#### NYS CIP CODE: 48.0508

### **Program Summary**

- Welding holds much of our world together, from buildings and bridges to airplanes and equipment.
- Take a drawing or blueprint and breathe life into it by fabricating a life size creation.
- Know you have a future with many different job skills that will drive you down the road of success towards manufacturing, field work, or owning your own company.
- Skilled Welders Needed! There is a large shortage of welders in the United States with great opportunities for employment.

### **College Credit Connections**

- · Alfred State College
- Lincoln Technical Institute
- · Niagara County Community College
- · Ohio Technical College

#### **Additional Information**

- Students in this program are eligible for post-secondary dual enrollment opportunities.
- Steel/Composite toed work boots and appropriate dress are required to participate in shop activities.

# **Career Pathways**

#### **Professional Careers**

Building Superintendent Certified Welding Inspector Engineer Mechanical Engineer Welding School Teacher

#### **Technical Careers**

Boilermaker

**Fabricator** 

Ironworker

Machinist

Millwright

Pipeliner

Robotics Technician

Shipwright

Steamfitter

**Underwater Welder** 

Welding Fabricator

#### **Entry Level Careers**

Apprenticeship Opportunities

Shop Helper

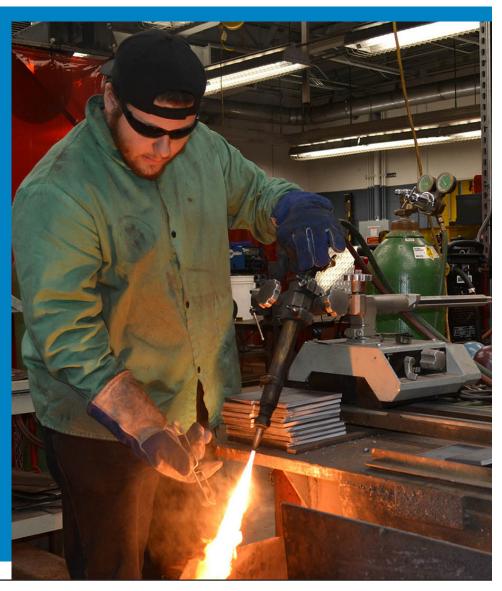
Sheet Metal Workers

Welder

Welding Associate

Welding Apprentice

Welding Supervisor



### **Welding Safety**

- · Personal Protective Equipment (PPE)
- · Burn Classification
- · Face, Eye, and Ear Protection
- Ventilation
- · Handling and Storing Cylinders
- · Electric Hand Tool Safety and Operation
- Equipment Maintenance and Care

### **Metal Working Safety**

- · Grinding
- Preparation
- Shearing
- · Machine Cutting
- Hand Cutting

### **Oxy-Fuel Cutting**

- · Equipment Set Up
- · Cylinder Handling
- Regulator Safety
- · Torches / Gases
- · Hand Cutting
- · Track Cutting
- · Hand Auto Cutting

# **Shielded Metal Arc Welding (SMAW)**

- · Equipment Set Up
- Basic Operations
- · Types of Electrodes
- · Multiple Position Welding
- · Out of Position
- · Operating Equipment

# Gas Metal Arc Welding (GMAW)

- Spray Transfer
- Globular Transfer
- · Short Circuit Transfer
- · Pulse Transfer
- · Equipment Setup and Operation
- Machine Parts
- · Welding Defects

### **Gas Tungsten Arc Welding (GTAW)**

- · Equipment Set Up
- Gases / Flowmeter
- · Equipment Operator
- Ferrous Metals
- · Non-Ferrous Metals
- Torches and Machine Types
- Pulse TIG Welding

#### **Plasma Arc Cutting**

- · Equipment Set Up
- Safety
- Types
- · Gases
- Torches

# **Light Manufacturing**

- · Drill Press
- Sheet Metal Bending
- · Machining Lathe
- · Bridge Port Drill
- Hydraulic Shear
- · Hydraulic Band Saw
- · Iron Worker

