Land Surveying Technology

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 5410

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Land Surveying?

The program prepares students for employment in the land surveying field. Surveying involves mapping features of the land as well as property boundaries, and laying out construction lines and grades. It involves the use of computerized electronic equipment for land based as well as satellite assisted measurements, and the preparation of maps by computer aided design (CAD). Jobs in the field for those seeking immediate employment range from field crew member to CAD operator, and are typically found in surveying firms, consulting engineering firms, utility companies, and in the engineering departments of governmental agencies.

If I major in Land Surveying, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions program with New Jersey Institute of Technology and have all your credits applied to the first two years of the bachelor's degree program in Surveying Engineering Technology. Or you may transfer to another college that applies most or all of your credits toward a bachelor's degree. With the bachelor's degree from NJIT, you become eligible to take the New Jersey land surveying license exam.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental course work and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Make precise measurements in the field using surveying instruments such as a theodolite, level, steel tape, and total station;
- Demonstrate knowledge of land surveying principles including traverse, level loop, topographic survey, and construction stake out;
- Design a road centerline including horizontal and vertical alignments;
- Demonstrate understanding of engineering drawings including the concept of scale and orthographic projection;
- Assist in conducting a boundary survey including field measurements, calculations, and survey analysis;
- Design a simple storm sewer system and culvert and demonstrate knowledge of the underlying principles of hydraulics and hydrology;
- Demonstrate knowledge of the principles, rules and purposes of business law; and
- Utilize computer software applications used in the surveying field such as CAD, spreadsheets, word processing, and basic programming.

Program Educational Objectives:

Graduates of the program will demonstrate:

1. Employment in the field of their major
2. Engagement in continuing education, including advanced degrees
3. Professional advancement in their chosen field

Land Surveying Technology
A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

Select two courses from: ANT 101, 105; ECO 101, 102; POL 101, 104; PSY 101, 102 219; SOC 101, 108, 219 — 6

Math (7 credits)

MTH	113	College Algebra with Trigonometry	4
MTH	114	Unified Calculus I	3

Humanities (3 credits)

Select one History course from: HST 101, 102, 111, 112, 121, 122, 131, 132, 134-137, 161, 162 — 3

MAJOR COURSE REQUIREMENTS:
(24 credits)

CET	211	Surveying I	3
CET	212	Surveying II	3
CET	214	Evidence and Procedures for Boundary Location	3
CET	221	Hydraulics and Drainage	4
ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
BUS	251	Business Law I	3
BUS	252	Business Law II	3
CET	251	CET Seminar	1

ADDITIONAL COURSE REQUIREMENTS:
(17 credits)

CSC	112	Computer Prog. for Engr. & Tech.	3
MTH	141	Mathematical Statistics	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4
CIS	137	Microcomputer Databases	3

Total Credits Required for Degree — 63

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ENR	103	Engineering Graphics	2
BUS	251	Business Law I	3
MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	105	Applied Computer Aided Design	2
BUS	252	Business Law II	3
MTH	114	Unified Calculus I	3
PHY	102	College Physics II	4

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

CET	211	Surveying I	3
CSC	112	Computer Prog. for Engr. & Tech.	3
MTH	141	Mathematical Statistics	3
Social Science requirement			3

Fourth Semester

CET	212	Surveying II	3
CET	214	Evidence and Procedures for Boundary Location	3
CET	221	Hydraulics and Drainage	4
CIS	137	Microcomputer Databases	3
CET	251	CET Seminar	1

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section.