Bachelor of Science in Geomatics: Surveying Stream; 4-year curriculum [EB019APG09]

A candidate shall complete approved courses of a value **not less than 576 credits** and shall comply with the prescribed curriculum requirements.

First Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG1016H	Geomatics I	18	5
2	APG1022X	Practical Training in Geomatics	0	5
3	CSC1017F	Introduction to Programming	16	5
4	GEO1009F	Introduction to Earth and Environmental Sciences	18	5
5	MAM1020F	Mathematics IA for Engineers	18	5
6	MAM1021S	Mathematics I B for Engineers	18	5
7	STA1000S	Introductory Statistics	18	5
8	xxxxxxx	Elective	18	5
		Total credits	**124**	

Second Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG2014S	Geomatics II	24	6
2	APG2015F	Geographic Information Systems I)	24	6
3	APG2019X	Practical Training I	0	6
4	APG2040F	Surveying I	18	6
5	APG2041S	Applied Surveying & GISc	14	6
6	MAM2083S	Vector Calculus for Engineers	16	6
7	MAM2084F/S	Linear Algebra and DEs for Engineers	16	6
8	PHY1031F	General Physics A	18	5
9	PHY1032S	General Physics B	18	5
		Total credits	**148**	

Third Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG3012S	Geomatics III	24	7
2	APG3013F	Numerical Methods in Geomatics	16	7
3	APG3015X	Practical Training II	0	7
4	APG3016C	Surveying II	12	7
5	APG3017D	Surveying III	12	7
6	APG3027Z	Cadastral Survey & Registration Projects	24	7
7	APG3033W	Land & Cadastral Survey Law	16	7
8	APG3038F	Professional Communication Studies	12	7
9	APG3040C	Advanced Spatial Data Analysis	12	7
10	CON2033F	Real Property Law	16	6
11	xxxxxxx	Elective	12	7
		Total credits	**156**	

- **N/B:** Students who may wish to register as a **Professional Geoinformatics Practitioner** (as well as the options of registering in the professional categories of land, engineering, and photogrammetric surveyor), should take **APG3039B (Spatial Data Infrastructures)** as their elective in the third year.
- **N/B:** Students who have taken both APG1022X and APG2019X do not need to take APG3015X.

Fourth Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG4001S	Geodesy	24	8
2	APG4002Z	Land Use Planning & Township Design	16	8
3	APG4003Z	Geomatics Project	40	8
4	APG4005F	Engineering Surveying & Adjustment	18	8
5	APG4010X	Geoinformatics Camp	4	8
6	APG4011F	Geomatics IV	24	8
7	APG4012S	Geomatics Management & Professionalism	24	8
		Total credits	**150**	

Bachelor of Science in Geomatics: Surveying Stream; 5-year curriculum [EB819APG09]

Students on the 5-year curriculum take the same courses and credits as in the 4-year curriculum, but the courses are spaced out over 5 years to allow more time for learning new concepts, grappling with assignments, asking questions, and obtaining feedback. The 5-year curriculum is supported by ASPECT to ensure student success.

All students are admitted into the 4-year curriculum, and there are two opportunities in the first year to change to the 5-year curriculum and receive additional support from ASPECT. The first opportunity is after the initial set of class tests in the first term. The second opportunity is after the first semester's final examinations.

There are no additional tuition fees or charges for changing to the 5-year curriculum. Changing at the end of the first term is preferable as this enables students to switch before any courses are failed. Courses that are failed must be repeated and will be charged for.

A candidate shall complete approved courses of a value **not less than 576 credits** and shall comply with the prescribed curriculum requirements.

First Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG1016H	Geomatics I	18	5
2	APG1022X	Practical Training in Geomatics	0	5
3	CSC1017F	Introduction to Programming	16	5
4	GEO1009F	Introduction to Earth and Environmental Sciences	18	5
5	MAM1023F	Mathematics IA for Engineers Extended	18	5
6	MAM1024S	Mathematics I B for Engineers Extended	18	5
7	STA1000S	Introductory Statistics	18	5
		Total credits	**106**	

Second Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG2014S	Geomatics II	24	6
2	APG2019X	Practical Training I	0	6
3	APG2040F	Surveying I	18	6
4	MAM2084S	Linear Algebra and DEs for Engineers	16	6
5	MAM2085F	Vector Calculus for Aspect	16	6
6	PHY1031F	General Physics A	18	5
7	PHY1032S	General Physics B	18	5
8	xxxxxxx	Elective	18	5
		Total credits	**128**	

Third Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG2015F	Geographic Information Systems I	24	6
2	APG2041S	Applied Surveying & GISc	14	6
3	APG3012S	Geomatics III	24	7
4	APG3013F	Numerical Methods in Geomatics	16	7
5	APG3015X	Practical Training II	0	7
6	APG3040C	Advanced Spatial Data Analysis	12	7
7	xxxxxxx	Elective	12	7
		Total credits	**102**	

- **N/B:** Students who may wish to register as a **Professional Geoinformatics Practitioner** (as well as the options of registering in the professional categories of land, engineering, and photogrammetric surveyor), should take **APG3039B (Spatial Data Infrastructures)** as their elective in the third year.
- **N/B:** Students who have taken both APG1022X and APG2019X do not need to take APG3015X.

Fourth Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG3016C	Surveying II	12	7
2	APG3017D	Surveying III	12	7
3	APG3027Z	Cadastral Survey & Registration Projects	24	7
4	APG3038F	Professional Communication Studies	12	7
5	APG3033W	Land & Cadastral Survey Law	16	7
6	APG4002Z	Land Use Planning & Township Design	16	8
7	APG4010X	Geoinformatics Camp	4	8
8	APG4011F	Geomatics IV	24	8
9	CON2033F	Real Property Law	16	6
		Total credit	**136**	

Fifth Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG4001S	Geodesy	24	8
2	APG4003Z	Geomatics Project	40	8
3	APG4005F	Engineering Surveying & Adjustment	18	8
4	APG4012S	Geomatics Management & Professionalism	24	8
		Total credits	**106**	