

# WELDING TECHNOLOGY I & II

ENGINEERING, MANUFACTURING AND INDUSTRIAL TECHNOLOGY



## Course Description

Welding Technology is open to juniors and seniors and can be a one or two-year program.

Students learn the basics of gas welding and arc welding processes. Students are prepared to set up and pass a qualification test according to the American Welding Society.

Students also receive a basic introduction to machining.

Interested students can continue with Welding Technology II during their senior year.

## Student Leadership Opportunities

Students have the opportunity for leadership, competition, and community service through membership in SkillsUSA.

## Success Indicators

- Focused and hardworking
- Able to stand for two hours
- Heavy lifting
- Good hand/eye coordination
- Detail-oriented
- Willing to learn
- Understands measurements

## Course Overview:

**Program Location:** Lansing Community College (LCC) West Campus

**Sessions Offered:** AM/PM

**Average Lecture Days/Week:** 0-1 Day

**Average Lab Days/Week:** 4-5 Days

**Academic Rigor:** 3 out of 5

**Homework:** Rarely

**Required Reading:** College-level textbooks; less than 25 pages a week

## Learning outcomes include, but are not limited to:

- Oxygen and acetylene use and safety factors
- Evaluating the likeness and differences between oxidizing and neutral and carburizing flames
- Troubleshooting welding equipment malfunctions.
- Understanding and using various welding terms and descriptions and the steel designation system
- Understanding the fundamentals of alternating current and direct current, as well as the application and principles of polarity
- Determine the correct amperage and voltage used, and the variables of amperage for the different material thicknesses
- Basic knowledge of gas metal arc welding and flux cored arc welding
- Understanding the major transfers of wire, including short circuit, spray, globular, and pulsed
- Discuss position groove welds, open root, and closed root with backer plates

## College Credits (18)

- TECH 100 - Industrial Safety (2) - Year One
- WELD 103 - Combination Welding (4) - Year One
- WELD 110 - Gas Metal Arc Welding (4) - Year One
- WELD 105 - Advanced Arc Welding (4) - Year Two
- WELD 111 - Gas Tungsten Arc Welding (4) - Year Two

## Available Certifications:

- LCC Certificate of Completion
- OSHA 10
- First AID/CPR

Updated 12/2025

FOR MORE INFO:  
CONTACT YOUR COUNSELOR,  
CALL 517.483.1596, OR  
VISIT EATONRESA.ORG/CPC



# WELDING TECHNOLOGY



## PROFESSIONAL CAREERS

- Certified Welding Inspector
- Fabrication Shop Owner
- Military Welder
- NDE (Non-Destructive Evaluation) Technician
- Shop Manager
- Underwater Welder
- Welding Educator
- Welding Engineer

## TECHNICAL CAREERS

- Certified Welder
- Fabricator
- Journeyman Level Iron Worker
- Journeyman Level Pipe Welder
- Maintenance Welder
- Robotic Weld Operator/Technician
- Structural Welder
- Tool & Die Welder

## ENTRY-LEVEL CAREERS

- Apprentice Iron Worker
- Apprentice Pipe Welder
- MIG/TIG Entry-Level Welder
- Pipefitter
- Production Welder
- Sheet Metal Worker
- Skilled Trades Apprentice
- Welder/Welder Helper

ACADEMICS

EXPERIENCES

PROFESSIONAL SKILLS

PASSION

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**Scan the QR code below to learn more and watch the program video.**

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ME!**



## Capital Region Technical Early College (CRTEC)

Students enrolled in this program may choose to participate in the Capital Region Technical Early College (CRTEC) program. This is a high school-to-college program where students start in grade 11 and end their 13th year with a degree or certification. This program gives students relevant career related experiences.



**EXPLORE THE POSSIBILITIES.  
FAST TRACK YOUR FUTURE.**