

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

Course Prefix and Number: WEL 161 **Credits:** 3

Course Title: Flux Cored Arc Welding (FCAW)

Course Description:

Introduces flux cored semi-automatic welding processes with emphasis on practical application. Includes the study of filler wires, fluxes, and gases. 2 hours lecture. 3 hours lab. 5 hours total per week.

General Course Purpose:

This course is designed for the student that wishes to obtain employment welding structural steel, either in the field or in a production facility.

Course Prerequisites and Co-requisites:

Prerequisites: WEL120, SAF130, and WEL150

Student Learning Outcomes:

Upon completion of the course, the student will be able to:

- Define proper polarities
- Identify voltage requirements
- Demonstrate proper welding techniques in the laboratory
- Deposit butt and fillet welds in all positions and assess weld quality
- Perform these objectives in a safe and effective manner

Major Topics to Be Included:

- Machine set-up
- Filler metal selection (gas or gasless)
- Gases used for processes
- Welding in all positions
- AWS certification (optional content)

Effective Date/Updated: October 11, 2023