## Bachelor of Engineering (Surveying & Spatial Information Systems) Program Structure

UOC: unit of credit - HPW: hours per week

Year 1	Session 1	UOC	(HPW)		Session 2	UOC	C(HPW)
GMAT1100 GMAT1300 PHYS1189 MATH1131 or MATH1141	Principles of Surveying Comp Applics in Geomatics Physics I Mathematics 1A or Higher Mathematics 1A	6 6 6 6	(5) (4) (6) (6) (6)	GMAT1150 GMAT1200 GMAT1400 MATH1231 or MATH1242	Survey Methods & Comps Visualisation of Spatial Data Land Studies in Geomatics Mathematics 1B or Higher Mathematics 1B	6 6 6 6	(5) (4) (5) (6) (6)
Year 2							
GMAT2100 GMAT2350 GMAT2700 MATH2829 PHYS2969	Elect Surv Instrumentation Comp for Spatial Info Sc Geometry of Coord Ref Sys Statistics SU Physics of Measurements General Education	3	(5) (3) (5) (3) (3) (2)	GMAT2110 GMAT2200 GMAT2300 MATH2019	Elect & GPS Positioning Tech Geog Info Systems & CAD Analysis of Observations Engineering Mathematics 2CF General Education	6 3	(5) (5) (3) (5) (2)
Year 3							
GMAT3200 GMAT3400	Geospatial Info Tech & Ap Cadastral Surveying 1 General Education Electives	p 6 3 3 12	(5) (3) (2)	GMAT3150 GMAT3410 GMAT3500	Field Projects Land Econ & Valuation Photog & Rem Sensing General Education Electives	6 3 6 3 6	(5) (2) (5) (2)
Electives GMAT3100 COMP1011 CVEN0646 MATH1081 BENV2901	Surveying Applications Computing 1A Water & Wastewater Eng Discrete Mathematics City Planning Today	6 6 3 6 3	(5) (6) (3) (6) (2)	GMAT3450 COMP1011 COMP1021 COMP2011 CVEN0656 MATH1081	Cadastral Surveying 2 Computing 1A Computing 1B Data Organisation Soil & Pavement Eng Discrete Mathematics	3 6 6 6 3 6	(3) (6) (6) (5) (3) (6)
Year 4							
GMAT4000 GMAT4700 GMAT4850	Thesis Part A Project Management 1 Geom Eng for Sustainability Electives		(2) (3) (3)	GMAT4001 GMAT4750	Thesis Part B Project Management 2 Electives	9 3 12	(8) (3)
Electives GMAT4020 GMAT4400 GMAT4410 GMAT4900 GMAT9121 GEOG3911	Project in Geomatic Eng Land Mgt & Devel Project Land Subdiv & Develop Principl of GNSS Pos Network & Deform Analysi Environmental Impact Ass	1 3 3 6 s 6	(5) (2) (3) (5) (3)	GMAT4020 GMAT4450 GMAT4910 GMAT9211 PLAN1022 PLAN2012 PLAN3032	Project in Geomatic Eng Land Mgt & Devel Project 2 Modern Nav & Pos Tech Introduction to Geodesy The Development Process Economic Dev Planning Integrated Plann 3-New Dev	6 3 6 6 3 3 6	(5) (2) (5) (3)

Plus any remaining Year 3 electives.

Plus any remaining Year 3 electives.

Other COMP electives may be chosen once COMP1011, COMP1021 and MATH1081 have been completed. Other electives are available, with the approval of the Head of School.

The School has available a list of suggested subject selections for course streams in Cadastral Surveying and Land Development, as well as GPS and Geographic Information Systems. Please contact the School Office. 60 days Professional Practice experience is a requirement of this program.

## Bachelor of Engineering (Surveying & Spatial Information Systems) / Bachelor of Arts

Year 1	Session 1	UOC (HPW)		Session 2	UOC (HPW)		
GMAT1100 GMAT1300 MATH1131 PHYS1189	Principles of Surveying Comp Applics in Geomatics Mathematics 1A or Higher Physics I (GE)	6(5) 6(4) 6(6) 6(6)	GMAT1150 GMAT1200 GMAT1400 MATH1231	Survey Methods and Comps Visualisation of Spatial Data Land Studies in Geomatics Mathematics 1B or Higher	6 (5) 6 (4) 6 (5) 6 (6)		
Year 2							
GMAT2100 GMAT2700 MATH2829 PHYS2969	Elect Surv Instrumentation Geometry of Coord Ref Sys Statistics SU Physics of Measurements BA first level elective	6 (5) 6 (5) 3 (3) 3 (3) 6	GMAT2110 GMAT2200 MATH2019	Elect & GPS Positioning Tech Geog Info Systems & CAD Engineering Mathematics 2CF BA first level elective	6(5)		
Year 3							
GMAT2350 GMAT3200 GMAT3400	Comp for Spatial Info Sc Geospatial Info Tech & App Cadastral Surveying 1 BA electives Year 3 electives	3 6 3 6 6	GMAT2300 GMAT3500 GMAT3410	Analysis of Observations Photog & Rem Sensing Land Economics and Valuatio BA electives Year 3 electives	3 6 3 6 6		
Electives GMAT3100	Surveying Applications	6	GMAT3150	Field Projects	6		
BENV2901 CVEN0646	City Planning Today Water and Wastewater Eng	3	GMAT3450 CVEN0656	Cadastral Surveying 2 Soil and Pavement Eng	3		
Other electives are possible with the approval of the Head of School							
Year 4			<del></del>				
GMAT4000 GMAT4700 GMAT4850	Thesis Part A Project Management 1 Geomatic Eng for Sustainability BA electives Year 4 electives	3 3 3 6 9	GMAT4001 GMAT4750	Thesis Part B Project Management 2  BA electives Year 4 electives	9 3 6 6		
Electives							
GMAT4020 GMAT4400 GMAT4410 GMAT4900 GMAT9121 GEOG3911 Other elective	Any remaining year 3 elective Project in Geomatic Eng Land Mgt & Devel. Project 1 Land Subdiv & Develop Principles of GNSS Pos Network & Deformation Analy Environmental Impact Assess wes are possible with the approva	6	GMAT4020 GMAT4450 GMAT4910 GMAT9211 PLAN1022	Any remaining year 3 elective Project in Geomatic Eng Land Mgt & Devel. Project 2 Modern Nav & Pos Tech Introduction to Geodesy The Development Process	6 3 6 6 3		
Year 5							
	BA electives GMAT electives	12 12	BA electives GMAT elect		12 12		

### Bachelor of Engineering (Surveying & Spatial Information Systems) / Bachelor of Science (Computer Sc.)

Year 1	Session 1	UOC (HPW)		Session 2	UOC (HPW)		
GMAT1100 COMP1011 MATH1131 PHYS1189	Principles of Surveying Computing 1A Mathematics 1A or Higher Physics I (GE)	6(5) 6(6) 6(6) 6(6)	GMAT1150 COMP1021 MATH1231 GMAT	Survey Methods and Comps Computing 1B Mathematics 1B or Higher Year 1 GMAT elective	6 (5) 6 (6) 6 (6) 6 (4 or 5)		
Year 1 elective is either GMAT1400 Land Studies in Geomatics 6 (5), or GMAT1200 Visualisation of Spatial Data 6 (4)							
Year 2							
GMAT2100 GMAT2700 MATH2829 MATH1081 PHYS2969	Electr Surv Instrumentation Geometry of Coord Ref Sys Statistics SU Discrete Mathematics Physics of Measurements	6(5) 6(5) 3(3) 6(6) 3(3)	GMAT2110 GMAT2200 GMAT2300 COMP2011	Elect & GPS Positioning Tech Geog. Info. Systems & CAD Analysis of Observations Data Organisation Year 2 free elective	6(5) 6(5) 3(3) 6(5) 3(2)		
Year 3							
GMAT3200 GMAT3400 COMP2	Geospatial Info Tech & App Cadastral Surveying 1 A level 2 computing elective Year 3 electives	6 3 6	GMAT3410 GMAT3450 GMAT3500 COMP2	Land Econ & Valuation Cadastral Surveying 2 Photog & Rem Sensing A level 2 computing elective Year 3 electives	3 3 6 6 6		
Electives GMAT3100 BENV2901 CVEN0646	Surveying Applications City Planning Today Water & Wastewater Eng General Education	6 3 3 3	GMAT3150 CVEN0656	Field Projects Soil & Pavement Eng General Education	6 3 3		
Year 4							
GMAT4700 GMAT4850 COMP3 GMAT	Project Management 1 Geomatic Eng for Sustainability A level 3 computing elective Year 4 GMAT Electives	3 3 6 12	GMAT4750 COMP3 GMAT	Project Management 2 A level 3 computing elective  Year 4 GMAT Electives	3 6 15		
Electives GMAT4020 GMAT4410 GMAT4400 GMAT4900 GMAT9121	Project in Geomatic Eng Land Subdiv & Develop Land Mgt & Devel. Project 1 Principles of GNSS Pos Network & Deform Analysis	6 3 3 6 6	GMAT4020 GMAT4450 GMAT4910 GMAT9211	Project in Geomatic Eng Land Mgt & Devel. Project 2 Modern Nav & Pos Tech Introduction to Geodesy	6 3 6 6		
Year 5							
GMAT4000 COMP3	Thesis Part A 2 level 3 Comp Sci & Eng Elect Year 5 Electives	3 12 9	GMAT4001 COMP3	Thesis Part B A level 3 Comp Sci & Eng Elect Year 5 Electives	9 1 6 9		
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Year 5 electives may be chosen from any of the remaining GMAT year 4 electives or COMP level 3 or 4 courses.

COMP elective subjects: COMP2021, COMP2041, COMP2411, COMP3111, COMP3121, COMP3121, COMP3221, COMP3221, COMP3221, COMP3231, COMP3331, COMP3331, COMP3411, COMP3421, COMP3511.

Other electives or arrangements of electives are possible with the approval of the Head of School.

The School is the program authority. Students may choose to do 3 units of General Education in year 2 and another 3 units in year 3. It is possible to revert to the single BE degree, progress and conversion will be determined on an individual student basis by the program authority. 60 days Professional Practice experience is a requirement of this program.

# Bachelor of Engineering (Surveying & Spatial Information Sysytems) / Master of Commerce

Year 1	Session 1	OC (HPW)		Session 2	UOC(HPW)		
GMAT1100	Principles of Surveying	6(5)	GMAT1400	Land Studies in Geomatics	6(5)		
GMAT1300	Computing Applies in Geomatics	6(4)	GMAT1200	Visualisation of Spatial Data	6(4)		
MATH1131	Mathematics 1A or Higher	6(6)	MATH1231	Mathematics 1B or Higher	6(6)		
PHYS1189	Physics I (GE)	6(6)	GMAT1150	Survey Methods & Comps	6(5)		
Year 2							
GMAT2700	Geometry of Coord Ref Sys	6 (5)	GMAT2200	Geog Info Systems & CAD	6(5)		
GMAT2100	Electronic Surveying Instrumenta	tion 6(5)	GMAT2300	Analysis of Observations	3 (3)		
GMAT2350	Comp for Spatial Info Sc	3 (3)	GMAT2110	Elect & GPS Positioning Tech	6(5)		
MATH2829	Statistics SU	3 (3)	MATH2019	Engineering Mathematics 2CE	6(5)		
PHYS2969	Physics of Measurements	3 (3)		General Education	3 (2)		
	General Education	3 (2)					
Year 3							
GMAT3200	Geospatial Info Tech & App	6	GMAT3150	Field Projects	6		
GMAT3400	Cadastral Surveying 1	3	GMAT3410	Land Econ & Valuation	3		
	General Education	3	GMAT3500	Photog & Rem Sensing	6		
	Electives	12		General Education	3		
				Electives	6		
Electives							
CVEN0646	Water and Wastewater Eng	3	CVEN0656	Soil & Pavement Eng	3		
GMAT3100	Surveying Applications	6	GMAT3450	Cadastral Surveying 2	3		
BENV2901	City Planning Today	3					
Other electives with the approval of the Head of School							
Year 4							
	One MComm Course	6		Two MComm Course	12		
GMAT4850	Geomatic Eng for Sustainability	3	GMAT4750	Project Management 2	3		
	Electives	15		Electives	9		
Electives							
GMAT4000	Thesis Part A	3	GMAT4001	Thesis Part B	9		
GMAT4020	Project in Geomatic Eng	6	GMAT4450	Land Mgt & Devel Project 2	3		
GMAT4400	Land Mgt & Devel Project 1	3	GMAT4910	Modern Nav & Pos Tech	6		
GMAT4410	Land Subdivision and Developm	ent 3	PLAN1022	The Development Process	3		
GMAT4900	<u>-</u>	6	PLAN2012	Economic Dev Planning	3		
GEOG3911	Environmental Impact Assess	3	PLAN3032	Integrated Planning 3 – New De	ev 6		

Other electives with the approval of the Head of School.

### Year 5

Six non-core MComm electives

### Year 6

Two non-core MComm electives

60 days Professional Practice experience is a requirement of this program.