



## WELDING

### Course Description:

Students will learn the basic methods of welding and will gain practical experience in the welding lab. Design, layout, cutting and fabricating of metals, and identification of properties of metals and alloys are also studied.

- Study Oxy-Acetyline cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), Flux-cored arc welding (FCAW), plasma arc cutting, print reading and welding symbols.
- Weld in all positions: flat, horizontal, vertical and overhead on three different alloys: steel, stainless steel, and aluminum.
- Learn welding symbols, print reading, fabrication techniques, measurement, and cost analysis.
- Students work in updated welding lab daily over the course of a year, with up to 300 hours of lab time.



**Careerline**  
*Tech Center*

Students who would benefit from this program are those who possess strong math and technical skills, have steady hands and good hand-eye coordination, and like being hands-on. Welders are able to work well on a team, or on their own.

**High School Credit:** Students will earn elective credit at their high school upon completion of this course. Please see a high school counselor (based on district decision) for eligibility towards 4th-year math-related credit, VPAA credit, and waived credits for third year science and second year world language.

**College Credit:** Several Michigan post-secondary education partners offer direct and articulate credit for this course. For specifics, visit the **College & Career Services** tab on our website.

Davenport University up to 15 credits.

# WELDING

## LENGTH OF PROGRAM

1 year

### Instructor:

Roger Whitman  
rwhitman@oaisd.org

### ParaPro:

Joe DeLange  
jdelange@oaisd.org

## Related Careers with 2022 Median Annual Pay from O\*Net

- Welders, Cutters, Solderers, and Brazers \$47,540
- Sheet Metal Workers \$55,350
- Structural Metal Fabricators and Fitters \$47,300
- Structural Iron and Steel Workers \$60,500
- And many more

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### TO ENROLL

[bit.ly/CTCenroll](https://bit.ly/CTCenroll)



### QUESTIONS?

Contact Jannette Bole  
jbole@oaisd.org



### FOLLOW US

[careerlinetech.org](https://careerlinetech.org)

### Careerline Tech Center

13663 Port Sheldon Street | Holland | 616-738-8950

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### Course Outline:

**1st Semester:** Safety, Measurement, Print Reading, Thermal Cutting (OFC, PAC, CAC/G), Shielded Metal Arc Welding (SMAW), Grinding and Finishing.

**2nd Semester:** Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), Flux Cored Arc Welding (FCAW), Fabrication, Weld Symbols and Employability Skills.

### Resources Used:

Welding Fundamentals 5th ed. (textbook), Google Classroom, MIG & TIG equipment, and shears.

### Postsecondary Partners:

Articulate with Grand Rapids Community College and Ferris State University.

**Work-Based Learning:** All students at CTC have the opportunity to participate in experiences such as guest speakers, tours, and work experiences that connect them with local employers in their program area.

**Certifications Offered:** Opportunity to earn an AWS SENSE Level 1 certificate.

**Safety Trainings Provided:** All welding, cutting, grinding, and machine operation provided and must be passed with 100%.

**Student Leadership Opportunities:** Students can participate in activities with classmates and outside community partners to strengthen their leadership skills.

**Capstone:** Upon course completion and with teacher recommendation, qualifying students may extend their learning through Capstone. This highly independent course has rigorous attendance and employability requirements. Enrollment starts in May. See your work-based learning coordinator for more information.