

**SOUTHEAST COMMUNITY COLLEGE
MANUFACTURING OCCUPATIONS
WELDING TECHNOLOGY
COURSE SYLLABUS**

July 1, 2019

[Syllabus Statements](#)

I. CATALOG DESCRIPTION

Course Number: WELD2320
Course Title: GTAW I
Prerequisite(s): None

Catalog Description: Study of Gas Tungsten Arc Welding theory, safety, principles, applications, procedures, and welding practices. Study and use of tungsten electrodes, filler wires, shielding gases, and power source selection and set-up. Welding of carbon steel with the Gas Tungsten Arc Welding process in all positions on various joint configurations.

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

II. COURSE OBJECTIVES: *Course will:*

- A.** Provide the student with an understanding of the theory of the Gas Tungsten Arc Welding process.
- B.** Provide the student with an understanding of the safe operation of the Gas Tungsten Arc Welding process.
- C.** Provide the student with an understanding of the proper setup and operation of a Gas Tungsten Arc welder.
- D.** Teach the student how to gas tungsten arc weld carbon steel in all positions and on various types of joints.
- E.** Teach the student to initiate an arc by the touch start and lift arc methods.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

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

B. GENERAL LEARNING OUTCOME:

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/TOPICAL OUTLINE

- A.** Introduction
- B.** History of GTAW
- C.** Hazards, Safety, and Protective Equipment
- D.** Equipment for Manual GTAW
- E.** Electrodes
- F.** Shielding Gas and Related Equipment
- G.** Filler Metals
- H.** Techniques for GTAW
- I.** Setup and Operation of GTAW Welder/Equipment
- J.** Setup of equipment
- K.** Welding of carbon steel in the flat position
- L.** Welding of carbon steel in the horizontal position
- M.** Welding of carbon steel in the vertical position
- N.** Welding of carbon steel in the overhead position

V. INSTRUCTIONAL MATERIALS

- Required Text(s):** Refer to Course Information Document and/or course instructor for required text(s)
- Other Resources:** Supplemental handouts supplied by instructor
Notebook
Tools/supplies for the 1st, 2nd, and 3rd semesters listed on the Welding Technology required tool list

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:**
- 1. Lecture
 - 2. Video presentations
 - 3. Laboratory demonstrations

VII. METHODS OF EVALUATION

- A. Methods of evaluation typically include a combination of the following:**
- 1. Written assignments
 - 2. Written tests and quizzes
 - 3. Class attendance and participation
 - 4. SCC Standard Grading Scale Policy:

A+	–	95 to 100 Points	A	–	90 to 94 Points
B+	–	85 to 89 Points	B	–	80 to 84 Points
C+	–	75 to 79 Points	C	–	70 to 74 Points
F (Failing)–Less than 70 points					

VIII. SPECIFIC COURSE REQUIREMENTS

- A. Successful completion of all assignments, exams, and weldments.**
- B. Grading**
- 1. It is the students' responsibility to make up work when absent.
 - 2. All assigned work must be turned in on the day due or a late grade will be given (10% deduction each late day).

3. The instructor reserves the right to revise assignments and/or grading scale in accordance to the progress of the class at any time of the quarter.
4. All weldments must meet a minimum grade of C (70 Percent).
5. Minimum course grade of C (70 Percent) is required.

C. Attendance/Classroom Policies

1. The Attendance Policy, as specified in the Welding Technology Program will be followed.
2. The Classroom/Lab Policy, as specified in the Welding Technology Program will be followed.