

# ENGINEERING, MANUFACTURING AND INDUSTRIAL TECHNOLOGY

## WELDING I & II



### PROGRAM LOCATION

LCC West Campus

### SESSION OFFERED

AM/PM

### AVERAGE LECTURE DAYS/WEEK

0-1 days

### AVERAGE LAB DAYS/WEEK

4-5 days

### HOMEWORK

Rarely

### REQUIRED READING

College level textbooks  
Less than 25 pages/week



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

First year students are instructed in 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 in the first year will also receive a basic introduction to machining.

Second year students will learn advanced arc welding, which prepares them for welding pipe and passing a qualification test using shielded metal arc welding. Students will also learn gas tungsten arc welding as well as an receive introduction to blueprint reading for welders and metallurgy. Welding is taught through lectures and hands on experiences. Common sense and safety are important qualities for students interested in welding.

### EXPECTED STUDENT OUTCOMES

- Oxygen and acetylene use and safety factors
- Evaluating the likenesses and differences between oxidizing, neutral, can carburizing flames
- Troubleshooting welding equipment malfunctions
- Understanding and using various welding terms and descriptions
- Understanding the steel designation system
- 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 different material thickness
- Basic knowledge in gas metal arc welding and flux cored arc welding
- Understanding the major transfers of wire, including short circuit, spray, globular and pulsed
- Discussing position groove welds, both open root and closed root (with backer plates)

### CAREERS

Welder, Cutter, Solder, Brazer  
Fitter  
Machine Fitter  
Structural Fabricator  
Layout Worker  
Welding Engineer

### MEDIAN WAGE

\$12.89 - \$29.85 hourly

### EMPLOYMENT OUTLOOK

Average, 5-9%

### CERTIFICATIONS

Lansing Community College Certificate of Completion  
OSHA 10 Certification

### SUCCESS INDICATORS

Focused, have excellent attendance, able to stand for 2 hours, able to do heavy lifting, have good eye/hand coordination, detail oriented, hardworking, respectful, quiet, willing to learn, trainable and understand measurements.

### STUDENT LEADERSHIP

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

### 18 COLLEGE CREDITS

#### Year 1

Weld 102 - Indus Safety  
Weld 103 - Comb Weld  
Weld 110 - Gas Metal Arc Weld

#### Year 2

Weld 105 - Advanced Arc  
Weld 111 - Gas Tungsten Arc Weld

### ACADEMIC RIGOR

2

### CAPITAL REGION TECHNICAL EARLY COLLEGE

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



**ENROLL NOW!**

CONTACT YOUR COUNSELOR OR CALL 517.483.9966

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