

**Ferris Program:** Surveying Engineering  
**Degree Type:** Bachelor of Applied Science  
**Ferris College:** College of Engineering Technology  
**Transfer School:** Alpena Community College  
**Consortium Eligible:** No  
**Total Credits Required:** 135  
**Catalog Year:** 2024-2025

**GENERAL EDUCATION REQUIREMENTS – 60 Credits Required**

Students are encouraged to work with an advisor to select appropriate general education courses. 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 and 1 course with the U.S. Diversity attribute.

Visit the Ferris State [general education page](#) for more information.

**Communication Competency**

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
COMM 121	Fundamentals of Public Speaking	3	No Equivalent
ENGL 150	English 1	3	ENG 111 or ENG 121
ENGL 250	English 2	3	No Equivalent

SURE 365, 420, and 465 are Major Courses that are also considered Writing Intensive Courses (WICs) and satisfy the upper-level English requirement.

**Quantitative Literacy Competency**

Requirements for Quantitative Literary Competency can be met with the following:

- Official Pre-2016 Math SAT Score of 560 or Higher
- Official Post-2016 Math SAT Score of 580 or Higher
- Official Math ACT Score of 24 or Higher

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
MATH 220	Analytical Geometry and Calculus 1	4	MTH 131

**Natural Sciences Competency**

Two courses are required with a minimum of 6 credits: must have at least one lab course.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
CHEM 121	General Chemistry 1	5	CEM 121

# FERRIS STATE UNIVERSITY

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
GEOL 131	Geology and Land Use Management	3	No Equivalent

## Culture Competency

Three courses are required with a minimum of 9 credits: must be from two different disciplines and have at least one at FSU 200 level or higher course.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
SURE 331	Ethics and Professionalism in Engineering Technology	3	No Equivalent
Varies	Cultural Electives	6	Varies

## Self and Society Competency

Three courses are required with a minimum of 9 credits: must be from two different disciplines and have at least one at FSU 200 level or higher course, and at least one Self and Society Foundation course.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Self and Society Electives	9	Varies

## Additional General Education Requirements

These courses are additional General Education courses to meet the requirements for this specific program.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
MATH 230	Analytical Geometry and Calculus 2	4	MTH 132
PHYS 241	General Physics 1	5	PHY 221
PHYS 242	General Physics 2	5	PHY 222
MATH 322	Linear Algebra	3	No Equivalent
MATH 330	Differential Equations	3	MTH 232

## COLLEGE REQUIREMENTS – 75 Credits Required

### Major Courses

75 Credits Required. These courses are used to calculate the major 2.00 GPA requirement.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
SURE 110	Fundamentals of Surveying	4	No Equivalent

# FERRIS STATE UNIVERSITY

<b>Ferris Course</b>	<b>Ferris Course Title</b>	<b>Ferris Credit Hours</b>	<b>Transfer Course</b>
SURE 115	Introduction to Computer Mapping	2	No Equivalent
CONM 121	Materials Properties and Testing	3	CON 121 and CON 124
SURE 215	Surveying Computations	3	No Equivalent
CENG 220	Engineering Surveying	3	No Equivalent
GISC 225	Principles of Geographic Information Systems	3	No Equivalent
CENG 240	Engineering Statistics	3	No Equivalent
SURE 230	Advanced Surveying	3	No Equivalent
GISC 239	Remote Sensing	3	No Equivalent
SURE 272	Programming Applications in Geomatics	2	No Equivalent
CENG 321	Hydraulics Engineering	4	No Equivalent
SURE 340	Photogrammetry	3	No Equivalent
SURE 365	Legal Aspects of Surveying 1	3	No Equivalent
SURE 366	Evidence and Procedure for Boundary Locations	3	No Equivalent
SURE 372	Adjustment Computations 1	2	No Equivalent
SURE 373	Adjustment Computations 2	3	No Equivalent
SURE 420	Professional Practice of Surveying	3	No Equivalent
CENG 421	Soils Engineering	4	No Equivalent
GISC 425	Technical Issues in Geographic Information Systems and Cartography	3	No Equivalent
SURE 440	Advanced Photogrammetry	3	No Equivalent
SURE 452	Geodesy 1	4	No Equivalent
SURE 453	Geodesy 2	4	No Equivalent
SURE 465	Legal Aspects of Surveying 2	3	No Equivalent

# FERRIS STATE UNIVERSITY

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
CENG 499	Applied Research in Surveying Engineering	4	No Equivalent

## PROGRAM CONTACT INFORMATION

College of Engineering Technology  
Survey Engineering Technology Programs  
(231) 591-2633  
[Surveying@Ferris.edu](mailto:Surveying@Ferris.edu)

Ferris Statewide - Alpena  
(231) 995-1734  
[FerrisNorth@Ferris.edu](mailto:FerrisNorth@Ferris.edu)

## ADMISSION REQUIREMENTS

### New Student Admission Requirements

- 2.75 High School GPA (on a 4.00 scale) (2.50 -2.74 with college approval)
- Minimum Composite Score of ACT 18/SAT 950, Math Score of ACT 26/SAT 620,
- Placement into MATH 220

### Transfer Student Admission Requirements

- 2.50 College GPA (on a 4.00 scale)
- Placement into MATH 120 or higher

## MORE INFORMATION

To fulfill the residency requirement for a bachelor's degree a student must earn a minimum of 30 credits from Ferris State University.

## Steps to Apply

- Complete your [free application](#).
- Submit official transcripts
  - Submit official transcripts from every school attended to [Transfer@Ferris.edu](mailto:Transfer@Ferris.edu)
  - Or mail to:  
Ferris State University Admissions Office  
1201 S. State St., CSS 201  
Big Rapids, MI 49307
- Submit test scores (if required)
  - ACT Scores; go to the [ACT website](#) - Ferris State University School Code: 1994
  - SAT, CLEP and AP Scores; go to the [College Board website](#) - Ferris State University School Code: 1222

## Advising Notes

It is recommended that potential applicants meet with an advisor to review the degree, course schedule, transfer policies and have any questions answered prior to completing an application. Ferris accepts transfer courses in which the student earned a letter grade of "C" or better. Additional policies such as the Ferris Sunset and Residency Requirement should be discussed with a Ferris advisor. 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 coursework may reduce the chance of completing a course that will not apply toward the selected degree. Students must work with their Ferris advisor to declare a Minor or Concentration and for the selection of Directed Electives.

## FERRIS STATE UNIVERSITY

Once admitted, students are required to complete an orientation and should continue to meet with an advisor as they work toward graduation.

To schedule an appointment or for additional transfer resources and policies see our [Transfer Resource page](#).

\*Indicates an approved Ferris course substitution

### **Reverse Transfer Agreement**

Ferris has reverse transfer agreements with several Michigan Community Colleges. Under such agreement, Ferris will provide your official University transcript to a partner school you have attended, so that they may grant you an associate or bachelor's degree upon completion of sufficient and appropriate credit hours from both institutions. In turn, the degree-granting institution will provide Ferris with an updated transcript reflecting the newly earned credential.

### **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.

### **Transfer Equivalencies Tools**

The transfer equivalencies link is located in the Transfer Resources section at [transfer.ferris.edu](https://transfer.ferris.edu).

### **Disclaimer**

Transfer guides are not intended to be a contract with Ferris. The information in this guide is subject to change and is aligned with the catalog year listed above. Students should contact their community college and/or Ferris to keep informed of changes. Students' final responsibility for verifying all transfer information lies with the student. Please refer to the [Ferris catalog](#) for the most current curriculum.

Partners may contact the Office of Transfer and Secondary School Partnerships with questions or updates at [TransferGuidesArticulations@Ferris.edu](mailto:TransferGuidesArticulations@Ferris.edu).