

The Manufacturing Engineering Technology program (with Quality Concentration) at Ferris offers instruction and practical experience in all facets of quality engineering. Graduates of the program determine how to interpret, monitor, and develop quality systems to ensure products meet customer expectations. Study through hands on applied coursework/projects in statistics, quality control, manufacturing methods, industrial engineering, design of experiments, and quality planning allows graduates to participate in the design of a Quality system. These abilities are always in demand, and the Manufacturing Engineering Technology program gives the student the skills necessary to enter into a professional position with an excellent salary. This unique concentration was designed with representatives from industry and the American Society for Quality Control. Although completion of a technical Associates degree is encouraged, it is not required for entry to the bachelor's degree.

Note: The Manufacturing Engineering technology degree has 2 options, each option has its own entry and graduation requirements.

1. Manufacturing Engineering Technology without concentration for those seeking to be Manufacturing/Process Engineers
2. Manufacturing Engineering Technology **with Quality concentration** for those seeking to be Quality Engineers

Manufacturing Engineering Technology Admission Requirements

Transfer Students

- 2.5 College GPA (on a 4.0 scale)
- 57 semester hours of college coursework, including technical courses, general courses, and technical related courses.
- Completed Math through MATH 126 or 130.
- Completed COMM 121 or equivalent.
- Completed ENGL 150 and 211 or 250 or equivalent.
- Completed 3 credit hours of a Natural Science Competency course; preferred Chemistry.
- Completed MATL 240 or equivalent.
- Completed ISYS 105 or equivalent or completed competency exam.
- Completed PDET 122 or equivalent.
- Completed MFGT 110 lecture and MFGT 114 lab or equivalent.
- It is recommended that at least one Culture and one Self and Society Competency course be completed.

Communication Competency Course Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
COMM 121	Fundamentals of Public Speaking	3	COM 111	Public Speaking	4
ENGL 150	English 1	3	ENG 111	English Composition	4
ENGL 250 or ENGL 211	English 2 or Industrial & Career Writing	3	ENG 112 or ENG 220	English Composition or Technical Writing	4 or 3
MFGE 324 or MFGE 393 or MFGE 421	Principles of Process Planning 1 or Internship in MFG-Engineering or Automation and Systems Design	3 or 4 or 4	No Equivalent	No Equivalent	No Equivalent
ENGL 311 or ENGL 321	Advanced Technical Writing or Advanced Composition	3	No Equivalent	No Equivalent	No Equivalent

Quantitative Literacy Course Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
MATH 126 or MATH 130 + MATH 1-Q	Algebra-Analytic Trigonometry or Adv Algebra & Analytical Trig + Gen. Cr.- Quant.	4 or 7	No Equivalent or MTH 121 + MTH 122	No Equivalent College Algebra + Trigonometry	7
MATH 220	Analytical Geometry – Calculus 1	4	MTH 141	Calculus 1	5

Natural Sciences Competency Course Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
PHYS 211	Introductory Physics 1	4	PHY 121 + PHY 121L	General Physics 1 +Lab	4
Varies	FSU General Education – Natural Sciences Elective	3	Varies	Varies	3

Self and Society Competency Course Requirements - minimum 9 credits from 2 different disciplines with 1 course at 200 level or higher

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
Varies	FSU General Education – Self & Society Electives	9	Varies	Varies	9

Culture Competency Course Requirements - minimum 9 credits from 2 different disciplines with 1 course at 200 level or higher

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
Varies	FSU General Education – Culture Electives	9	Varies	Varies	9

Ferris State University General Education Program

Students are encouraged to work with an advisor to select appropriate general education courses

Additional Classes to meet credits for degree

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
ISYS 105	Intro Micro Systems – Software	3	CIT 100	Computers in Business	3
MATL 240	Intro to Material Science	4	No Equivalent	No Equivalent	No Equivalent
MFGT 110 and MFGT 114	Theory of Prod Machined Comp and Prod Machined Comp	6	MFG 113 and MFG 114	Machining 1 and Machining 2	6
PDET 122	Parametric Modeling	4	DD 170	CADD / Computer Modeling	4

All Major Requirements – 51 Credits Required

Major Courses - 29 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
MECH 340	Statics and Strengths of Materials	4	No Equivalent	No Equivalent	No Equivalent
MFGE 311	Industrial Engineering	4	No Equivalent	No Equivalent	No Equivalent
MFGE 321	Metrology	3	No Equivalent	No Equivalent	No Equivalent
MFGE 322	Production Processes	3	No Equivalent	No Equivalent	No Equivalent
MFGE 341	Quality Science Statistics	3	No Equivalent	No Equivalent	No Equivalent
MFGE 342	Statistical Process Engineering	3	No Equivalent	No Equivalent	No Equivalent
MFGE 393	Internship (Department Approval)	4	No Equivalent	No Equivalent	No Equivalent
MFGE 423	Engineering Economics	2	No Equivalent	No Equivalent	No Equivalent
MFGE 442	Design of Experiments I	3	No Equivalent	No Equivalent	No Equivalent

Technical Related – 22 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
MFGE 312	CNC and CAM	4	No Equivalent	No Equivalent	No Equivalent
MFGE 324	Principles of Processing Planning I	3	No Equivalent	No Equivalent	No Equivalent
MFGE 326	Process Tolerance Design and Analysis	2	No Equivalent	No Equivalent	No Equivalent
MFGE 411	Principle of Process Planning II	2	No Equivalent	No Equivalent	No Equivalent
MFGE 421	Automation and System Design	4	No Equivalent	No Equivalent	No Equivalent
MFGE 422	MFGE Facilities Planning	3	No Equivalent	No Equivalent	No Equivalent
PLTS 325	Plastic Processes	2	No Equivalent	No Equivalent	No Equivalent
WELD 416	Production Welding Processes	2	No Equivalent	No Equivalent	No Equivalent

Electives – Credits to Meet the Minimum 120 Credits Required

Credits totaling 38 – 39 from an Associate in Applied Science (AAS) in Manufacturing Technology (MFT) or approved transfer plan are used to meet the minimum 120 credits required.

Total Credits Required for Degree

128 - 132

Program Contact Information:

Main Campus, Big Rapids

College of Engineering Technology

Manufacturing Engineering Technology

(231) 591-2511 | [Manufacturing Degrees Email](#) | [Ferris State University Manufacturing Program Website](#)

[Transfer Partnerships Website](#)

Delivery Locations

This degree and the Ferris courses are offered at the following locations:

- Ferris State University, Main Campus, Big Rapids
- Ferris State University, Ferris Statewide, Grand Rapids (part time nights)
- Select courses may be delivered online and/or in a mixed delivery format (i.e. a mix of online and face-to-face instruction at either Grand Rapids Community College, the Ferris Main Campus or at an off-campus location).

Advising Notes

It is recommended that potential applicants meet with an advisor to review the degree, course schedule, and have any questions answered prior to completing an application. Students who are completing the MTA may have different general education course requirements for the particular degree selected. Meeting with a Ferris advisor prior to the selection of general education or elective course work may reduce the chance of completing a course that will not apply toward the selected degree. Once admitted, students must continue to meet with an advisor as they work toward graduation.

Graduation Requirements

In addition to meeting all the programmatic requirements, students must:

1. Meet University General Education requirements.
2. Earn a minimum of 120 credits.
3. Maintain a 2.00 or higher cumulative FSU GPA.
4. Earn 30 credits from FSU (Residency).
5. Earn 40 credits of 300 level or higher courses.

Ferris State University and Northwestern Michigan College – Manufacturing Engineering Technology with Quality Concentration - Transfer Guide

Effective Spring 2019

Ferris State University is an equal opportunity institution. For information on the University's Policy on Non-Discrimination, visit ferris.edu/non-discrimination.

Transfer Student Orientation

All new students to Ferris State University are required to complete an orientation.

Reverse Transfer Agreement

The Community College and Ferris have entered into a partnership in order to work collaboratively and creatively to increase student completion of associate and bachelor degrees. The partners work together to provide a seamless transfer experience and increase student retention and completion at both the community college and Ferris.

Michigan Transfer Agreement (MTA)

Ferris participates in the Michigan Transfer Agreement (MTA). This agreement will facilitate the transfer of general education requirements from one Michigan institution to another. Students may complete the MTA as part of a degree program or as a stand-alone package. The MTA consists of a minimum of 30 general education credit hours as identified by the college or university.

Students transferring to Ferris with the Michigan Transfer Agreement (MTA) and entering a degree program will have met a 30-hour block of lower-level general education courses. However, this does not exempt students from completing program specific prerequisites or higher-level general education course requirements. Students should contact their advisor regarding classes that meet the MTA.

Students must work with their Ferris advisor to declare a Minor or Concentration and for selection of Directed Electives.

Disclaimer

This is a guide for students who plan to transfer to Ferris State University. This guide is not intended to be a contract with Ferris. The information on this guide is subject to change. Students should contact their community college or Ferris to keep informed of changes. Final responsibility for verifying all transfer information lies with the student. Please refer to effective and/or revised date on the bottom of this guide.