Bachelor of Civil Engineering (Honours)/Bachelor of Mathematics
STUDIES IN MATHEMATICS & STATISTICS MAJOR
MATH1210 & MATH1220 PATHWAY

Commencing in Semester 1, 2017 to 2019
Studying at Callaghan

This Program Plan is an enrolment guide to ensure you are on track to graduate. If at any time you wish to vary from this program plan seek prior advice from your Program Advisor to ensure you remain on track.

Program Plan Key: = Core = Directed = Elective = Civil Engineering Project = Compulsory Program Requirement

Year 1
Semester 1
- ENGG1500 Introduction to Professional Engineering
- PHYS1205 Fundamentals of Engineering Physics
- SURV1200 Introduction to Surveying
- MATH1210 Mathematical Discovery 1

Semester 2
- CIVL1100 Fundamentals of Engineering Mechanics
- CIVL1200 Earth Systems
- ENGG1002 Introduction to Engineering Computations
- MATH1220 Mathematical Discovery 2

Year 2
Semester 1
- CIVL2040 Engineering Probabilities
- CIVL2060 Numerical Methods
- CIVL2130 Theory of Structures 1
- MATH2310 Calculus of Science and Engineering

Semester 2
- MATH1800 Mathematical Modelling
- CIVL2240 Civil Engineering Materials
- CIVL2720 Transportation Engineering and Design
- CIVL2282 Introduction to Geomechanics

Year 3
Semester 1
- ENGG2500 Sustainable Engineering Practice
- CIVL3180 Theory of Structures 2
- CIVL3280 Geomechanics 2
- DIRECTED 2000 level

Semester 2
- CIVL2310 Fluid Mechanics
- MATH2320 Linear Algebra
- ELECTIVE
- STAT2010 Fundamentals of Statistics

Year 4
Semester 1
- CIVL3170 Steel Design
- CIVL4330 Hydrology
- DIRECTED 3000 level
- DIRECTED 3000 level

Semester 2
- CIVL3160 Reinforced Concrete Design
- CIVL3840 Advanced Analysis for Design
- CIVL4450 Water Engineering
- DIRECTED 3000 level

Year 5
Semester 1
- ENGG3500 Managing Engineering Projects
- CIVL4201 Geotechnical and Geoenvironmental Engineering
- CIVL4640 Project S1
- ELECTIVE

Semester 2
- Civil Engineering Project #
- Civil Engineering Project #
- DIRECTED 3000 level
- ELECTIVE

Professional Practice: Industrial Experience 12 weeks

Information correct as of November 2018 and subject to change. Program Code: 40084 CRICOS Code: 088938M CRICOS Provider: 00109J
To be eligible to graduate make sure you have completed 400 units (10 units = 1 course unless otherwise specified) which meet the following criteria:

- **Core courses – 300 units.**
  - **PHYS courses. Students may choose to undertake PHYS1210 Advanced Physics 1 in lieu of PHYS1205 with Program Convenor approval. Students who have completed PHYS1210 who have transferred to a program that requires PHYS1205 can count PHYS1210 in lieu of PHYS1205.**

- **Directed courses – 50 units of Mathematics Directed Courses.** (10 units at a 2000 level and 40 units at a 3000 level including at least one of MATH3120, MATH3170, MATH3840 and MATH3850).

- **Civil Engineering Project - 20 units. Students are required to complete 20 units selected from: – CIVL4521 (10 units), CIVL4541 (10 units) or CIVL4571 (10 units).**

- **Elective – 30 units, visit the Program Handbook for more information.**

- **Students must not exceed 120 units at 1000 level in this program.**

- **It is also a requirement that students complete a total of 12 weeks of industrial experience.**

- **The duration of this program is 5 years full time (40 units per semester) or part time equivalent.**

- **The maximum time to complete this program is 12 years.**

Some courses have assumed knowledge and/or requisites, please refer to the individual Course Handbook.

The Program Handbook has valuable information on program structure and requirements, if you are intending on studying part time or varying from this program plan please seek prior advice from your Program Advisor.
### Bachelor of Civil Engineering (Honours)/Bachelor of Mathematics – Directed Courses

Subject to change - Please refer to the program handbook for up to date information.

| Choose 10 units from this list of Mathematics 2000 level directed courses | MATH2330 Analysis  
<table>
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<tr>
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<tbody>
<tr>
<td></td>
<td>STAT2000 Applied Statistics and Research Methods</td>
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Choose 40 units from this List of Mathematics 3000 level directed courses, including at least one of either MATH3120, MATH3170, MATH3840 or MATH3850

| Choose 40 units from this List of Mathematics 3000 level directed courses, including at least one of either MATH3120, MATH3170, MATH3840 or MATH3850 | MATH3120 Algebra  
|---|---|
| | MATH3170 Number Theory  
| | MATH3180 Topology  
| | MATH3205 Fourier Analysis  
| | MATH3210 Directed Studies in Mathematics  
| | MATH3400 Research Topics in Mathematics  
| | MATH3510 Combinatorics and Graph Theory  
| | MATH3700 Advanced Differential Equations  
| | MATH3800 Optimisation  
| | MATH3840 Optimisation in Business and Industry  
| | MATH3850 Industrial Project  
| | STAT3010 Statistical Inference  
| | STAT3030 Generalised Linear Models  
| | STAT3040 Time Series Analysis  
| | STAT3100 Systems Thinking for an Integrated Workforce  
| | STAT3120 Applied Bayesian Methods  
| | STAT3170 Surveys and Experiments  
| | STAT3990 Topics in Statistics  

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### Helpful Hints & Tips

<table>
<thead>
<tr>
<th>ENROLMENT HELP</th>
<th>INFO FOR NEW STUDENTS</th>
<th>UNDERSTANDING COURSES &amp; PROGRAMS</th>
<th>PRIOR STUDY</th>
<th>CONSIDERING A BREAK?</th>
<th>MORE QUESTIONS?</th>
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</thead>
<tbody>
<tr>
<td><img src="image" alt="Helpful Hints &amp; Tips" /></td>
<td>First year undergraduate students usually only enrol in 1000 level courses</td>
<td>Not sure what courses to study?</td>
<td>Check you have met the assumed knowledge and requisites for courses before enrolling</td>
<td>Need to take a break? This is called a 'leave of absence'. Check if you are eligible</td>
<td>We are here to answer questions about your program. Talk to us your way!</td>
</tr>
<tr>
<td><img src="image" alt="Helpful Hints &amp; Tips" /></td>
<td>New Postgraduate students should only enrol in 6000 level courses</td>
<td>Understanding program and course jargon</td>
<td>Have you studied elsewhere or transferred programs? Don't forget to apply for credit</td>
<td>Planning on going overseas? Keep electives free, so it's easier for you to receive credit for your overseas studies</td>
<td>Ask UON</td>
</tr>
<tr>
<td><img src="image" alt="Helpful Hints &amp; Tips" /></td>
<td>Find out all you need to know about getting started at uni</td>
<td>Understanding UON Jargon</td>
<td></td>
<td>UON offers a range of support services to assist with your health and wellbeing</td>
<td>1300 ASK UON</td>
</tr>
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<td><img src="image" alt="Helpful Hints &amp; Tips" /></td>
<td>It is important to follow this Program Plan. You cannot repeat a course you've passed to try and get a better grade. You cannot enrol in any extra courses not required by your program</td>
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<td>Visit Student Central</td>
</tr>
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