

The Product Design Engineering Technology program at Ferris offers instruction and practical experience in all facets of product design. Students are prepared to effectively participate in a design environment, generate conceptual design sketches and drawings, create complex design layouts, perform static and dynamic analysis, create models and prototypes, create and define complex surfaces and shapes, and understand and integrate manufacturing principles into design. Study also emphasizes communication, mathematics and analytical skills. Students also receive hands-on experience through labs that gives them real-world experience

Communication Competency Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
COMM 121	Fundamentals of Public Speaking	3	COM 131	Public Speaking	3
ENGL 150	English 1	3	EN 100 or 101	English Composition 1	3
ENGL 250	English 2	3	EN 102	English Composition 2	3
ENGL 321	Advanced Composition	3	No Equivalent	No Equivalent	No Equivalent

Quantitative Literacy Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
MATH 130		4	MA 131 * or	Precalculus	5 - 6

Natural Sciences Competency Requirements - 1 course with lab

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
PHYS 211	General Physics 1	4	PH 125	General Physics 1	4
CHEM 114	Intro to General Chemistry	5	CHM 120	Survey of General Chemistry	5

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

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
Varies	FSU General Education – Self and Society Competency	6	Varies	Varies	6
GEOG 100	Geography of World Regions	3	GE 135	World Regional Geography	3

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

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
Varies	FSU General Education - Culture Electives	6	Varies	Varies	6
ARTS 101	Basic Art	3	AT 139	Drawing 1	3

Additional General Education Requirements - 11 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
COMM 336	Technical and Professional Presentation	3	No Equivalent	No Equivalent	No Equivalent
MATH 126	Algebra – Analytic Trigonometry	4	MA 108 and MA110	Trigonometry and College Algebra	
MATH 216	Applied Calculus	4	MA 129 or MA 133	Survey of Calculus or Calculus with Analytical Geometry I	3 or 5

[Ferris State University General Education Program](#)

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

All Major Requirements – 52 to 53 Credits Required

Major Requirements – 27 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
PDET 100	PDET Orientation and Degree Planning	1	No Equivalent	No Equivalent	No Equivalent
PDET 210	Design Career Preparation	1	No Equivalent	No Equivalent	No Equivalent
PDET 311	Seminar in Product Design	1	No Equivalent	No Equivalent	No Equivalent
PDET 312	Advanced Tolerancing	2	No Equivalent	No Equivalent	No Equivalent
PDET 321	Applied Mathematics and Kinematics	3	No Equivalent	No Equivalent	No Equivalent
PDET 322	Model and Prototype	2	DR 150	Intro to Solidworks	3

Major requirements continued on page 2

Major Requirements continued

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
PDET 411	Machine Design	3	No Equivalent	No Equivalent	No Equivalent
PDET 412	Statistics – Ergonomics	2	No Equivalent	No Equivalent	No Equivalent
PDET 413	Applied Fluids and Thermodynamics	3	No Equivalent	No Equivalent	No Equivalent
PDET 415	Advanced Solid Modeling	2	No Equivalent	No Equivalent	No Equivalent
PDET 422	Advanced Machine Design	4	No Equivalent	No Equivalent	No Equivalent
PDET 499	Product Design Project	3	No Equivalent	No Equivalent	No Equivalent

Additional Requirements - 25 – 26 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
EEET 201	Electrical Fundamentals	3	No Equivalent	No Equivalent	No Equivalent
MFGT 150	Manufacturing Processes	2	MN 119	Intro Machine Operation	4
ETEC 140	Engineering Graphics	3	EG 110	Industrial Graphics w/ CAD	3
or	Comprehensive or	or	or	or	
PDET 122	Parametric Modeling	4	No Equivalent	No Equivalent	
MATL 240	Material Science	4	TE 114	Material Science	4
MATL 341	Material Selection Metals	4	No Equivalent	No Equivalent	No Equivalent
MECH 340	Status and Strengths of Materials	4	No Equivalent	No Equivalent	No Equivalent
MFGE 352	Design for Manufacturing	2	No Equivalent	No Equivalent	No Equivalent
PLTS 342	Material Selection Plastics	3	No Equivalent	No Equivalent	No Equivalent

Electives to meet the minimum 120 credits required – a total of 17 to 24 credits of approved electives that are selected with an advisor is required. Elective credits can be variable.

Total Credits Required for Degree	120
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Program Contact Information:**Main Campus, Big Rapids****College of Engineering Technology**

231) 591-2890 | [College of Engineering Technology Webpage](#)

Engineering and Computing Technology

(231) 591-2755 | [Product Design Engineering Technology Email](#)

Ferris Statewide – Grand Rapids

(810) 762-0461 | [Ferris Grand Rapids Website](#) | [Ferris Grand Rapids Email](#) | [Ferris Statewide 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
- 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**

- Minimum 2.7 GPA (on a 4.0 scale)
- Composite ACT 20 or Post-2016 SAT 1030
- Math ACT 18 or Post-2016 Math SAT 500
- English ACT 14 or Post-2016 English SAT 450
- Reading ACT 17 or Post-2016 ERW SAT 430

Transfer Students

- Minimum completion of 60 credits with a 2.5 GPA (on a 4.0 scale)
- The following specific courses are required for third year transfers:
 - English Composition 1 and 2
 - Public Speaking
 - Mathematics through Pre-Calculus
 - General Physics 2 (With Lab)
 - Basic Material Science
 - Introductory Computer Aided Design (CAD)
 - Culture Competency (3 Credits)
 - Self and Society Competency (3 Credits)

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.

Ferris State University and Grand Rapids Community College – Product Design Engineering Technology - 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.