

LANSING COMMUNITY COLLEGE

Computer, Engineering/Manufacturing Industrial Technologies

Curriculum Code: 1470
(Effective Fall 2018 –
Summer 2023)

Machine Tool Technology C.A. Pathway

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.

For More Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number (517) 483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number (517) 267-5452.

Semester I	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
<i>Students who have already completed ELTE 102 or DCTM 102 or HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of those courses for METS 102.</i>			
METS 102	Industrial/Construction Safety	Reading Level 3 and Writing Level 2	2 / 3
Electives - <i>Select 1</i>			
<i>Courses may not be duplicated</i>			
MATH 115	Technical Math II	(Minimum 2.0 in MATH 114 within 2 years or Math Level 5 within 2 years) and Reading Level 5	4 / 4
METD 105	PC Applications for Technology	None	3 / 4
METD 130	Geometric Dimension/Tolerance	Minimum 2.0 in (METD 100 or Mechanical Drafting Placement Test 80%) and Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	4 / 6
METD 150	Industrial Blueprint Reading	None	3 / 3
METS 140	Rigging	Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	3 / 4.5

WELD 103	Combination Welding	Reading Level 3 and Writing Level 2	4 / 6
Credits			5-6 / 6-9
Semester II	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
METD 110	Mechanical CAD Drafting I	Minimum 2.0 in (METD 100 or Mechanical Drafting Placement Test 80%) and Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	4 / 6
METM 108	Machine Tool Operations	Reading Level 3 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	4 / 6
Credits			8 / 12
Semester III	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
METM 112	Introduction to CNC Machining	Minimum 2.0 in METM 108 and Reading Level 3 and Writing Level 4 and Math Level 4	4 / 6
METM 190	Metallurgy and Heat Treatment	Reading Level 5 and Writing Level 6 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	4 / 6
Credits			8 / 12

Semester IV	Course Title	Prerequisites	Credit/Billing Hours
Electives - <i>Select 3 courses</i> <i>Courses may not be duplicated</i>			
MATH 115	Technical Math II	(Minimum 2.0 in MATH 114 within 2 years or Math Level 5 within 2 years) and Reading Level 5	4 / 4
METD 105	PC Applications for Technology	None	3 / 4
METD 111	Mechanical CAD Drafting II	Minimum 2.0 in METD 110 and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METD 130	Geometric Dimension/Tolerance	Minimum 2.0 in (METD 100 or Mechanical Drafting Placement Test 80%) and Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	4 / 6
METD 150	Industrial Blueprint Reading	None	3 / 3
METD 220	Basic Unigraphics/NX	Minimum 2.0 in METD 110 and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METM 150	Advanced CNC Machining	Minimum 2.0 in (METM 110 or METM 112) and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METM 220	Basic Mastercam	Minimum 2.0 in (METM 108 or METM 110) and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METS 140	Rigging	Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	3 / 4.5
WELD 103	Combination Welding	Reading Level 3 and Writing Level 2	4 / 6
Credits			10-12 / 12.5-18
Total Credits			31-34 / 42.5-51