

# Bachelor of Computer Systems Engineering (Honours)/Bachelor of Mathematics

## MATHEMATICS AND STATISTICS MAJOR

 **Commencing in Semester 2, 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.

See the next page for some helpful hints & tips!








### Semester 1

### Semester 2

Year 1				
Year 2	<a href="#">ENGG1003</a> Introduction to Procedural Programming	<a href="#">ENGG1500</a> Introduction to Professional Engineering	<a href="#">SENG1110</a> Object Oriented Programming	<a href="#">MATH1210*</a> (standard pathway) Or <a href="#">MATH1110*</a> (alternative pathway)
Year 3	<a href="#">ELEC2320</a> Electrical and Electronic Circuits	<a href="#">ELEC2720</a> Introduction to Embedded Computing	<a href="#">MATH2310</a> Calculus of Science and Engineering	<a href="#">ELECTIVE</a> (standard pathway) Or <a href="#">MATH2340</a> (alternative pathway)
Year 4	<a href="#">ENGG2500</a> Sustainable Engineering Practice	<a href="#">ELEC3730</a> Digital and Computer Electronics 2	<a href="#">DIRECTED</a> Maths 2000 level	<a href="#">ELECTIVE</a>
Year 5	<a href="#">SENG2050</a> Web Engineering	<a href="#">ENGG3500</a> Managing Engineering Projects	<a href="#">DIRECTED</a>	<a href="#">ELECTIVE</a>
Year 6	<a href="#">ELEC4840B</a> Final Year Engineering Project Part B (20 units) <i>This course <b>must</b> be taken following ELEC4840A</i>		<a href="#">DIRECTED</a> Maths 3000 level	<a href="#">DIRECTED</a> Maths 3000 level

<a href="#">ELEC1310</a> Introduction to Electrical Engineering	<a href="#">ELEC1710</a> Digital and Computer Electronics 1	<a href="#">MATH1800</a> Mathematical Modelling	<a href="#">PHYS1220</a> Advanced Physics II
<a href="#">SENG1120</a> Data Structures	<a href="#">STAT2110</a> Engineering Statistics	<a href="#">ELEC2430</a> Circuits and Signals	<a href="#">MATH1220</a> (standard pathway) Or <a href="#">MATH1120</a> (alternative pathway)
<a href="#">SENG2250</a> System and Network Security	<a href="#">MATH2320</a> Linear Algebra	<a href="#">ELEC3240</a> Analog Electronics	<a href="#">ELECTIVE</a>
<a href="#">ELEC3850</a> Electrical Engineering Design & Practice	<a href="#">ELEC3540</a> Analog and Digital Communications	<a href="#">ELEC3500</a> Telecommunication Networks	<a href="#">DIRECTED</a> Maths 3000 level
<a href="#">ELEC4840A</a> Final Year Engineering Project Part A	<a href="#">ENGG4500</a> Engineering Complexity	<a href="#">ELEC4720</a> Programmable Logic Design	<a href="#">DIRECTED</a> Maths 3000 level

Program Plan Key:  = Core  = Major  = Elective  
 = Directed  = [Compulsory Program Requirement](#)

Professional Practice: Industrial Experience 12 weeks

To be eligible to graduate make sure you have completed 410 units (10 units = 1 course unless otherwise specified) which meet the following criteria:

- ✓ Core courses - 300 units.
  - \*Enrolment in Core MATH courses is based on your assumed knowledge. To find out which MATH courses you should enrol in please see the [Enrolling in Maths information](#). More information in your [Program Handbook](#).
  - Students may enrol in the *Standard Maths Pathway*, consisting of MATH1210 and MATH1220, or the *Alternative Maths Pathway*, consisting of MATH1110, MATH1120 and MATH2430. Students enrolling in the Alternative Pathway will complete MATH2430 in place of 10 units of electives.
- ✓ Directed Courses – 10 units, visit the [Program Handbook](#) for more information.
- ✓ Major courses – 60 units. Consisting of:
  - 10 units of 2000 level directed courses for the Mathematics and Statistics major
  - 50 units of 3000 level directed courses for the Mathematics and Statistics major
- ✓ Elective courses – 40 units. Refer to the [Program Handbook](#) for the list of Directed courses.
- ✓ 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 Computer Systems Engineering (Honours) / Bachelor of Mathematics

## Mathematics and Statistics Major

### Directed Courses

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

Choose **10 units** from this list of Mathematics and Statistics 2000 level directed courses

- [MATH2330](#) Analysis
- [MATH2730](#) Operations Research 1
- [STAT2000](#) Applied Statistics and Research Methods

Choose **50 units** from this List of Mathematics and Statistics 3000 level directed courses.

*Note: must include 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
- [MATH3242](#) Complex Analysis
- [MATH3400](#) Research Topics in Mathematics
- [MATH3510](#) Combinatorics and Graph Theory
- [MATH3700](#) Advanced Differential Equations
- [MATH3820](#) Numerical Methods
- [MATH3830](#) Operations Research 2
- [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

Choose **10 units** from this list of Engineering directed courses

- [ELEC3400](#) Signal Processing
- [ELEC4210](#) Electronics Design
- [ELEC4700](#) Advanced Computer Systems
- [PHYS3360](#) Advanced Electromagnetism

# 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

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