

# WELDING (WEL)

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## Course Descriptions

### **WEL 100. Welding Theory. 2 Credit Hours.**

Welding Theory teaches the theory involved in welding. Students will learn the terminology, techniques, and equipment used for welding in areas such as oxy-acetylene, SMAW (shielded metal arc welding), GMAW (gas metal arc welding), FCAW (flux cored arc welding), GTAW (gas tungsten arc welding), and special processes. Industry codes and inspection are introduced.

Prerequisites: Reading Proficiency

Corequisites: WEL 150

### **WEL 150. Welding I - Oxy-Acetylene Welding. 3 Credit Hours.**

Welding I - Oxy-Acetylene Welding teaches the basic lab skills for welding. Students develop hands-on skills in traditional flat and out-of-position welds which may include corner joints, tee joints, lap joints, and butt joints. Positioning of welds includes work in flat, horizontal, vertical, and overhead positions. Students are trained in shop and safety procedures. (Credit is only allowed for either WEL 150 or ME 101.)

Prerequisites: Reading Proficiency

Corequisites: WEL 100

### **WEL 152. Welding II - Oxy-Acetylene Cutting, Brazing, and Soldering. 2 Credit Hours.**

Welding II - Oxy-Acetylene Cutting, Brazing, and Soldering teaches cutting and joining lab skills for welding. Students develop hands-on skills in cutting with Oxy-Acetylene, brazing, and soldering copper pipe. Students are trained in shop and safety procedures.

Prerequisites: WEL 150 with a minimum grade of "C" and Reading Proficiency

### **WEL 154. Arc Welding I - Flat and Tee Joints. 3 Credit Hours.**

Arc Welding I - Flat and Tee Joints teaches the basic lab skills for SMAW (shielded metal arc welding). Students develop hands-on skills in traditional flat and tee joint operations. Students are trained in shop and safety procedures.

Prerequisites: WEL 152 with a minimum grade of "C" and Reading Proficiency

### **WEL 156. Arc Welding II - Horizontal, Vertical, and Overhead. 6 Credit Hours.**

Arc Welding II - Horizontal, Vertical, and Overhead teaches the basic lab skills for SMAW (shielded metal arc welding). Students develop hands-on skills in flat V-butt joints, horizontal, vertical, and overhead welding techniques. Students are trained in shop and safety procedures.

Prerequisites: WEL 154 with a minimum grade of "C" and Reading Proficiency

### **WEL 160. GMAW and FCAW Welding. 2 Credit Hours.**

GMAW and FCAW Welding teaches advanced lab skills for welding. Students develop hands-on skills in using GMAW (gas metal arc welding) and FCAW (flux cored arc welding). Students are trained in shop and safety procedures.

Prerequisites: WEL 156 with a minimum grade of "C" and Reading Proficiency

### **WEL 162. GTAW Welding. 2 Credit Hours.**

GTAW Welding teaches advanced lab skills for welding. Students develop hands-on skills in using GTAW (gas tungsten arc welding) techniques. Students are trained in shop and safety procedures.

Prerequisites: WEL 152 with a minimum grade of "C" and Reading Proficiency

### **WEL 163. Large Diameter Welding. 2 Credit Hours.**

Large Diameter Welding teaches the lab skills for using large diameter welding rods. Students develop hands-on skills in flat V-butt joints and all position welding techniques. Students are trained in shop and safety procedures.

Prerequisites: WEL 156 with a minimum grade of "C" and Reading Proficiency