Machine Tool Technology

Certificate of Achievement - Machine Tool Technology *Program Code 346*
Associate in Industrial Technology Degree *Program Code 345*

Advisor: Ken Flowers, (269) 927-4103, flowers@lakemichigancollege.edu

Program Prerequisites

Proficiency in reading, English, and mathematics on the assessment or successfully complete recommended classes. See course descriptions for specific course prerequisites.

Degree Requirements — Credit Hours

College Requirements

English 101, English Composition 3
English 103, Technical Writing, or
English 102, English Composition 3
* Physical Education 200, Healthful Living, or
Physical Education 212, Health and Fitness, or
Physical Education 214, Personal Health ..... 1 or 3
Political Science 101, National Government, or
Political Science 102, State Governments, or
History 201, American History to 1865, or
History 202, American History 1865 to Present 3

Support Courses

** Mathematics 100, Applied Mathematics 4
** Mathematics 110, Technical Mathematics, or
Mathematics 130, Pre-Calculas Trig., or
Mathematics 135, Pre-Calculas 3/4/5
Physics 110, Technical Physics 4
Group III Humanities (excluding COMM 101) 3

Major

** Machine Tool Technology 110, Machine Tool I 3
** Machine Tool Technology 120, Machine Tool II 3
** Machine Tool Technology 130, Precision Inspection 3
** Machine Tool Technology 140, Introduction to Numerical Control 2
** Machine Tool Technology 150, Introduction to CAM 2
Machine Tool Technology 241, CNC Programming I 2
Machine Tool Technology 242, CNC Programming II 2
Machine Tool Technology 251, 2D/3D Machining 2
** Engineering 103, Beginning Engineering Drawing, or
Engineering 113, Engineering Design 4
Trade Related Instruction 144, Blueprint Reading & Sketching 4
** Industrial Maintenance Technology 109, Intro to Welding, or
Welding 101 Intro to Fabrication 2
** Manufacturing 111, Manufacturing Processes I 3
** Trade Related Instruction 134, Metallurgy and Heat Treating 3
Industrial Maintenance Technology 110, MIG/TIG Welding 3

Electives (electives are suggested, but not required)

*** Trade Related/Apprentice 107, Applied Geometry/Trigonometry 4
Machine Tool Technology 231, CMM Fundamentals 2
Engineering 210, Advanced CAD Technology 3
Welding 102, SMAW Welding 2
Welding 103, GMAW Welding 2

Transferring students are encouraged to take PHED 212 or PHED 214.
** Classes required for certificate program.
***Course required for transfer to Machine Tool Technology Degree to Ferris State University.

Some courses may be offered in Open Entry/Open Exit (OE/OE) format. See course description.

About the Area of Study

The Machine Tool Technology program provides basic and advanced machining skills. Class time is spent in the classroom as well as working in the lab on traditional metal cutting machinery and computer-numerically-controlled machines.
If you have previous machining experience form a vocational high school program or industrial experience, you may qualify for advanced standing. Journeymen in the machine field are able to apply previous course work and experience toward an associate's degree. Career opportunities include CNC operator, CNC programmer, machine builder, machinist, and tool and die maker.

Certificate and Degree Options

When you complete the 36-credit Machine Tool Technology program, you may apply for Certificate of Achievement. This allows you to enter the job market with basic, entry-level skills. Credit earned can be applied toward your associate's degree.

When you complete the 63-credit Machine Tool Technology program, you may apply for an Associate in Industrial Technology degree.

Transfer Resources

If you are planning to transfer to a four-year college or university, you should become familiar with your chosen school's requirements. See your Academic Advisor for assistance in developing your Student Education Plan or visit **www.lakemichigancollege.edu/transfer**

Machine Tool Technology

Level I Certificate *Program Code 366*

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Program Prerequisites

Proficiency in reading, English, and mathematics on the assessment or successful completion of the recommended classes. See course descriptions for specific course prerequisites.

Level I Machine Tool - Level I Certificate

Level I Manufacturing Production - Level I Certificate

Machine Tool Technology 110, Machine Tool I 3
Manufacturing 111, Manufacturing Processes I 3
Trade Related Instruction 143, Introduction to Moldmaking 3
Manufacturing 120, Fundamentals of Programmable Controls 2
Trade Related Instruction 138, Industrial Safety 1
Trade Related Instruction 144, Blueprint Reading and Sketching 4

Level I Certificate Option

Upon completion of any of the listed programs, you will earn a Level I Certificate of Completion. These Level I certificates are a pathway into the Associate in Industrial Technology degree in Machine Tool Technology and General Technology. They are also a pathway into the Skilled Trades Technology associate degree (must be a registered apprentice with the Department of Labor).