

# 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.

### Semester 1

### Semester 2

Year	Semester 1				Semester 2			
Year 1	<b>ENGG1500</b> Introduction to Professional Engineering	<b>PHYS1205**</b> Fundamentals of Engineering Physics	<b>SURV1200</b> Introduction to Surveying	<b>MATH1210</b> Mathematical Discovery 1	<b>CIVL1100</b> Fundamentals of Engineering Mechanics	<b>CIVL1200</b> Earth Systems	<b>ENGG1002</b> Introduction to Engineering Computations	<b>MATH1220</b> Mathematical Discovery 2
Year 2	<b>CIVL2040</b> Engineering Probabilities	<b>CIVL2060</b> Numerical Methods	<b>CIVL2130</b> Theory of Structures 1	<b>MATH2310</b> Calculus of Science and Engineering	<b>MATH1800</b> Mathematical Modelling	<b>CIVL2240</b> Civil Engineering Materials	<b>CIVL2720</b> Transportation Engineering and Design	<b>CIVL2282</b> Introduction to Geomechanics
Year 3	<b>ENGG2500</b> Sustainable Engineering Practice	<b>CIVL3180</b> Theory of Structures 2	<b>CIVL3280</b> Geomechanics 2	<b>DIRECTED</b> 2000 level	<b>CIVL2310</b> Fluid Mechanics	<b>MATH2320</b> Linear Algebra	<b>ELECTIVE</b>	<b>STAT2010</b> Fundamentals of Statistics
Year 4	<b>CIVL3170</b> Steel Design	<b>CIVL4330</b> Hydrology	<b>DIRECTED</b> 3000 level	<b>DIRECTED</b> 3000 level	<b>CIVL3160</b> Reinforced Concrete Design	<b>CIVL3840</b> Advanced Analysis for Design	<b>CIVL4450</b> Water Engineering	<b>DIRECTED</b> 3000 level
Year 5	<b>ENGG3500</b> Managing Engineering Projects	<b>CIVL4201</b> Geotechnical and Geoenvironmental Engineering	<b>CIVL4640</b> Project S1	<b>ELECTIVE</b>	<b>Civil Engineering Project #</b>	<b>Civil Engineering Project #</b>	<b>DIRECTED</b> 3000 level	<b>ELECTIVE</b>

Professional Practice: Industrial Experience 12 weeks

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

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.

# Term offerings for Project Core Courses are subject to change.

✓ 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  
[STAT2000](#) Applied Statistics and Research Methods

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

# Helpful Hints & Tips

## ENROLMENT HELP



Need help? >>  
**Ask UON >>**



How do I use the Web Timetable? >>

### RULES

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 >>

## INFO FOR NEW STUDENTS



First year undergraduate students usually only enrol in 1000 level courses >>

New Postgraduate students should only enrol in 6000 level courses >>



Find out all you need to know about getting started at uni >>

## UNDERSTANDING COURSES & PROGRAMS



Not sure what courses to study? >>



Understanding program and course jargon >>



Understanding UON Jargon >>

## PRIOR STUDY



Check you have met the assumed knowledge and requisites for courses before enrolling >>



Have you studied elsewhere or transferred programs? Don't forget to apply for credit >>

## CONSIDERING A BREAK?



Need to take a break? This is called a 'leave of absence'. Check if you are eligible >>



Planning on going overseas? Keep electives free, so it's easier for you to receive credit for your overseas studies >>



UON offers a range of support services to assist with your health and wellbeing >>

## MORE QUESTIONS?

We are here to answer questions about your program. Talk to us your way!

- Ask UON
- 1300 ASK UON
- Visit Student Central
- Message us on Facebook
- or Twitter
- UONline via myUON