

Bachelor of Mechatronics Engineering (Honours)/ Bachelor of Mathematics

Studies in Mathematics & Statistics major

MATH1110 & MATH1120 pathway



Commencing in Semester 2 2017/18



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 1

CIVL1100 Fundamentals of Engineering Mechanics	MATH1110 * Mathematics for Engineering, Science and Technology 1	MECH1110 Mechanical Drawing/CAD and Workshop Practice	PHYS1210 Advanced Physics I <i>May count PHYS1205 in lieu with convenor approval</i>
---	---	--	--

Year 2

ENGG1003 Introduction to Procedural Programming	ENGG1500 Introduction to Professional Engineering	MATH1120 * Mathematics for Engineering, Science and Technology 2	ELECTIVE
--	--	---	--------------------------

ELEC1310 Introduction to Electrical Engineering	MATH1800 Mathematical Modelling	MATH2310 Calculus of Science and Engineering	ELECTIVE
--	--	---	--------------------------

Year 3

ELEC2320 Electrical and Electronic Circuits	ENGG2500 Sustainable Engineering Practice	MATH2340 Linearity and Continuity	MECH2360 Dynamics of Machines
--	--	--	--

ELEC1710 Digital and Computer Electronics 1	ELEC2430 Circuits and Signals	ENGG2440 Modelling and Control	MATH2320 Linear Algebra
--	--	---	--

Year 4

ENGG3440 Linear Control and Estimation	ELEC3730 Digital and Computer Electronics 2	MECH2110 Mechanical Engineering Design 1	DIRECTED Mathematics 2000 level
---	--	---	--

MECH2710 Fluid Mechanics 1	MCHA3500 Mechatronics Design 1	STAT2010 Fundamentals of Statistics	DIRECTED Mathematics 3000 level
---	---	--	--

Year 5

ENGG3500 Managing Engineering Projects	MCHA4000 Mechatronics Design 2	MECH3695 Heat Transfer	DIRECTED ^ Mathematics 3000 level
---	---	---	--

MECH4841A Experimental Methods	ENGG4440 Non-Linear Control and Estimation	DIRECTED Mathematics 3000 level	ENGG4500 Engineering Complexity
---	---	--	--

Year 6

DIRECTED ^ Mathematics 3000 level	ELECTIVE ^	MECH4841B Mechanical Engineering Project B (20 units) <i>This course must be taken in the semester immediately following MECH4841A</i>
--	----------------------------	---

Program Plan Key: = Core = Directed = Elective

= Compulsory = [Compulsory Program Requirement](#)

Professional Practice: Industrial Experience 12 weeks

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 – 290 units

✓ Compulsory courses – 30 units

* MATH courses – Your choice of these 20 units of maths 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 is in your [Program Handbook](#).

Students enrolling into a combined Engineering/Mathematics program are expected to have a strong mathematics capability in readiness to study the higher level first year courses of MATH1210 and MATH1220. Students who believe they may be better undertaking the lower level of MATH1110 and MATH1120 need to be aware they will also be required to study MATH2340, as is listed in this program plan. Students who undertake MATH1210 and MATH1220 do not study MATH2340 and will instead undertake an additional 10 units of electives.

Please see the [separate program plan](#) for the MATH1210 and MATH1220 pathway.

Students concerned with, or unable to pass, the [Math Placement Test](#) must speak with the [program convenor](#) before enrolling in this program.

✓ Directed courses – 50 units, which is comprised of:

- 10 units of Mathematics directed courses at a 2000 level; and
- 40 units of Mathematics directed courses at a 3000 level, including at least one of MATH3120, MATH3170, MATH3840 or MATH3850.

✓ Electives – 30 units. Please visit the [Course Handbook](#) to see a list of available electives.

^ Please note, you can choose to study these directed and elective courses in different semesters than is listed here, depending on your preferences and the availability/timetable.

✓ 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 Mechatronics Engineering (Honours)/ Bachelor of Mathematics

Studies in Mathematics & Statistics major

MATH1110 & MATH1120 pathway

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

Choose **40 units** from this list of Mathematics directed courses, including at least one of either MATH3120, MATH3170, MATH3840 or MATH3850

[MATH2600](#) Introduction to Modern Mathematical Computation
[MATH2800](#) Differential Equations
[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
[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](#) Total Quality Management
[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 a Student Hub
- Message us on Facebook
- or Twitter
- UONline via myUON