

## SURVEYING ENGINEERING PROGRAM AT FERRIS STATE UNIVERSITY



- Learn about technology which provides the foundation for Driverless Vehicles, Google Maps, GPS, Precise Navigation of Aircrafts, Ships and Automobiles.
- Explore key technologies used for national security and national defense using Intercontinental Ballistic Missiles, Precision Bombing, Environment Monitoring and Mapping using Satellites and Drones.
- Understand cutting edge technologies such as LASER tracking and scanning, mapping of the sea-floor, monitoring glaciers, precision agriculture, archeological mapping, machine guidance systems used in today's construction industry for precision grading, excavating, and other heavy equipment operations.
- Profession with 100% job placement every year. In fact, our graduates often receive ten or more job offers. Starting Salary as much as \$80,000.00/year
- Career with the job flexibility working both outdoors and indoors.
- Be your own boss and own your engineering company.
- **If above facts impress you, then Surveying Engineering is for you!**
- FSU has the largest and best equipped (Equipment and software worth about \$2.5 million) program in North America with ABET/EAC Engineering Accreditation. It is also the only Engineering Program at FSU.
- If you are interested, please contact Dr. Barsai at [barsaig@ferris.edu](mailto:barsaig@ferris.edu) or call 231-591-3115 or for further information please visit [www.ferris.edu/surveying](http://www.ferris.edu/surveying)

# Why Study Surveying Engineering at Ferris State University?

Surveying is known to be the oldest profession in the world having traced its roots back to great civilizations of biblical or ancient times, such as the Babylonians, Greeks, Egyptians, and the Chaldeans where surveyors were noblemen. These noblemen played an important role in the economic framework of their societies and were well respected. Many of our early leaders and explorers were famous surveyors such as James Cook, George Washington, Thomas Jefferson, and Abraham Lincoln.

Today, Surveying Engineers play a vital role in developing societies. Their primary role is to determine the position of natural and man-made objects on the earth's surface, and record it for future planning purposes; to set and reset boundaries both within the country and internationally. Surveying is the general term, which covers a myriad of disciplines, such as Geodesy, Photogrammetry, Cartography, GIS, Digital Mapping, Cadastral Surveying, etc.

Surveying Engineers or Surveyors collect, analyze, and manage the global spatial infrastructure. They design, develop, and operate systems for collecting and analyzing spatial information about the land, the oceans, natural resources, and man-made features. They use sophisticated equipment such as Global Positioning Systems (GPS), LASER tracking, electronic theodolites, levels, aerial photographs, satellite imagery for gathering, analyzing, and using information about the earth. Modern Surveying topics include digital mapping, geodesy, photogrammetry, remote sensing, as well as more traditional surveying involving property surveys. Since our societies are becoming more complex, information with a spatial position associated with it are of vital importance for national security, national defense, exploration for minerals and fossil fuels, environmental monitoring, and are also critical to decision-making, both from a personal and a business perspective, and for different levels of government.

Surveying Engineers can answer many questions like: do you know where your property boundaries are? Have you ever wondered how maps are created? How does GPS work? What is the shape and size of the earth? How can the satellite imagery be interpreted to monitor the environment, examine the ice coverage in the Arctic and Antarctic oceans, etc.? Surveying Engineers or Surveyors perform different types of work such as measure land, air space, water depth and ocean floor mapping and charting and mapping of lakes and rivers. They describe where a certain area of land is. They compute, portray and explain what it looks like, and how much is there. They put these facts in deeds, leases, and other legal documents.

Employers of Surveying Engineers include federal government agencies such as National Geospatial Intelligence Agency (NGA), U.S. Forest Service or the U.S. Bureau of Land Management, U.S. Park Service, National Oceanic and Atmospheric Administration, U.S. Geological Survey as well as city, state, or county highway departments; and for large and small engineering and surveying firms. According to the U.S. Department of Labor jobs in this discipline are expected to grow by 25% in the next ten years.

**The Program is accredited by Engineering Accreditation Commission (EAC) of ABET.**