

The Surveying Technology program at Ferris is designed to provide students with the skills and knowledge necessary to function as effective member of surveying field crew. Graduates have the ability to operate equipment and perform basic surveying calculations and create maps using different computer-assisted mapping software.

Courses cover the use of basic surveying instruments, evaluation of the accuracy of field data, production of computer drawings using surveying and mapping software, use of advanced electronic total stations, inspection of basic civil engineering materials such as soils, aggregates, portland cement and bituminous concrete, the study of laws and history of past judgments pertaining to boundary establishment, conformance with established survey standards and effective communication with clients and colleagues.

#### Communication Competency Requirements – 6 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
ENGL 150	English 1	3	EN 101	English Composition 1	3
ENGL 250	English 2	3	EN 102	English Composition 2	3

#### Quantitative Literacy Requirements – 3 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
MATH 115	Intermediate Algebra	3	MA 107	Intermediate Algebra	4

#### Natural Sciences Competency Requirements – 3 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
GEOL 131	Geology & Land Use Mgmt.	3	No Equivalent	No Equivalent	No Equivalent

#### Culture Competency Requirements – 3 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
SURE 331	Ethics – Prof. in Engineering Technology	3	No Equivalent	No Equivalent	No Equivalent

#### Self and Society Competency Requirements – 3 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
Varies	FSU General Education – Self & Society Competency	3	Varies	Varies	3

#### Additional General Education Requirements – 10 Credits Required

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	Fundamentals of Public Speaking	3
MATH 120	Trigonometry	3	MA 108	Trigonometry	3
MATH 130	Advanced Algebra – Analytical Trigonometry	4	MA 110 or MA 131	College Algebra or Pre Calculus	4 5

#### [Ferris State University General Education Program](#)

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

#### Major Requirements – 29 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
SURE 110	Fundamentals of Surveying	4	No Equivalent	No Equivalent	No Equivalent
SURE 115	Introduction to Computer Mapping	2	No Equivalent	No Equivalent	No Equivalent
SURE 215	Surveying Computations	3	No Equivalent	No Equivalent	No Equivalent
CENG 220	Engineering Surveying	3	No Equivalent	No Equivalent	No Equivalent
GISC 225	Principles of GIS	3	No Equivalent	No Equivalent	No Equivalent
SURE 230	Advanced Surveying	3	No Equivalent	No Equivalent	No Equivalent
GISC 239	Remote Sensing	3	No Equivalent	No Equivalent	No Equivalent
SURE 272	Programming Applications in Geomatics	2			
SURE 340	Photogrammetry	3	No Equivalent	No Equivalent	No Equivalent
SURE 365	Legal Aspects of Surveying 1	3	No Equivalent	No Equivalent	No Equivalent

**Technical Related – 3 Credits Required**

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
CONM 121	Materials Properties – Testing	3	AR 105	Construction Materials	3

**Additional Requirement - 1 Credit Required**

FSU Course	FSU Course Title	FSU Cr. Hrs.	GRCC Equiv.	GRCC Course Title	GRCC Cr. Hrs.
SURE 100	Introduction to Surveying Engineering	1	No Equivalent	No Equivalent	No Equivalent

<b>Total Credits Required for Degree</b>	<b>61 – 62</b>
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**Program Delivery Locations and Contact Information:****Main Campus, Big Rapids****College of Engineering Technology – Engineering & Computing Technology**(231) 591-2633 | [Surveying 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**

- High School Diploma with Minimum 2.75 GPA (on a 4.00 scale)
- Composite ACT 17
- Math ACT 19 or (Post-2016) Math SAT 500

**Transfer Students**

- 2.00 GPA Cumulative GPA or higher (on a 4.00 scale)
- Placement in MATH 115

**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.