

The Mechanical Engineering Technology program prepares students for a broad range of occupations and challenges. Beginning with foundation courses in math, applied science, CAD, manufacturing processes and communication, students move on to the applied engineering courses that give them a solid technical background for their careers. Students develop strong analytic and problem-solving skills. Their understanding of the principles taught in the classroom is enhanced with many hands-on labs and real-world applications provided by faculty with extensive industrial experience.

The Bachelor of Science in Mechanical Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET Accreditation (ETAC-ABET), <http://www.abet.org>.

Communication Competency Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
COMM 121	Fundamentals of Public Speaking	3	SPEE 102	Fundamentals of Public Speaking	3
ENGL 150	English 1	3	ENGL 103	Freshman English 2	3
ENGL 250	English 2	3	ENGL 104	Freshman English 3	3
ENGL 311	Advanced Technical Writing	3	No Equivalent	No Equivalent	No Equivalent

Quantitative Literacy Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
MATH 116	Intermediate Algebra-Numerical	4	No Equivalent	No Equivalent	No Equivalent
or	Trigonometry or	or	or	or	or
MATH 120	Trigonometry	3	MATH 131	Precalculus Trigonometry	3

Natural Sciences Competency Requirements - 1 course with lab

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
PHYS 211	Introductory Physics 1	4	PHYS 101	Introductory Physics 1	4
PHYS 212	Introductory Physics 2	4	PHYS 102	Introductory Physics 2	4

Culture Competency Requirements - Minimum 9 credits from 2 different disciplines with 1 at FSU 200 level or higher

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
Varies	FSU General Education - Culture Electives	9	Varies	Varies	9

Self and Society Competency Requirements – Minimum 9 credits from 2 different disciplines with 1 at FSU 200 level or higher

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
Varies	FSU General Education – Self and Society Competency	9	Varies	Varies	9

Additional General Education Requirements - 15 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
CHEM 103	Preparatory Chemistry	3	CHEM 100	Fundamentals of Chemistry	4
MATH 126	Algebra-Analytical Trigonometry	4	No Equivalent	No Equivalent	No Equivalent
or	or	or	or	or	or
MATH 130	Advanced Algebra – Analytical Trigonometry		MATH 130	Pre-Calculus Math	5
			or	or	or
			MATH 131 & MATH 136	Pre-Calculus Trigonometry & Pre-Calculus Algebra	7
MATH 216	Applied Calculus	4	No Equivalent	No Equivalent	No Equivalent
or	or	or	or	or	or
MATH 220	Analytical Geometry - Calculus 1		MATH 141	Analytical Geometry & Calculus 1	4
MATH 226	Fourier Series – Applied	4	No Equivalent	No Equivalent	No Equivalent
or	Differential Equations or	or	or	or	or
MATH 230	Analytical Geometry - Calculus 2		MATH 142	Analytical Geometry & Calculus 2	4

[Ferris State University General Education Program](#)

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

* MATH There may be several options in math that lead up to calculus. The equivalents shown above are not exact matches. Consultation with a counselor at the community college is recommended.

Major Requirements – 48 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
MECH 111	MET Seminar	1	No Equivalent	No Equivalent	No Equivalent
MECH 122 + MECH 1--	Computer Apps 1 for Technology + MECH General Credit	2 + 1	ISYS 110	Computer Apps 1 for Technology	3
MECH 211	Fluid Mechanics	4	No Equivalent	No Equivalent	No Equivalent
MECH 212	Kinematics of Mechanisms	2	No Equivalent	No Equivalent	No Equivalent
MECH 222	Machine Design	4	No Equivalent	No Equivalent	No Equivalent
MECH 223	Thermodynamics	3	No Equivalent	No Equivalent	No Equivalent
MECH 311	Finite Element Analysis /Solid Modeling	2	No Equivalent	No Equivalent	No Equivalent
MECH 322	Computer Apps 2 for Technology	2	No Equivalent	No Equivalent	No Equivalent
MECH 330	Heat Transfer	3	No Equivalent	No Equivalent	No Equivalent
MECH 332	Mechanical Measurements/Mechatronics	3	No Equivalent	No Equivalent	No Equivalent
MECH 340	Statics & Strengths of Mat'ls	4	No Equivalent	No Equivalent	No Equivalent
MECH 341	Statics & Strengths of Mat'l's Lab	1	No Equivalent	No Equivalent	No Equivalent
MECH 360	Dynamics	3	No Equivalent	No Equivalent	No Equivalent
MECH 393	Industrial Internship	4	No Equivalent	No Equivalent	No Equivalent
MECH 421	MET Senior Lab	4	No Equivalent	No Equivalent	No Equivalent
MECH 440	Noise & Vibration	3	No Equivalent	No Equivalent	No Equivalent
MECH 498	Senior Project 1	1	No Equivalent	No Equivalent	No Equivalent
MECH 499	Senior Project 2	2	No Equivalent	No Equivalent	No Equivalent

Technical Related – 26 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
ETEC 140	Engineering Graphics	3	INTE 140 & CADD 101	Blueprint Reading & Introduction to Cad / Auto Cad	3
MFGT 150	Manufacturing Process	2	No Equivalent	No Equivalent	No Equivalent
EEET 201	Electrical Fundamentals	3	No Equivalent	No Equivalent	No Equivalent
MATL 240	Intro to Material Science	4	No Equivalent	No Equivalent	No Equivalent
MATL 341	Material Selection – Metals	3	No Equivalent	No Equivalent	No Equivalent
MFGE 341 + MFGE 3--	Quality Science Statistics + MFGE General Credit	4	MATH 150	Statistics	4
MFGE 423	Engineering Economics	2	No Equivalent	No Equivalent	No Equivalent
Varies	Approved Technical Electives*	6	No Equivalent	No Equivalent	No Equivalent

*Any combination of six or more credits of advisor approved technical electives may be applied to degree.

Total Credits Required for Degree	132 - 133
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Program Delivery Locations and Contact Information:**Main Campus, Big Rapids****College of Engineering Technology**

(231) 591-2755 | [FSU Mechanical Engineering Webpage](#) | [Mechanical Engineering Email](#)

[Transfer Partnerships Website](#)

*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 the Ferris Main Campus or at an off-campus location).

General Admission Criteria**New Students**

- Completion of the AAS degree for Mechanical Engineering Technology with a 2.5 GPA in Math, 2.7 in major, and MATH 216/220 competency

Transfer Students

- Contact the Mechanical Engineering Technology office to discuss options
- Minimum College 2.00 GPA (on a 4.00 scale)
- Completed 64 College Credits or Completed Associate of Applied Science (AAS) Degree
- Equivalencies of MATH 216 or 220 and PHYS 211 or 241

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.
6. Earn a C or higher in all MECH and ETEC courses.
7. Complete all 400 level MECH courses at FSU.

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.

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.