

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES AND SKILLED TRADES DIVISION
WELDING TECHNOLOGY
COURSE SYLLABUS
October 27, 2025

I. CATALOG DESCRIPTION

Course Number: WELD2420
Course Title: Pipe Welding & Cutting
Prerequisite(s): WELD1101

Catalog Description: Study and practical applications in pipe welding and cutting. Includes pattern making, pipe cutting, pipe fitting and pipe welding.

Credit Hour: 1.5
Classroom Hours: 8
Lab Hours: 45
Total Contact Hours: 53

II. COURSE OBJECTIVES: *Course will:*

- A. Discuss pipe welding and pipe fitting equipment and related applications for industry.
- B. Review pressure piping blueprints and specifications.
- C. Introduce advanced pattern making, template design and tools employed for pipe fitting.
- D. Discuss aspects of pipe weld preparation, fitting and position welding.
- E. Review power supply technology and filler metal considerations.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. COURSE COMPETENCIES: *The student will be able to:*

- 1. Identify pipe welding equipment and the safety of its use.
- 2. Demonstrate pipe print reading skills and pipe welding techniques.
- 3. Utilized patterns and templates as necessary for industry use.
- 4. Complete pipe welded joints in out-of-positions configurations.

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. Pipe welding orientation, safety, and equipment
- B. Print reading and layout for pipe welding
- C. Pipe welding techniques and applications

V. INSTRUCTIONAL MATERIALS

Required Text(s): See Course Information Document for current textbook(s).

Other Recourses: Pipe cutting equipment
Handout materials
Lab safety equipment

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. Demonstrations
5. Project boards
6. Flip charts
7. Handouts
8. Observations
9. Assigned lab projects
10. 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 outline 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 (if required).
2. Earn a final grade of C (70%) or higher.

B. Program shop safety rules will be followed.

C. Please see the course outline for any additional safety rules established by the instructor.