

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.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
COMM 121	Fundamentals of Public Speaking	3	SPEE 102	Fund. of Public Speaking	3
ENGL 150	English 1	3	ENGL 103	Freshman English 1	3
ENGL 250	English 2	3	ENGL 104	Freshman English 2	3
ENGL 321	Advanced Composition	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 – Num Trig	3	MATH 116	Electronics Math	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	General Physics 1	4	PHYS 101	General Physics 1	5
CHEM 103	Preparatory Chemistry	3	CHEM 100	Introductory Chemistry	4

Self and Society Competency Requirements – Minimum 9 credits from 2 different disciplines with 1 at 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	6	Varies	Varies	6
GEOG 112	Cultural Geography	3	GEOG 105	Human Geography	3

Culture Competency Requirements - Minimum 9 credits from 2 different disciplines with 1 at 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	6	Varies	Varies	6
ARTS 101	Basic Art	3	ART 101	Two Dimensional Design	3

Additional General Education Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
COMM 336	Technical and Professional Presentation	3	No Equivalent	No Equivalent	No Equivalent
MATH 130 and MATH 1-Q	Adv. Algebra & Analytical Trig.	4 and 3	MATH 131 and MATH 136	Pre-Calculus Trig. And Pre-Calculus Algebra	7
MATH 220	Analytical Geometry – Calculus 1	4	MATH 141	Analytic Gemoetry and Calculus 1	4

[Ferris State University General Education Program](#)

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

Major Requirements- 52-53 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC 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	No Equivalent	No Equivalent	No Equivalent
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

Ferris State University and Southwestern Michigan 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.

Major Requirements (Cont'd.)

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
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

Technical Related Courses

FSU Course	FSU Course Title	FSU Cr. Hrs.	SMC Equiv.	SMC Course Title	SMC Cr. Hrs.
EEET 201	Electrical Automation	3	No Equivalent	No Equivalent	No Equivalent
MFGT 150	Manufacturing Processes	2	No Equivalent	No Equivalent	No Equivalent
ETEC 140	Engineering Graphics	3	INTE 140	Blueprint Reading	3
or	Comprehensive or	or	or	or	or
PDET 122	Parametric Modeling	2	CADD 101	Introduction to CAD / Auto CAD	3
MATL 240	Material Science	4	No Equivalent	No Equivalent	No Equivalent
MATL 341	Material Selection Metals	4	No Equivalent	No Equivalent	No Equivalent
MECH 340	Statics 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

Total Credits Required for Degree	120
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Program Contact Information:

Main Campus, Big Rapids

College of Engineering Technology

Product Design Engineering Technology

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

[Transfer Partnerships Webpage](#)

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 2.7GPA
- ACT composite score of 20 or SAT16 of 1030
- ACT math sub- score of 18 or SAT16 math sub-score of 500
- ACT English sub-score of 14 or SAT16 sub score of 450
- ACT readig sub-score of 17 or SAT16 ERW 430

Transfer Students

- Minimum completion of 60 credits with 2.5 GPA
- The following specific courses are required for third year transfers:
- English Composition 1 & 2
- Public Speaking
- Mathematics through pre-calculus
- General Physics 1 (with lab)
- Basic Material Science
- Introductory Computer Aided Design
- Cultural – 3 credit hours
- Self and Society – 3 credit hours

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.

Online Learning

Select courses 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). The "Online Readiness Tutorial" is required for students who register for an online *course* or are completing an online *degree*. Students must demonstrate competency in Blackboard skills. This may be done by taking a tutorial and quiz, or, for students who have already taken and passed online courses, they can submit a waiver request. Students should check with the department that offers the class to determine its particular needs and/or the Ferris advisor regarding registration for online course work.

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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.