



Welding Technology A.A.S.

Career Community: Electrical and Manufacturing

Curriculum Code: 0186

Effective: Fall 2022 – Summer 2027

Description

Welding is many processes of fusion, adhesion, and cutting to fabricate or repair products used in manufacturing, research and application. A welding technician could also qualify for welding inspection where welding codes are applied. A welder is a skilled craftsman with a basic knowledge of metals, applied mathematics, blueprint reading, good eyesight, self-discipline and a respect for safety. A welder also needs to work well with his/her hands and have good manual coordination. Many hours of practice and proper training in the basics of MIG, TIG, shielded metal arc, brazing and oxy-fuel cutting, and plasma cutting are necessary. Welders can be found in tool and die industries, automakers, construction, oil refineries, pipelines and pressure vessels, aircraft industries and many more metal-related industries. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

Milestone

In addition to the required General Education courses in Math and English, completion of WELD 103 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of those courses for TECH 102. The courses may also be used to fulfill the prerequisite for METS 140 and ELTE 108 and ELTE 109.

Contact Information

Contact the Center for Manufacturing Excellence at the West Campus Building, 5708 Cornerstone Drive, Lansing MI 48917, Room M103, telephone number 517-483-1104 or by [email](#).

General Education - Applied Degree, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*
Program of Study Required Courses will meet this requirement.

Program of Study Required Courses

| Course Code | Course Title | Credit / Billing Hours |
|-------------|--------------------------------|------------------------|
| METM 108 | Machine Tool Operations | 4 / 6 |
| METM 190 | Metallurgy and Heat Treatment | 4 / 6 |
| METS 140 | Rigging | 3 / 4.5 |
| TECH 102 | General Industry Safety | 2 / 3 |
| WELD 103 | Combination Welding | 4 / 6 |
| WELD 105 | Advanced ARC Welding | 4 / 6 |
| WELD 110 | Gas Metal ARC Welding | 4 / 6 |
| WELD 111 | Gas Tungsten ARC Welding | 4 / 6 |
| WELD 125 | Structural Print Reading/ Weld | 2 / 2 |
| WELD 201 | Tool and Die Welding | 3 / 4.5 |
| WELD 205 | Pipe Welding | 4 / 6 |
| WELD 220 | Structural Fab & Inspection | 4 / 6 |

Program of Study Required Courses – Limited Choices Courses – *Select a minimum of two courses and 5 credits*

| Course Code | Course Title | Credit / Billing Hours |
|-------------|--------------------------|------------------------|
| ELTE 108 | Practical Electricity I | 2 / 3 |
| ELTE 109 | Practical Electricity II | 2 / 3 |
| METM 100 | Manufacturing Processes | 3 / 4.5 |
| WELD 115 | Robotic MIG Welding | 4 / 6 |
| WELD 250 | Welding Internship | 3 / 3 |

Minimum Total Credit Hours

60 credits / 81 billing hours

Recommended Course Sequence

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|-----------------------------|
| Semester I |
| METM 108 |
| METS 140 |
| TECH 102 |
| WELD 103 – Milestone course |
| WELD 110 |

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| Semester II |
| METM 190 |
| WELD 105 |
| WELD 111 |
| WELD 125 |

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| Semester III |
| Gen Ed – English Composition or Applied English |
| Gen Ed – Mathematics or Applied Mathematics |
| WELD 201 |
| WELD 220 |
| Limited Choice |

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| Semester IV |
| Gen Ed – English Composition (Second Course)/ Communications or Applied Communications |
| Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences |
| WELD 205 |
| Limited Choice |

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.