



name _____ number _____ date _____

BScE in Geomatics Engineering

Course Sequence & Programme Assessment

for new students, in effect starting 2025/FA and 2026/WI, *see instructions at end of list*

Year One			FA	
Course Number	Course Name	Ch	Credit	Notes
ENGG 1003	Engineering Technical Communications	4		
ENGG 1015	Introduction to Design & Problem Solving	2		
ENGG 1001	Engineering Profession Lecture Series	0		
GGE 1001	Introduction to Geodesy & Geomatics	5		
MATH 1003	Calculus I: Differential Calc	3		
MATH 1503	Introduction to Linear Algebra	3		
PHYS 1081	Physics for Engineers	5		
Total Core Credit Hours		22		

Year One			WI	
Course Number	Course Name	Ch	Credit	Notes
ENGG 1002	Engineering Profession Lecture Series II	0		
ESCI 1052	The Earth: The Origin, Evolution and Age	3		
ESCI 1026	Geology Lab for Engineers	2		
ECON 1073	Economics for Engineers	3		
ENGG 1082	Mechanics for Engineers	4		
MATH 1013	Calculus II: Integral Calc	3		
PHYS 1052	Introductory Physics II	3		
PHYS 1092	Experiments in Introductory Physics	2		
Total Core Credit Hours		20		

Year Two			FA	
Course Number	Course Name	Ch	Credit	Notes
CS 1003	Programing and Problem Solving for Engineers	4		
GGE 3423	Introduction to Geographic Information Systems	4		
GGE 3342	Remote Sensing	5		
MATH 2513	Multivariable Calculus for Engineers	4		
STAT 2593	Probability and Statistics for Engineers	3		
Total Core Credit Hours		20		

Year Two			WI	
Course Number	Course Name	Ch	Credit	Notes
GGE 2012	Advanced Surveying	4		
GGE 2501	Land Administration I	4		
GGE 3111	Introduction to Adjustment Calculus	5		
GGE 3202	Geodesy I	4		
GGE 4303	LiDAR Fundamentals	3		
GGE 2013 OR GGE 2014	Advanced Surveying Practicum*	4		GGE 2014 offered during summer term
Total Core Credit Hours		20+4*		*Practicum ("Survey Camp)

Year Three			FA	
Course Number	Course Name	Ch	Credit	Notes
GGE 3022	Survey Design & Analysis	5		
GGE 3122	Advanced Adjustment Calculus	4		
GGE 3042	Introduction to Global Navigation Satellite Systems	5		
GGE 3353	Ocean Mapping	4		
GGE 4313	Photogrammetry	4		
Total Core Credit Hours		22		

Year Three			WI	
Course Number	Course Name	Ch	Credit	Notes
CE 3963	Engineering Economy	3		
MATH 3543	Differential Geometry for Geomatics Engineers	3		
GGE 4211	Geodesy II	4		
GGE 4423	Advanced Geographic Information Systems	4		
GGE 3023 OR GGE 3024	Survey Design Practicum*	4		GGE 3024 offered during summer term
	TE			
Total Core Credit Hours		14+4*		*Practicum ("Survey Camp)



name _____ number _____ date _____

Year Four			FA	
Course Number	Course Name	Ch	Credit	Notes
TME 3313	Managing Engineering & IT Projects	3		
ENGG 4001	Engineering Profession Lecture Series III	0		
GGE 4700	Design Project and Report*	3		
	TE			
	TE			
Total Core Credit Hours		6+ _____	*Full Year Course	

Year Four			WI	
Course Number	Course Name	Ch	Credit	Notes
ENGG 4002	Engineering Profession Lecture Series IV	0		
ENGG 4013	Law and Ethics for Engineers	3		
GGE 4700	Design Project*	3		
	TE			
	TE			
Total Core Credit Hours		6+ _____	*Full Year Course	

TOTALS

Core courses: _____ / ≥ 138 ch
 Technical electives (TE): _____ / ≥ 16 ch
 Complimentary studies electives (CSE): _____ / ≥ 6 ch
 Total: _____ / ≥ 160 ch

Course Number	Course Name	Ch	Semester	Notes
GGE 4513	Survey Law 1	4	FA CSO	
GGE 5011	Oceanography, Tides, and Water Levels	4	FA IHO	
GGE 5012	Marine Geology and Geophysics	4	WI IHO	
GGE 5022	Precision Surveying	4	WI CSO	
GGE 5042	Kinematic Positioning	4	FA IHO	
GGE 5083	Hydrographic Field Operations	4	WI IHO	Field course after exams
GGE 5222	Gravity Field in Geomatics	4	WI	Online (CEL)
GGE 5242	Global Navigation Satellite Systems for Geodesy	4	FA	NOT being offered this term
GGE 5311	Advanced Hydrography	4	WI IHO	
GGE 5322	Computer Vision: Methods and Implementation	4	WI	
GGE 5341	Machine Learning and AI in Geomatics	4	FA	
GGE 5404	Online Spatial Data Handling	3	FA/WI/SU	Online (CEL)
GGE 5405	Introduction to Big Data & Data Science	3	WI	
GGE 5410	3D Spatial Information Systems	4	FA	
GGE 5522	Survey Law II	4	WI CSO	
GGE 5833	Land Use Planning for Geomatics	4	WI CSO	

TE courses may be taken any time after the midpoint of your program, and CSE courses may be taken at any time so long as the required TE and CSE credit hours are completed successfully before graduation. The time slots shown for these are suggestions of when these might be taken.

Technical electives labeled “CSO” are required for the Cadastral Surveying Option.

Technical electives labeled “IHO” are required for the International Hydrography Organization Category A certification.

With prior Departmental approval, other courses may be taken as technical electives. At least one GGE 5000 level course must be done.

COMPLEMENTARY STUDIES ELECTIVES:

Students must complete 6 credit hours of complimentary studies electives:

3 ch from one of: anthropology, classics, literature, history, philosophy, political science, or sociology

3 ch of additional complementary studies courses, preferably from these categories



name _____ number _____ date _____

At least 6 months of work experience should be completed, ideally during the program, and with work term evaluation forms submitted by employers.

Approved Work Experience _____ months [employer _____; y _____]

Approved Work Experience _____ months [employer _____; y _____]

[Total of at least 6 months]

Refer to the Geomatics Engineering programme and course descriptions in the current UNB Undergraduate Calendar.

Enter the letter grade for a course done at UNB. Enter a "T" for any credit transferred. Do either entry only when the course number and credit hours match exactly. Otherwise, leave blank and consult the Director of Undergraduate Studies.