

# FACULTY OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES



## 2017 STUDY PLAN

FOR ADVANCED STANDING - OFFICE USE ONLY								
<input checked="" type="checkbox"/> Please mark the box to indicate advanced standing granted (use <b>CONDITIONAL</b> to denote conditional advanced standing)								
Unspecified Elective Credit:	Level 1:	units	Level 2:	units	Level 3:	units	Level 4:	units
Student ID Number:			Student Name:			Date: 1/12/16		
Assessor Name:			Advanced Standing Granted: units			Remaining Program Duration: 5 years		
Applicant's Previous Institution:			Applicant's Previous Qualification:					
Assessor's Comments:								

This study plan should be used to guide enrolment for the current academic year. Some students may need to modify their enrolment based on previous study (e.g. students granted advanced standing/credit, students repeating previously failed courses).

BACHELOR OF ENGINEERING (HONOURS) (CIVIL & STRUCTURAL) WITH BACHELOR OF MATHEMATICAL & COMPUTER SCIENCES (Maths Major)					
YEAR 1	S1	GEOLOGY 1104 Geology for Engineers I (3 units) <input type="checkbox"/>	C&ENVENG 1010 Engineering Mechanics - Statics (3 units) <input type="checkbox"/>	C&ENVENG 1008 Engineering Planning & Design I(3 units) <input type="checkbox"/>	MATHS 1011 Mathematics IA (3 units)# <input type="checkbox"/>
	S2	C&ENVENG 1012 Engineering Modelling & Analysis I (3 units) <input type="checkbox"/>	C&ENVENG 1009 Civil & Environmental Engineering I (3 units) <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics - Dynamics (3 units) <input type="checkbox"/>	MATHS 1012 Mathematics IB (3 units) <input type="checkbox"/>
YEAR 2	S1	C&ENVENG 2071 Water Engineering II (3 units) <input type="checkbox"/>	C&ENVENG 2068 Environmental Engineering & Sustainability II (3 units) <input type="checkbox"/>	C&ENVENG 2025 Strength of Materials II (3 units) <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA (3 units) <input type="checkbox"/>
	S2	C&ENVENG 2070 Engineering Modelling & Analysis II (3 units) <input type="checkbox"/>	C&ENVENG 2069 Geotechnical Engineering II (3 units) <input type="checkbox"/>	C&ENVENG 2030 Structural Mechanics (3 units) <input type="checkbox"/>	MATHS 2202 Engineering Mathematics IIB (3 units) <input type="checkbox"/>
YEAR 3	S1	C&ENVENG 3005 Reinforced Concrete Design (3 units) <input type="checkbox"/>	C&ENVENG 3001 Structural Mechanics III (3 units) <input type="checkbox"/>	C&ENVENG 3077 Engineering Hydrology (3 units) <input type="checkbox"/>	C&ENVENG 3029 Environmental Modelling & Management Or CHEM ENG 4051 Water & Wastewater Engineering (3 units) <input type="checkbox"/>
	S2	C&ENVENG 3222 Research Methodologies and Project Management (3 units) <input type="checkbox"/>	C&ENVENG 3012 Geotechnical Engineering Design III (3 units) <input type="checkbox"/>	C&ENVENG 3007 Structural Steel Design (3 units) <input type="checkbox"/>	C&ENVENG 3079 Water Engineering & Design III (3 units) <input type="checkbox"/>

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YEAR 4	S1	C&ENVENG 4222A Research Project Part A: Civil (3 units) <input type="checkbox"/>	C&ENVENG 4034 Engineering Management IV (3 units) <input type="checkbox"/>	C&ENVENG 4041 Structural Design Practice (3 units) <input type="checkbox"/>	Engineering Elective (3 units) <input type="checkbox"/>
	S2	C&ENVENG 4222B Research Project Part B: Civil (3 units) <input type="checkbox"/>	C&ENVENG 4068 Computer Methods of Structural Analysis (3 units) <input type="checkbox"/>	Engineering Elective (3 units) <input type="checkbox"/>	Engineering Elective (3 units) <input type="checkbox"/>
YEAR 5	S1	Level III Maths Elective (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>	Level II or III Mathematics Elective (3 units) <input type="checkbox"/>
	S2	Level III Maths Elective (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>	Level II or III Mathematics Elective (3 units) <input type="checkbox"/>

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

SEMESTER 1	C&ENVENG 4112 Advanced Civil Geotechnical Engineering (3 units) <input type="checkbox"/>	C&ENVENG 4107 Prestressed Concrete Structures (3 units) <input type="checkbox"/>	C&ENVENG 4097 Analysis of Rivers & Sediment Transport (3 units) <input type="checkbox"/> <b>^NOT OFFERED 2017</b>	MINING 3072 Mining Geomechanics (3 units) <input type="checkbox"/>
	C&ENVENG 4073 Water Distribution Systems & Design (3 units) <input type="checkbox"/>	C&ENVENG 4108 Environmental Systems Dynamics (3 units) <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering (3 units) <input type="checkbox"/>	C&ENVENG 3029 Environmental Modelling & Management (3 units) <input type="checkbox"/>
	C&ENVENG 4069 Advanced Reinforced Concrete (3 units) <b>^NOT OFFERED 2017</b> <input type="checkbox"/>	C&ENVENG 4056 Linear Geostatistics (3 units)** <input type="checkbox"/>	Level II or III Mathematics Course (3 units) <input type="checkbox"/>	<input type="checkbox"/>
WINTER	C&ENVENG 4114 Advanced Hydrological Modelling & Water Resource Management (3 units) <input type="checkbox"/>	C&ENVENG 4113EX Christchurch Earthquake Study Tour (3 units) <b>^NOT OFFERED 2017</b> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SEMESTER 2	C&ENVENG 4110 Soil & Groundwater Remediation (3 units) <input type="checkbox"/>	C&ENVENG 4070 Seismic Design of Masonry Buildings (3 units) <input type="checkbox"/>	C&ENVENG 4115 Advanced Topics in Flood Hydrology (3 units) <input type="checkbox"/>	C&ENVENG 4109 Designing Water Resource Systems for Urban Environments (3 units) <input type="checkbox"/>
	ENTREP 3900 Entrepreneur's Challenge (3 units) <input type="checkbox"/>	C&ENVENG 4111 Structural Dynamics & Applications (3 units) <input type="checkbox"/>	C&ENVENG 4085 Traffic Engineering (3 units) <input type="checkbox"/>	Level II or III Mathematics Course (3 units) <input type="checkbox"/>

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	C&ENVENG 4042 Design of Steel Concrete Composites (3 units) <input type="checkbox"/>			
SUMMER	C&ENVENG 4106 Introduction to Geostatistics (3 units)** <input type="checkbox"/>	SOIL&WAT 3007WT GIS for Environmental Management III <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#Students who have not passed SACE Stage 2 Specialist Maths are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. The satisfactory completion of MATHS 1013 Mathematics IM is in addition to the normal requirements of this program. Students may manage their enrolment by enrolling in MATHS 1013 Mathematics IM in semester I, followed by MATHS 1011 Mathematics IA in semester 2, and MATHS 1012 Mathematics IB in Summer.

Mathematics electives may be chosen from those listed in the Program Rules for the degree of Bachelor of Mathematical and Computer Sciences.

\*\*C&ENVENG 4106 Introduction to Geostatistics is a pre-requisite to C&ENVENG 4056 Linear Geostatistics.

### RESEARCH PROJECT INFORMATION

The 9 unit Research project must be undertaken in three consecutive semesters. Students form their groups and formulate their Research Proposal in C&ENVENG 3222. The group then develop the Research Project in C&ENVENG 4222A Part A and C&ENVENG 4222B Part B.

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BACHELOR OF ENGINEERING (HONOURS) (CIVIL & STRUCTURAL) WITH BACHELOR OF MATHEMATICAL & COMPUTER SCIENCES (Maths Major) – Semester 2 Start					
YEAR 1	S 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		C&ENVENG 1012 Engineering Modelling & Analysis I (3 units) <input type="checkbox"/>	C&ENVENG 1009 Civil & Environmental Engineering I (3 units) <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics - Dynamics (3 units) <input type="checkbox"/>	MATHS 1011 Mathematics IA (3 units)# <input type="checkbox"/>
YEAR 2	S 1	GEOLOGY 1104 Geology for Engineers I (3 units) <input type="checkbox"/>	C&ENVENG 1010 Engineering Mechanics - Statics (3 units) <input type="checkbox"/>	C&ENVENG 1008 Engineering Planning & Design I(3 units) <input type="checkbox"/>	MATHS 1012 Mathematics IB (3 units) <input type="checkbox"/>
	S 2	C&ENVENG 2070 Engineering Modelling & Analysis II (3 units) <input type="checkbox"/>	C&ENVENG 2069 Geotechnical Engineering II (3 units) <input type="checkbox"/>	C&ENVENG 2030 Structural Mechanics (3 units) <input type="checkbox"/>	Level II or III Mathematics Elective (3 units) <input type="checkbox"/>
YEAR 3	S 1	C&ENVENG 2071 Water Engineering II (3 units) <input type="checkbox"/>	C&ENVENG 2068 Environmental Engineering & Sustainability II (3 units) <input type="checkbox"/>	C&ENVENG 2025 Strength of Materials II (3 units) <input type="checkbox"/>	MATHS 2201 Engineering Mathematics IIA (3 units) <input type="checkbox"/>
	S 2	C&ENVENG 3079 Water Engineering & Design III (3 units) <input type="checkbox"/>	C&ENVENG 3012 Geotechnical Engineering Design III (3 units) <input type="checkbox"/>	Level II or III Mathematics Elective (3 units) <input type="checkbox"/>	MATHS 2202 Engineering Mathematics IIB (3 units) <input type="checkbox"/>
YEAR 4	S 1	C&ENVENG 3005 Reinforced Concrete Design (3 units) <input type="checkbox"/>	C&ENVENG 3001 Structural Mechanics III (3 units) <input type="checkbox"/>	C&ENVENG 3077 Engineering Hydrology (3 units) <input type="checkbox"/>	C&ENVENG 3029 Environmental Modelling & Management <input type="checkbox"/>

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					or CHEM ENG 4051 Water & Wastewater Engineering (3 units)
	S 2	C&ENVENG 3222 Research Methodologies and Project Management (3 units) <input type="checkbox"/>	C&ENVENG 3007 Structural Steel Design (3 units) <input type="checkbox"/>	Engineering Elective (3 units) <input type="checkbox"/>	Engineering Elective (3 units) <input type="checkbox"/>
YEAR 5	S 1	C&ENVENG 4222A Research Project Part A: Civil (3 units) <input type="checkbox"/>	C&ENVENG 4034 Engineering Management IV (3 units) <input type="checkbox"/>	C&ENVENG 4041 Structural Design Practice (3 units) <input type="checkbox"/>	Engineering Elective (3 units) <input type="checkbox"/>
	S 2	C&ENVENG 4222B Research Project Part B: Civil (3 units) <input type="checkbox"/>	C&ENVENG 4068 Computer Methods of Structural Analysis (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>
YEAR 6	S 1	Level III Maths Elective (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>	Level III Maths Elective (3 units) <input type="checkbox"/>

CHOOSE FROM THE FOLLOWING ENGINEERING ELECTIVES

SEMESTER 1	C&ENVENG 4112 Advanced Civil Geotechnical Engineering (3 units) <input type="checkbox"/>	MINING 3072 Mining Geomechanics (3 units) <input type="checkbox"/>	Level II or III Mathematics Course (3 units) <input type="checkbox"/>	C&ENVENG 4107 Prestressed Concrete Structures (3 units) <input type="checkbox"/>
	C&ENVENG 4073 Water Distribution Systems & Design (3 units) <input type="checkbox"/>	C&ENVENG 4108 Environmental Systems Dynamics (3 units) <input type="checkbox"/>	CHEM ENG 4051 Water & Wastewater Engineering (3 units) <input type="checkbox"/>	C&ENVENG 3029 Environmental Modelling & Management (3 units) <input type="checkbox"/>
	C&ENVENG 4069 Advanced Reinforced Concrete (3 units) <b>^NOT OFFERED 2017</b> <input type="checkbox"/>	C&ENVENG 4056 Linear Geostatistics (3 units)** <input type="checkbox"/>	C&ENVENG 4097 Analysis of Rivers & Sediment Transport (3 units) <input type="checkbox"/>	<b>^NOT OFFERED 2017</b>
WINTER	C&ENVENG 4114 Advanced Hydrological Modelling & Water Resource Management (3 units) <input type="checkbox"/>	C&ENVENG 4113EX Christchurch Earthquake Study Tour (3 units) <b>^NOT OFFERED 2017</b> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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SEMESTER 2	C&ENVENG 4110 Soil & Groundwater Remediation (3 units) <input type="checkbox"/>	C&ENVENG 4070 Seismic Design of Masonry Buildings (3 units) <input type="checkbox"/>	C&ENVENG 4115 Advanced Topics in Flood Hydrology (3 units) <input type="checkbox"/>	C&ENVENG 4109 Designing Water Resource Systems for Urban Environments (3 units) <input type="checkbox"/>
	C&ENVENG 4111 Structural Dynamics & Applications (3 units) <input type="checkbox"/>	C&ENVENG 4085 Traffic Engineering (3 units) <input type="checkbox"/>	Level II or III Mathematics Course (3 units) <input type="checkbox"/>	ENTREP 3900 Entrepreneur's Challenge (3 units) <input type="checkbox"/>
	C&ENVENG 4042 Design of Steel Concrete Composites (3 units) <input type="checkbox"/>			
SUMMER	C&ENVENG 4106 Introduction to Geostatistics (3 units)** <input type="checkbox"/>	SOIL&WAT 3007WT GIS for Environmental Management III <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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\*\*C&ENVENG 4106 Introduction to Geostatistics is a pre-requisite to C&ENVENG 4056 Linear Geostatistics.