

## Bachelor of Engineering (Geomatic Eng.) Course Structure

The following is an outline of the four year BE degree course. A significant course revision took place several years ago. Minor adjustments to the course are made each year in order to keep the course content current.

### YEAR 1

SESSION 1		Hours per week	SESSION 2		Hours per week
GMAT1111	Introduction to Computing	4	GMAT2042	Professional Communications	3.5
GMAT1713	Introduction to Geomatic Eng.	3	GMAT2112	Principles of Com. Processing	3
MATH1131	Mathematics 1A	6	GMAT2131	Survey Computations	2.5
or MATH1141	Higher Mathematics 1A		GMAT2222	Introduction to Geodesy	2.5
PHYS1998	Physics I	6	GMAT2712	Introduction to Land Surveying	3
			MATH1231	Mathematics 1B	6
			or MATH1241	Higher Mathematics 1B	

### YEAR 2

SESSION 1		Hours per week	SESSION 2		Hours per week
GMAT3013	Surveying Instruments	4.5	GMAT4011	Surveying Techniques	5.5
GMAT3122	Computer Graphics 1	2.5	GMAT4052	Field Projects 1	2
GMAT3231	Geodetic Computations	2.5	GMAT4112	Data Analysis & Computing 1	3
MATH2009	Engineering Mathematics 2	4	GMAT4222	Geodetic Positioning	2.5
MATH2829	Statistics SU	3	GMAT4811	Land Economics & Valuation	2.5
PHYS2969	Physics of Measurements	3	MATH2009	Engineering Mathematics 2	4
	General Education	2		General Education	2

### YEAR 3

SESSION 1		Hours per week	SESSION 2		Hours per week
CIVL0646	Introduction to Water Engineering	3	CIVL0656	Introduction to Municipal Eng.	3
GMAT5011	Engineering Surveying	3.5	GMAT6052	Field Projects 2	4
GMAT5112	Data Analysis & Computing 2	2.5	GMAT6512	Principles of Image Geometry	3
GMAT5122	Computer Graphics 2	2.5	GMAT6522	Remote Sensing	3
GMAT5222	GPS Surveying	2.5	GMAT6532	Spatial Information Systems 1	3
GMAT5621	Cadastral Surveying 1	3	GMAT6621	Cadastral Surveying 2	3
PLAN3091	Planning Perspectives	2		General Education	2
	General Education	2			

### YEAR 4

SESSION 1		Hours per week	SESSION 2		Hours per week
GMAT7052	Field Projects 3	3	GMAT8001	Thesis	6
GMAT7512	Photogrammetry & Mapping	3	GMAT8011	Project Surveying	3
GMAT7532	Spatial Information Systems 2	2	GMAT8222	Physical and Space Geodesy	2.5
GMAT7612	Land Mgt & Devel Project 1	2	GMAT8311	Offshore Positioning	2.5
GMAT7722	Project Management 1	3	GMAT8612	Land Mgt & Devel Project 2	2
GMAT7811	Land Subdivision & Development	3	GMAT8711	Professional Practice	1
GMAT8001	Thesis	2	GMAT8722	Project Management 2	3
GMAT8711	Professional Practice	2			

## Bachelor of Engineering (Geomatic Eng), Bachelor of Science (Computer Science)

### YEAR 1

SESSION 1	Hours per week	SESSION 2	Hours per week		
PHYS1998	Physics 1	6	COMP1011	Computing 1A	6
MATH1131	Mathematics 1A	6	MATH1231	Mathematics 1B	6
or MATH1141	Higher Mathematics 1A		or MATH1241	Higher Mathematics 1B	
GMAT1111	Introduction to Computing	4	GMAT2042	Professional Communications	3.5
GMAT1713	Introduction to Geomatic Eng	3	GMAT2131	Survey Computations	2.5
			GMAT2222	Introduction to Geodesy	2.5
			GMAT2712	Introduction to Land Surveying	3

### YEAR 2

SESSION 1	Hours per week	SESSION 2	Hours per week		
COMP1021	Computing 1B	6	MATH2501	Pure Maths. 2-Linear Algebra	2.5
MATH2501	Pure Maths. 2-Linear Algebra	2.5	MATH2520	Pure Maths. 2-Complex Analysis	2.5
MATH2510	Pure Maths. 2- Real Analysis	2.5	MATH2841	Statistics SS	2
MATH2841	Statistics SS	2	GMAT4011	Surveying Techniques	5.5
GMAT3013	Surveying Instruments	4.5	GMAT4052	Field Projects 1	2
GMAT3122	Computer Graphics 1	2.5	GMAT4112	Data Analysis and Computing 1	3
GMAT3231	Geodetic Computations	2.5	GMAT4222	Geodetic Positioning	2.5
PHYS2969	Physics of Measurements	3	GMAT4811	Land Economics & Valuation	2.5

### YEAR 3

SESSION 1	Hours per week	SESSION 2	Hours per week		
GMAT5011	Engineering Surveying	3.5	GMAT6052	Field Projects 2	4
GMAT5112	Data Analysis and Computing 2	2.5	GMAT6512	Principles of Image Geometry	3
GMAT5222	GPS Surveying	2.5	GMAT6522	Remote Sensing	3
GMAT5621	Cadastral Surveying 1	3	GMAT6532	Spatial Information Systems 1	3
MATH2100	Applied Mathematics 2	2	GMAT6621	Cadastral Surveying 2	3
	Vector Calculus		CIVL0656	Intro to Municipal Engineering	3
MATH2120	Applied Mathematics 2	2	COMP2011	Data Organization	5
	Math. Methods for Diff. Eqns				
PLAN3091	Planning Perspectives	2			
CIVL0646	Intro to Water Eng	3			

### YEAR 4

SESSION 1	Hours per week	SESSION 2	Hours per week		
GMAT7052	Field Projects 3	3	GMAT8001	Thesis	6
			GMAT8011	Project Surveying	3
GMAT7512	Photogrammetry & Mapping	3	GMAT8222	Physical & Space Geodesy	2.5
GMAT7532	Spatial Information Systems 2	2	GMAT8311	Offshore Positioning	2.5
GMAT7612	Land Management and	2	GMAT8612	Land Management & Dev Proj	2
	Development Project		GMAT8711	Professional Practice	1
GMAT7722	Project Management 1	3	GMAT8722	Project Management 2	3
GMAT7811	Land Subdivision & Dev Project	3		Gen Ed Cat B	2
GMAT8001	Thesis	2			
GMAT8711	Professional Practice	2			
	Gen Ed Cat B	2			

### YEAR 5

SESSION 1	Hours per week	SESSION 2	Hours per week		
COMP2021	Digital Systems Structures	5	COMP2031	Concurrent Computing	5
COMP3111	Software Engineering	5	COMP3421	Computer Graphics	5
COMP3121	Algorithms and Programming	5	COMP3311	Database Systems	5
	Techniques			Elective	5
	Elective	5			

Years 4 and 5 above could be attempted in the reverse order.

## Bachelor of Engineering (Geomatic Eng), Bachelor of Arts

### YEAR 1

SESSION 1		Hours per week	SESSION 2		Hours per week
GMAT1111	Introduction to Computing	4	GMAT2042	Professional Communications	3.5
GMAT1713	Introduction to Geomatic Eng	3	GMAT2112	Principles of Computer Processing	3
MATH1131	Mathematics 1A	6	GMAT2131	Survey Computations	2.5
or MATH1141	Higher Mathematics 1A		GMAT2222	Introduction to Geodesy	2.5
PHYS1998	Physics I	6	GMAT2712	Introduction to Land Surveying	3
			MATH1231	Mathematics 1B	6
			or MATH1241	Higher Mathematics 1B	

### YEAR 2

SESSION 1		Hours per week	SESSION 2		Hours per week
GMAT3013	Surveying Instruments	4.5	GMAT4011	Surveying Techniques	5.5
GMAT3122	Computer Graphics 1	2.5	GMAT4052	Field Projects 1	2
GMAT3231	Geodetic Computations	2.5	GMAT4112	Data Analysis & Computing 1	3
MATH2009	Engineering Mathematics 2	4	GMAT4222	Geodetic Positioning	2.5
MATH2829	Statistics SU	3	GMAT4811	Land Economics & Valuation	2.5
PHYS2969	Physics of Measurements	3	MATH2009	Engineering Mathematics 2	4
	Gen Ed Cat A	2		Gen Ed Cat A	2

### YEAR 3

SESSION 1		Hours per week	SESSION 2		Hours per week
CIVL0646	Introduction to Water Engineering	3	CIVL0656	Introduction to Municipal Eng	3
GMAT5011	Engineering Surveying	3.5	GMAT6052	Field Projects 2	4
GMAT5112	Data Analysis & Computing 2	2.5	GMAT6512	Principles of Image Geometry	3
GMAT5122	Computer Graphics 2	2.5	GMAT6522	Remote Sensing	3
GMAT5222	GPS Surveying	2.5	GMAT6532	Spatial Information Systems 1	3
GMAT5621	Cadastral Surveying 1	3	GMAT6621	Cadastral Surveying 2	3
PLAN3091	Planning Perspectives	2		Gen Ed Cat B	2
	Gen Ed Cat B	2			

### YEAR 4

SESSION 1		Hours per week	SESSION 2		Hours per week
GMAT7052	Field Projects 3	3	GMAT8001	Thesis	6
GMAT7512	Photogrammetry & Mapping	3	GMAT8011	Project Surveying	3
GMAT7532	Spatial Information Systems 2	2	GMAT8222	Physical and Space Geodesy	2.5
GMAT7612	Land Mgt & Devel Project 1	2	GMAT8311	Offshore Positioning	2.5
GMAT7722	Project Management 1	3	GMAT8612	Land Mgt & Devel Project 2	2
GMAT7811	Land Subdivision & Development	3	GMAT8711	Professional Practice	1
GMAT8001	Thesis	2	GMAT8722	Project Management 2	3
GMAT8711	Professional Practice	2			

### YEAR 5

36 Credits towards BA

Years 4 and 5 can be attempted in the reverse order.