

**J. Sargeant Reynolds Community College  
Course Content Summary**

**Course Prefix and Number:** WEL 160

**Credits:** 3

**Course Title:** Gas Metal Arc Welding (MIG and FCAW)

**Course Description:** Introduces semi-automatic welding processes with emphasis on practical application. Includes the study of filler wires, fluxes, and gases. Introduces practical applications in the use of gas metal arc welding and equipment. Studies equipment operation setup, safety, and practice of semi-automatic welding processes. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

**General Course Purpose:** To instruct students in the basics of GMAW in order to obtain employment in the welding field that requires the use of the process.

**Course Prerequisites and Co-requisites:**

None

**Student Learning Outcomes:**

Upon completing the course, the student will be able to

- a. Recognize and use proper safety procedures;
- b. Identify the basics of the GMAW process;
- c. Demonstrate the ability to correctly set up and use GMAW equipment; and
- d. Demonstrate the ability to make satisfactory welds on both steel and aluminum.

**Major Topics to Be Included:**

- a. Safety
- b. Process description
- c. Advantages/disadvantages of process
- d. Equipment description
- e. Consumables
- f. Gasses and wire electrodes
- g. Welding procedures

**Date Created/Updated (Month, Day, and Year):** January 12, 2019