a. Demonstrate ability to setup and weld with a GMAW machine.
- b. Understand the safe operation of the GMAW process.
- c. Gas metal arc weld in the flat, horizontal and vertical positions.
- d. Successfully weld various joints.

B. GENERAL EDUCATION LEARNING OUTCOMES:

GELO #3: Critical Thinking & Problem Solving

Outcomes:

1. Collect, identify, interpret and analyze data.
2. Synthesize information to arrive at reasoned solutions to problems.
3. Evaluate ideas presented in writing, medial, speech, or artistic presentations.
4. Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.
5. Acquire and integrate knowledge and construct relationships across disciplines.

IV. CONTENT/UNIT OF INSTRUCTION

A. GMAW

1. Setup of equipment to GMAW weld.
2. Weld carbon steel in all positions.
3. Weld various joints.

V. INSTRUCTIONAL MATERIALS

A. Required Text(s): Refer to Course Information Document and/or course instructor for required text(s).

B. Other Resources: Supplemental handouts supplied by instructor.

Notebook

Tools/supplies for the 1st and 2nd terms listed on the Welding Technology Program required tool list.

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:

1. Lecture
2. Small and large group discussion
3. Video presentation
4. Transparencies
5. Demonstrations
6. Project boards
7. Flip charts
8. Handouts
9. Observations
10. Assigned lab projects
11. Field trips

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

1. Notebook (if required)
2. Quizzes
3. Tests
4. Lab grades

Letter grades will be based on the SCC Standard Grade Scale Policy. **Note:** See course information document for specific details on how the course grades will be calculated.

VIII. SPECIFIC COURSE REQUIREMENTS:

A. Student must:

1. Complete all tests, projects, assignments, and notebook.
2. Earn a final grade of C (70%) or higher.

B. Program, shop safety rules will be followed. Please see the course outline for an additional safety rules established by the instructor.