

# SURVEYING ENGINEERING, B.S.

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**Begin Campus:** Wilkes-Barre

**End Campus:** Wilkes-Barre

## Program Description

The Surveying Engineering major provides a basic undergraduate education required for private and public service in the profession of surveying. Particular emphasis is placed on fundamental surveying principles required in all areas of surveying. Instruction is provided in the main divisions of surveying, including land surveying, boundary mapping, photogrammetry, laser scanning, data analysis and adjustment, geodesy and map projection coordinate systems, remote sensing, geographic information systems, and land development. Students study various data collection techniques using surveying tools including total stations, photogrammetry, laser scanners, unmanned aerial systems (UASs), remote sensing satellite imagery, and the global navigation satellite system (GNSS). They also study legal principles related to land surveying, professional ethics, applications for Geographic Information Systems (GIS) in surveying, and data management techniques, and point cloud processing methods for 3D modeling and surveying product delivery.

## What is Surveying Engineering?

Surveying is the science of measuring physical features of Earth to collect spatial information and to establish land boundaries. Surveying engineers learn the elements of surveying as applied to construction, land, topographic, geodetic, city, and photogrammetric surveys.

## You Might Like This Program If...

- You enjoy the outdoors.
- You have an interest in math and science.
- You are passionate about robotic, GPS, scanner, GIS, and drone technology.
- You are interested in geographic data and how it is captured, stored, manipulated, analyzed, and managed.