

LAND SURVEYING FUNDAMENTALS, CERTIFICATE OF PROFICIENCY



Land Surveying is the art and science of precisely measuring features above or below the surface of the earth for purposes of engineering design, construction, real property records, and scientific study. Surveyors are often the first crews on a construction project site to collect data and identify land boundaries for design purposes, working during construction to identify where objects are to be built, and the last crews on a site to record as-built/post-construction conditions for a site. Professional Surveyors are often expert witnesses in litigation revolving around real property issues.

In order to practice surveying, Professional Surveying licensing is required. This certificate is tailored for students who have either completed a bachelor degree in Civil Engineering or for those planning on transferring to complete a bachelor degree in Civil Engineering to be able to meet the academic requirements of the Ohio Revised Code 4733.11 - Professional Surveyor License Qualifications. Additional pathways to meet the academic requirement are in the Ohio Revised Code with additional guidance on the Ohio Board of Professional Engineers and Professional Surveyors website.

Program contact: Learn more

This certificate will be automatically awarded when the certificate requirements are completed. If you do not want to receive the certificate, please notify the Office of the Registrar at RegistrarOffice@tri-c.edu.

Learn more about how certificate credits apply to the related degree.

Related Degrees and Certificates

- Construction Engineering Technology, Associate of Applied Science
- Construction Project Management, Certificate of Proficiency
- Construction Operations, Short-Term Certificate

Program Admissions Requirements

High School Diploma/GED.

Completed MATH-1530 College Algebra or higher mathematics course

ENG-0995 Applied College Literacies or appropriate score on English placement test.

Program Learning Outcomes

1. Use critical thinking skills to anticipate, identify, respond to, and resolve problems.
2. Use verbal and written skills with technological tools to clearly and effectively communicate, using appropriate protocols to project stakeholders.
3. Obtain OSHA 30 certification for the construction industry.
4. Read and interpret various types of construction drawings including commercial, structural, civil, and highway drawings.
5. Utilize CAD software to develop working drawings for a domestic structure.
6. Meet academic requirements of the Ohio Revised Code 4733.11 - Professional Surveyor License Qualifications.

Suggested Semester Sequence

Note: This program sequence is designed to be pursued on a part-time basis.

First Year

Summer Start		Credit Hours
CNST-1290	Construction Print Reading ¹	2
MATH-1540	Trigonometry (or higher)	3
Credit Hours		5

First Semester

ENG-1010	College Composition I	3
CNST-1411	CAD Technology in Construction	2
CNST-1751	Construction Safety	2
CNST-2110	Basic Survey Practices	3
Credit Hours		10

Second Semester

Choose One:	(Advanced Elective)	3
CNST-1740	Fundamentals of Geographic Information Science ²	
CNST-2520	Aerial Surveying ²	
CNST-2550	3D Laser Scanning for Land Surveying ²	
CNST-2500	Construction Surveying ²	3
CNST-2560	Land Development Systems ²	3
Credit Hours		9

Second Year

Third Semester

CNST-2535	Legal Principles in Surveying ²	3
CNST-2540	Ohio Lands ²	2
CNST-2590	Professional Aspects of Land Surveying ²	1
CNST-2570	Geodetic Surveying ²	3
Credit Hours		9
Total Credit Hours		33

¹ Course waived if student already holds a Bachelor Degree in Civil Engineering

² Course is on the Ohio Professional Engineers and Professional Surveyors Board website as an approved surveying course (found under the Fundamentals of Surveying Exam section). Students will need to follow instructions on the state board website, complete the worksheet, and follow state board guidelines in order to apply to take

the Fundamentals of Surveying (FS) exam which is one of the first steps in the licensing process. Only courses SPECIFICALLY shown from SPECIFIC institutions on the approved list can be used to fulfill the board's requirement. If a SPECIFIC course from a SPECIFIC institution was not taken from the list (such as a course that transferred in), it is up to the student to contact the board to find out what needs to be done for the board to review if the course the student took could be used to meet the requirement.

MATH-1140, MATH-1141, MATH-1200, MATH-1270, and MATH-1280 can no longer count towards fulfilling the college-level mathematics requirement. These courses were re-classified as developmental mathematics by the state of Ohio in 2016. Tri-C established a 5-year transitioning window for students who had completed these courses prior to 2016 to apply them towards meeting graduation requirements, which expired in Summer 2021. It is highly recommended to see a counselor to determine the appropriate math required for your current major.