



Machine Tool Technology C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 1470

Effective: Fall 2025 – Summer 2030

Purpose of the Major

This certificate is designed for an apprentice, pre-apprentice, or person interested in advancing his/her skill set in the machinist or tool & die trade. Technical math, blueprint reading, knowledge of the Machinery Handbook, and metallurgy are just some of the skills and knowledge that are necessary for this type of work. Ideally, this curriculum should be taken concurrently with an industry-based work experience or apprenticeship or in preparation for an apprenticeship as a machinist or tool and die maker.

Milestone

Completion of METM 108 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

A student must earn a minimum grade of 2.0 in all courses.

If students have already completed DCTM 102 with a grade of 2.0 or higher, that will satisfy the TECH 102 requirement.

Contact Information

For further information, including career options, course substitutions and waivers, etc., contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338, email manufacturing@lcc.edu or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

Major Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 110	Mechanical CAD Drafting I	4 / 6
METM 108	Machine Tool Operations	4 / 6
METM 112	Introduction to CNC Machining	4 / 6
METM 190	Metallurgy and Heat Treatment	4 / 6
TECH 102	General Industry Safety	2 / 3

Major Required Courses, Limited Choice – *Select four*

Course Code	Course Title	Credit / Billing Hours
MATH 115	Technical Mathematics	4 / 4
METD 111	Mechanical CAD Drafting II	4 / 6

Course Code	Course Title	Credit/ Billing Hours
METD 130	Geometric Dimension/Tolerance	4 / 6
METD 150	Industrial Blueprint Reading	3 / 3
METD 220	Basic Unigraphics/NX	4 / 6
METM 150	Advanced CNC Machining	4 / 6
METM 220	Basic Mastercam	4 / 6
METS 140	Rigging	3 / 4.5
WELD 103	Combination Welding	4 / 6

Additional Credits

After completing the course and credit requirements as noted on this pathway, students who fall short of the 30-credit minimum required for a Certificate of Achievement may select any course(s) needed to reach 30 credits, except those courses noted in number 7 in the [Institutional Requirements for Certificates of Achievement](#). Students are encouraged to use Degree Works and meet with an Advisor to ensure all requirements are met and for course recommendations.

Minimum Total Credit Hours

32 credits / 44.5 billing hours

Recommended Course Sequence

Semester I
TECH 102
Limited Choice
Semester II
METD 110
METM 108 – Milestone course
Semester III
METM 112
METM 190
Semester IV
Limited Choice
Limited Choice
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 titles, and make course changes as needed, without prior notice. The College also reserves the right to discontinue programs when warranted.