

**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