FERRIS STATE UNIVERSITY

Product Design Engineering Technology

Bachelor of Science Degree

Grand Rapids Community College (GRCC)

Transfer Guide

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.

General Admission Criteria
Transfer Students

- Minimum completion of 60 credits with 2.5 GPA on a 4.0 scale
- 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
- Culture Competency – 3 credit hours
- Self and Society Competency – 3 credit hours

New Student Admission Requirements for incoming freshman refer to the Ferris Catalog. www.ferris.edu/catalog

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 – See below or Official Pre-2016 Math SAT Score of 590 or higher, Official Post-2016 Math SAT Score of 620 or higher, or Official Math ACT Score of 26 or higher.

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
MATH 116 or MATH 120	Intermediate Algebra – Num Trig or Trigonometry	4 or 3	No Equivalent or MA 108	No Equivalent or Trigonometry	3

Natural Sciences Competency – 2 courses are required with a minimum of 6 credits; must have at least 1 lab course.

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

Culture Competency - 3 courses are required with a minimum of 9 credits: must be from 2 different disciplines and have at least 1 at FSU 200 level or higher course.

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

Self and Society Competency – 3 courses are required with a minimum of 9 credits: must be from 2 different disciplines and have at least 1 at FSU 200 level or higher course.

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

Students are encouraged to work with an advisor to select appropriate general education courses or may visit www.ferris.edu/gened.

Diversity Competency – 2 Courses Required
If not met by courses taken for Culture, Self and Society, or MTA, a student must meet the following:

- 1 course with the Global Diversity attribute
- 1 course with the U.S. Diversity attribute

College Requirements – 80 Credits Required

Major Courses – 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
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 - 36 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
ETEC 140 or PDET 122	Engineering Graphics Comprehensive or Parametric Modeling	3	EG 110 or No Equivalent	Industrial Graphics w/ CAD or No Equivalent	3
MATH 126 or MATH 130	Algebra & Analytical Trigonometry or Advanced Algebra & Analytical Trigonometry	4	MA 108 + MA 110 or MA 131	Trigonometry + College Algebra or Precalculus	7 or 5
MFGT 150	Manufacturing Processes	2	MN 119	Intro Machine Operation	4
EEET 201	Electrical Automation	3	EL 144	Basic Electricity & Electronics	4
MATH 216 or MATH 220	Applied Calculus or Analytical Geometry & Calculus 1	4	MA 133	Calculus with Analytic Geometry 1	5
MATL 240	Introduction to Material Science	4	TE 114	Material Science	4
COMM 336	Technical & Professional Presentation	3	No Equivalent	No Equivalent	0
MECH 340	Statics & Strenghs of Materials	4	No Equivalent	No Equivalent	0
MATL 341	Material Selection Metals	4	No Equivalent	No Equivalent	0
PLTS 342	Material Selection Plastics	3	No Equivalent	No Equivalent	0
MFGE 352	Design for Manufacturing	2	No Equivalent	No Equivalent	0

Electives – 17 Credits Required (Advisor Approval)
In order to graduate with a bachelor's degree, a student must have a minimum of 120 credits. The electives required for each student may vary depending on courses taken. Based on how a student meets the programmatic requirements, they may need more or less than 17 credits of elective courses to meet the required 120 credit minimum.

Total Credits Required for Degree	**120 - 125**

Program Delivery Locations and Contact Information:

Main Campus, Big Rapids
College of Engineering Technology
Product Design Engineering Technology
(231) 591-2755 | http://www.ferris.edu/pdet | pdet@ferris.edu

Ferris Statewide - Grand Rapids
(616) 451-4777 | www.ferris.edu/statewide | FSUGR@ferris.edu | Financial Aid Consortium Agreement Eligible

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).

Steps to Apply

1. Complete a free application at www.ferris.edu/apply.
2. Submit Official transcripts from every school attended to:
   - Ferris State University Admissions Office, 1201 S. State St, CSS 201, Big Rapids, MI 49307
   - Transfer@ferris.edu
3. Submit Test Scores (if required)
   - ACT Scores; go to www.act.org. Ferris State University School Code: 1994
   - SAT, CLEP and AP Scores; go to www.collegeboard.org. Ferris State University School Code: 1222

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's 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 and the Ferris Catalog at www.ferris.edu/catalog.

Partners may contact the Transfer Services Center with questions or updates at otssp@ferris.edu.