Manufacturing Engineering Technology A.A.S.

Career Community: Electrical and Manufacturing
Curriculum Code: 1359
Effective: Fall 2025 – Summer 2030

Purpose of the Major

This program prepares individuals to apply technical skills and advanced computer software to the manufacturing of machined components relating to a broad range of industries. Students receive instruction in manual machine tools, computer numerical control (CNC) machine programming and operation, computer-aided manufacturing (CAM) design/programming, manufacturing processes, metrology, metallurgy, geometric dimensioning and tolerancing, three-dimensional engineering design graphics, and parametric modeling. Employment possibilities include engineering firms and manufacturing companies in the automotive, defense, special machinery, and medical components industries to name a few. Students completing this pathway would also qualify for the CNC Machine Technology Certificate of Achievement.

Milestone

In addition to the required General Education courses in Math and English, completion of METD 130 and METM 112 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses 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 these courses.

Additional Information

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
ACAD 100	First-Year Experience	1 / 1
COMM 110 or	Communication in the Workplace	3 / 3
COMM 120 or	Dynamics of Communication	3 / 3
COMM 130 or	Fundamentals Public Speaking	3 / 3
COMM 200 or	Small Group Communication	3 / 3
COMM 240 or	Interpersonal Communication	3 / 3

Course Code	Course Title	Credit / Billing Hours
COMM 260 or	Nonverbal Communication	3 / 3
ENGL 122 or	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4
ELTE 121 or	Electrical Mathematics	5 / 6
MATH 115 or	Technical Mathematics	4 / 4
MATH 119 or	Math – Applications for Living	4 / 4
MATH 120 or	College Algebra	4 / 4
MATH 126	Precalculus	5 / 5
ENGL 121 or	Composition I	4 / 4
ENGL 124 or	Technical Writing	3 / 3
ENGL 127 or	Business Writing	3 / 3
ENGL 131	Honors Composition I	4 / 4
METD 100	Basic Mechanical Drafting	3 / 4
METD 110	Mechanical CAD Drafting I	4 / 6
METD 130	Geometric Dimension/Tolerance	4 / 6
METD 220	Basic Unigraphics/NX	4 / 6
METM 108	Machine Tool Operations	4 / 6
METM 112	Introduction to CNC Machining	4 / 6
METM 150	Advanced CNC Machining	4 / 6
METM 195	Quality/Metrology/Inspection	4 / 6
METM 220	Basic Mastercam	4 / 6
METM 221	Advanced Mastercam	4 / 6
METS 115	Intro to Mechanical Systems	4 / 6
TECH 102	General Industry Safety	2 / 3

Notes:

ACAD 100 may be waived when students meet one of the following College-approved waiver criteria:

- Completion of 12 college-level credits with minimum grades of 2.0 shown on the LCC transcript (including transfer, if applicable), or
- Employment in the field of, or a field related to, the degree being sought, or
- For Health Careers students, successful completion of CHSE 100.

Students wishing to waive ACAD 100 should contact their advisor.

Students considering future transfer, choose MATH 119, MATH 120, or MATH 126.

Major Required Courses, Limited Choice – Humanities and Fine Arts or Social Sciences or Applied Social Sciences - *Select one as recommended or select one from LCC General Education Applied Degrees: Humanities and Fine Arts or Social Sciences or Applied Social Sciences. A minimum grade of 2.0 is required for General Education courses.*

Course Code	Course Title	Credit / Billing Hours
GEOG 200	World Regional Geography	4 / 4
MGMT 234	Diversity in the Workplace	3 / 3
SOCL 120	Introduction to Sociology	4 / 4

Note: Students considering future transfer, choose GEOG 200 or SOCL 120.

Major Required Courses, Limited Choice – Natural Sciences or Applied Sciences and Technology Lab - *Select one lab course as recommended or select one from LCC General Education Applied Degrees: Natural Sciences or Applied Sciences and Technology Lab. A minimum grade of 2.0 is required for General Education courses.*

Course Code	Course Title	Credit / Billing Hours
BIOL 120	Environmental Science	4 / 6
CHEM 151 and CHEM 161	General Chemistry Lecture I General Chemistry Lab I	5 / 7
METM 190	Metallurgy and Heat Treatment	4 / 6
PHYS 120	The Art of Physics	4 / 5
PHYS 200	Intro to Applied Physics	4 / 5
PHYS 221	Introductory Physics I	4 / 6

General Education - Applied Degrees

- English Composition or Applied English
  Major Required Courses will meet this requirement.
- English Composition (second course)/Communication or Applied Communication
  Major Required Courses will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences
  Major Required Limited Choice Courses will meet this requirement.
- Mathematics or Applied Mathematics
  Major Required Courses will meet this requirement.
- Natural Sciences Lab or Applied Sciences and Technology Lab
  Major Required Limited Choice Courses will meet this requirement.

Additional Credits

After completing the course and credit requirements as noted on this pathway, students who fall short of the 60-credit minimum required for an Associate Degree may select any course(s) needed to reach 60 credits, except those courses noted in number 7 in the Institutional Requirements for Associate Degrees. 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

62 credits / 85 billing hours

Recommended Course Sequence

Semester I
ACAD 100
ELTE 121 or MATH 115 or MATH 119 or MATH 120 or MATH 126
METD 100
METM 108
TECH 102

Semester II
METD 110
METD 130 – Milestone course
METM 112 – Milestone course
METM 220

Semester III
ENGL 121 or ENGL 124 or ENGL 127 or ENGL 131
METM 150
METM 195
METM 221
Limited Choice – Natural Sciences Lab or Applied Sciences and Technology Lab

Semester IV
COMM 110 or COMM 120 or COMM 130 or COMM 200 or COMM 240 or COMM 260 or ENGL 122 or COMM 132
METD 220
METS 115
Limited Choice – Humanities and Fine Arts or Social Sciences or Applied Social Sciences

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.