Bachelor of Science in Geomatics: Geoinformatics Stream; 4-year curriculum Computer Science Specialisation [EB019APG11]

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	CSC1015F	Computer Science 1015	18	5
4	CSC1016S	Computer Science 1016	18	5
5	GEO1009F	Introduction to Earth and Environmental Sciences	18	5
6	MAM1020F	Mathematics IA for Engineers	18	5
7	MAM1021S	Mathematics IB for Engineers	18	5
8	STA1000S	Introductory Statistics	18	5
		Total credits	**126**	

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	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	APG3038F	Professional Communication Studies	12	7
6	APG3039B	Spatial Data Infrastructures	12	7
7	APG3040C	Advanced Spatial Data Analysis	12	7
8	CSC2001F	Computer Science 2001	24	6
9	CSC2002S	Computer Science 2002	24	6
10	CSC2004Z	Programming Assessment	0	6
11	INF2009F	Systems Analysis	18	6
		Total credits	**154**	

- **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	APG4002Z	Land Use Planning & Township Design	16	8
2	APG4003Z	Geomatics Project	40	8
3	APG4010X	Geoinformatics Camp	4	8
4	APG4011F	Geomatics IV	24	8
5	APG4012S	Geomatics Management & Professionalism	24	8
6	CSC3002F	Computer Science 3002	36	7
7	CSC3003S	Computer Science 3003	36	7
		Total credits	**180**	

Bachelor of Science in Geomatics: Geoinformatics Stream; 5-year curriculum Computer Science Specialisation [EB819APG11]

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	CSC1015F	Computer Science 1015	18	5
4	MAM1023F	Mathematics IA for Engineers Extended	18	5
5	MAM1024S	Mathematics I B for Engineers Extended	18	5
6	PHY1014S	Physics A for Aspect	18	5
7	STA1000S	Introductory Statistics	18	5
8	GEO1009F	Introduction to Earth and Environmental Sciences	18	5
		Total credits	**126**	

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	CSC1016S	Computer Science 1016	18	5
5	MAM2084S	Linear Algebra and DEs for Engineers	16	6
6	MAM2085F	Vector Calculus for Aspect	16	6
7	PHY1015F	Physics B for Aspect	18	5
		Total credits	**110**	

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	APG3039B	Spatial Data Infrastructures	12	7
7	APG3040C	Advanced Spatial Data Analysis	12	7
8	CSC2001F	Computer Science 2001	24	6
9	CSC2002S	Computer Science 2002	24	6
10	CSC2004Z	Programming Assessment	0	6
		Total credits	**150**	

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	APG3038F	Professional Communication Studies	12	7
3	APG4010X	Geoinformatics Camp	4	8
4	CSC3002F	Computer Science 3002	36	7
5	CSC3003S	Computer Science 3003	36	7
6	APG4012S	Geomatics Management & Professionalism	24	8
7	INF2009F	Systems Analysis	18	6
		Total credits	**142**	

Fifth Year Core Courses

	Course Code	Course Name	NQF Credits	NQF Level
1	APG4002Z	Land Use Planning & Township Design	16	8
2	APG4003Z	Geomatics Project	40	8
3	APG4011F	Geomatics IV	24	8
		Total credits	**80**	