Why Choose Surveying and Mapping Minor?

The objective of the minor program in surveying and mapping is to give the students a general understanding of how surveying measurements are performed and to gain familiarity of knowing how to use the field surveying instruments. The students completing this program should be able to:

- Perform basic differential leveling in the field
- Reduce differential leveling observations
- Understand the concept of field data collection using conventional and modern electronic data collection instruments such as an electronic total station
- Understand the concept of field data collection using global positioning system (GPS) instruments
- Understand the basic concept of how to prepare a topographic map from actual survey data
- Perform traverse computations and simple traverse adjustment
- Develop an appreciation for establishing horizontal and vertical control for a small to medium size surveying project
- Have a basic understanding of State Plane Coordinates, Lambert conic projection in particular
  Depending on the student's selection of the optional courses, the student completing this minor will demonstrate:
  - Performing simple circular curve calculations
  - Performing the field layout of a basic circular curve
  - An appreciation for the basic photogrammetric concepts such as photo scale, flying height, overlap, side lap
  - An understanding of the public land surveying systems
  - An appreciation for the basic concepts of Geographic Information Systems (GIS)

Career Opportunities

The knowledge gained through this minor will enable the student who completes the program to function as a surveying technician within an organization.

Admission Requirements

The minor is open to all students enrolled and pursuing a baccalaureate or higher degree in majors other than Surveying Engineering. Students are expected to meet prerequisites for all courses. Students must be in good standing with a cumulative of a 2.0 or higher in declared
major.

**Graduation Requirements**

Students are also required to meet with their Surveying Engineering faculty advisor to plan and track their progress throughout the minor degree.

An academic minor may only be awarded upon completion of a baccalaureate or higher at Ferris State University.

Students must

- maintain a 2.00 cumulative FSU GPA
- earn a minimum grade of C- for each course in the minor
- have a minimum of 18 semester credit hours
- have a maximum of 1/3 of the credits, but no more than 7 credits in a minor, may overlap the students major
- have a minimum of 50% (9 credits) of the courses in the minor at the 200 or above level
- have at least one-half (1/2) of the credits (9 credits) from Ferris (FSU Residency requirement)

**More Information**

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