



name _____ number _____ date _____

BScE in Geomatics Engineering

Course Sequence & Programme Assessment

for new students, in effect starting 2022/FA and 2023/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 Practice Lectures | 0 | | |
| GGE 1001 | Introduction to Geodesy & Geomatics | 5 | | |
| MATH 1003 | Introduction to Calculus I | 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 |
| ESCI 1001 | 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 | Introduction to Calculus II | 3 | | |
| PHYS 1062 | 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 | Programming and Problem Solving for Engineers | 4 | | |
| GGE 3423 | Introduction to Geographic Information Systems | 4 | | |
| GGE 3042 | Introduction to Global Navigation Satellite Systems | 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 | | |
| MATH 3543 | Differential Geometry for Geomatics Engineers | 3 | | |
| GGE 2013 | Advanced Surveying Practicum* | 4 | | |
| Total Core Credit Hours | | 20+4* | | *Practicum ("Survey Camp) |

| Year Three | | | FA | |
|-------------------------|-----------------------------------|----|--------|-------|
| Course Number | Course Name | Ch | Credit | Notes |
| CS 3113 | Introduction to Numerical Methods | 3 | | |
| GGE 3122 | Advanced Adjustment Calculus | 4 | | |
| GGE 3342 | Remote Sensing | 5 | | |
| GGE 3353 | Ocean Mapping | 5 | | |
| GGE 4513(online) | Survey Law I | 4 | | |
| Total Core Credit Hours | | 20 | | |

| Year Three | | | WI | |
|-------------------------|---|-------|--------|---------------------------|
| Course Number | Course Name | Ch | Credit | Notes |
| CE 3963 | Engineering Economy | 3 | | |
| GGE 3022 | Survey Design & Analysis | 5 | | |
| GGE 4211 | Geodesy II | 4 | | |
| GGE 4313 | Airborne Mapping Systems | 5 | | |
| GGE 4423 | Advanced Geographic Information Systems | 5 | | |
| GGE 3023 | Survey Design Practicum* | 4 | | |
| Total Core Credit Hours | | 22+4* | | *Practicum ("Survey Camp) |



name _____ number _____ date _____

| Year Four | | | FA | |
|-------------------------|------------------------------------|------|--------|-------------------|
| Course Number | Course Name | Ch | Credit | Notes |
| TME 3313 | Managing Engineering & IT Projects | 3 | | |
| GGE 4700 | Design Project and Report* | 3 | | |
| | TE | | | |
| | TE | | | |
| | CSE | | | |
| Total Core Credit Hours | | 6+__ | | *Full Year Course |

| Year Four | | | WI | |
|-------------------------|------------------------------|------|--------|-------------------|
| Course Number | Course Name | Ch | Credit | Notes |
| ENGG 4013 | Law and Ethics for Engineers | 3 | | |
| GGE 4700 | Design Project* | 3 | | |
| | TE | | | |
| | TE | | | |
| | CSE | | | |
| Total Core Credit Hours | | 6+__ | | *Full Year Course |

TOTALS

Core courses: ___ / ≥ 145 ch
 Technical electives (TE): ___ / ≥ 9 ch
 Complimentary studies electives (CSE): ___ / ≥ 6 ch
 Total: ___ / ≥ 160 ch

| Course Number | Course Name | Ch | Semester | Notes |
|---------------|---|----|----------|--------------------------|
| GGE 5011 | Oceanography, Tides, and Water Levels | 4 | FA IHO | |
| GGE 5012 | Marine Geology and Geophysics | 4 | WI IHO | |
| GGE 5022 | Precision Surveying | 4 | FA CSO | |
| GGE 5042 | Kinematic Positioning | 5 | FA IHO | |
| GGE 5083 | Advanced Hydrography Practicum | 4 | WI IHO | Field course after exams |
| GGE 5222 | Gravity Field in Geomatics | 4 | WI | |
| GGE 5242 | Global Navigation Satellite Systems for Geodesy | 4 | FA | If sufficient interest |
| GGE 5311 | Advanced Hydrography | 4 | WI IHO | |
| GGE 5322 | Digital Image Processing | 4 | WI | |
| GGE 5341 | Advanced Technologies in Remote Sensing | 4 | FA | |
| GGE 5404 | Introduction to Online Spatial Data Access and Operations | 3 | FA/WI/SU | Online (CEL) |
| GGE 5405 | Introduction to Big Data & Data Science | 3 | WI | |
| GGE 5410 | 3D Geographical Information Systems | 4 | FA | |
| GGE 5522 | Survey Law II (online) | 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 complimentary 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.