

Geomatics Engineering Technology (Co-op)

Geomatics is the art and science of acquiring, analyzing, presenting, and managing geographical and spatial data. Geomatics includes the traditional surveying and mapping sciences together with new study areas such as Geographical Information Systems (GIS) and the satellite controlled positioning system the Global Positioning Systems (GPS). With the development of off-shore petroleum, management of the fishery, infrastructure and hydro development and the resulting expansion in the construction industry, the need for more and better trained Geomatics Engineering Technologists becomes apparent.

The three-year diploma level Geomatics Engineering Technology program is a cooperative education program. It is designed to train persons who will become the senior field members of land, hydrographic, geodetic or engineering survey teams or supervisors in digital data management, analysis and presentation.

The study of Geomatics includes such diverse subjects as photogrammetry, cartography, geodesy, astronomy, hydrography, cadastral surveying, digital mapping, and GIS. These subjects are based on a firm foundation in the sciences of mathematics, physics and chemistry. The associated areas of communications, management, and economics are also an integral part of the program.

In addition to theoretical instruction, the student obtains considerable field and office experience during labs, field camps, and work terms.

ACCREDITATION

This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists.

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord. This program is also CAFCE (Canadian Association for Cooperative Education) accredited.

OBJECTIVES

1. To train the student for the Geomatics and construction industries at technologist level.
2. To develop an acceptable degree of competence in general surveying techniques.
3. To provide theory and practical experience in branches of the Geomatics industry including; Plane Surveying, Cadastral, Marine Surveying, GIS, Photogrammetry, and Construction surveying.

CURRICULUM

General Education consisting of Communications (oral or written), Mathematics and Physics, Chemistry, Electrotechnology, Computers, and Engineering Graphics. Specific Education in all aspects of geomatics. Extensive field training to provide experience with instrumentation and software, surveying Camps.

EMPLOYMENT OPPORTUNITIES

Graduates generally find employment with various departments of the federal and provincial government, crown corporations, utility companies, construction engineering, oil exploration and surveying companies. For graduates who desire to further their careers in Geomatics, the University of New Brunswick awards a limited number of credits for this program toward a Bachelors Degree in Surveying Engineering.

Graduates with two years of appropriate work experience may receive the designation of Professional Technologist (P. Tech).

DIPLOMA

- Three years
- September start
- Ridge Road Campus (St. John's)

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 and 2 - Refer to Engineering Technology (First Year)				
Semester 3 (Technical Intersession I)				
EN1100	Environmental Science	2	3	2
SD1520	The Technologist & the Workplace	2	3	0
SU1320	Plane Surveying I	4	3	4
SU1500	Cartography	3	4	4
Semester 4				
CP1130	Intro. to Visual Basic	2	1	2
EC1700	Engineering Economics	2	2	0
FT1240	Surveying Field Camp	1	0	0
MA2100	Mathematics	5	5	0
SU1311	Plane Surveying	4	4	6
SU1530	Digital Mapping	3	2	3
SU2500	Photogrammetry	4	3	2
Semester 5				
CM2200	Oral Communications	2	2	0
CM2300	Report Writing	2	2	0
MA2120	Applied Geomatics Mathematics	4	3	2
SU1440	GIS I	3	2	3
SU1540	Hydrography I	4	3	3
SU2320	Geodetic Surveying	4	3	3
SU2530	Cadastral Surveying	4	3	2
Semester 6				
WC1300	Workterm I	5	0	0
Semester 7				
CA2900	Municipal Engineering	3	2	3
CG3400	Engineering Management	3	3	0
GE1200	Geology	4	3	2
MA3120	Advanced Geomatics Mathematics	3	3	0
PR2230	Technical Thesis (Seminar)	0	1	0
SU1441	GIS II	4	3	3
SU2570	GPS & Remote Referencing	4	3	3
Semester 8				
WC1301	Work term II	5	0	0
Semester 9				
FT1250	Hydrographic Camp	1	0	0
PR2231	Technical Thesis	3	0	8
SU1541	Hydrography II	4	3	3
SU1570	Remote Sensing	3	2	2
SU3300	Geodesy & Map Project	4	3	3
SU3500	Adjustments	4	3	3

