



Manufacturing Engineering Technology A.A.S.

Career Community: Electrical and Manufacturing

Curriculum Code: 1359

Effective: Fall 2023 – Summer 2028

Revised 12/20/23

Description

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, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher, that will satisfy the TECH 102 requirement.

Contact Information

For further information, including about career options, course substitutions and waivers, etc., 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.

General Education - Applied Degrees, 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*
METM 190, Metallurgy and Heat Treatment, 4 credits / 6 billing hours

Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
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

Minimum Total Credit Hours

62 credits / 86 billing hours

Recommended Course Sequence

Semester I
Gen Ed – Mathematics or Applied Mathematics
METD 100
METM 108
TECH 102

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

Semester III
Gen Ed – English Composition or Applied English
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
METM 150
METM 195
METM 221

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
METD 220
METS 115

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.