



Welding Technology A.A.S.

Career Community: Electrical and Manufacturing

Curriculum Code: 0186

Effective: Fall 2023 – Summer 2028

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 2.5 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

If students have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher, that will satisfy the TECH 102 requirement. Any of these courses will fulfill the prerequisite for METS 140 and ELTE 108 and ELTE 109.

Contact Information

For further information, including career options, course substitutions and waivers, etc., 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)/Communication or Applied Communication – *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

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

Semester II
METM 190
WELD 105
WELD 111
WELD 125

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

Semester IV
Gen Ed – English Composition (second course)/ Communication or Applied Communication
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.