

SOUTHEAST COMMUNITY COLLEGE
MANUFACTURING OCCUPATIONS
WELDING TECHNOLOGY
COURSE SYLLABUS
September 12, 2023

I. CATALOG DESCRIPTION

Course Number: WELD2530
Course Title: Welding Fabrication & Repair
Prerequisite(s): WELD1101, WELD1107, WELD1123, WELD1128, WELD2330, WELD2340

Catalog Description: Design and fabrication of various projects to include the basic design and use of jigs and fixtures. Repair and maintenance of projects employing the major welding processes.

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

II. COURSE OBJECTIVES: *Course will:*

- A. Teach the student techniques and skills used to fabricate various projects that require use of fabrication equipment, cost estimating, material preparation and special welding skills or metallurgical considerations.
- B. Teach the student techniques and perform skilled work in the restoration or modification of existing projects selected.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. STUDENT LEARNING OUTCOMES: *The student will be able to:*

- 1. Select appropriate welding or fabrication processes based on project at hand.
- 2. Select appropriate welding or fabrication process to produce new or modify existing fabricated item to an acceptable standard.

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. Fabricated welding projects/repair projects
- B. Modification/restoration project
- C. Use of related fabrication equipment
- D. Material use, cost, research
- E. Evaluation of completed projects

V. INSTRUCTIONAL MATERIALS

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

Other Recourses: Handouts
Audio-visual equipment
Welding equipment and safety protection devices
Specialized fabrication equipment
Shop equipment
Texts and calculator

VI. METHODS OF PRESENTATION/INSTRUCTION

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

1. Lecture
2. Handouts
3. Laboratory projects/group demonstrations
4. Hands-on demonstrations and mock-ups

VII. METHODS OF EVALUATION

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

1. Attendance
2. Participation
3. Contributions
4. Projects
5. Experiments
6. Research
7. Fabrication techniques

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. Grading

1. Completion of all exams, exercises and projects.