PROGRAM PLAN

BACHELOR OF MECHATRONICS ENGINEERING (HONOURS)

PROGRAM OPTION:
Full time or part time

START DATE:
Semester 2 2017 - 2020

LOCATION:
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 advice from your Academic Program Advisor to ensure you remain on track.

PROGRAM HANDBOOK

COURSE HANDBOOK

NAME:

STUDENT NO.:

COURSE STATUS KEY
C = Completed
En = Enrolled
NS = Not Started

2021 PROGRAM PLAN FOR STUDENTS WHO COMPLETED YEAR 1

YEAR 1	SEMESTER 1	CIVL1100 Fundamentals of Engineering Mechanics CORE	MATH1110 Mathematics for Engineering, Science and Technology 1 CORE *Replaces option of MATH1110 OR MATH1210*	MECH1110 Introduction to Mechanical Engineering Design CORE *In 2021 changed from Sem 2 to Sem 1*	MECH1750 Engineering Materials 1 CORE *# From 2021 MECH1750 will count in place of PHYS1210*
	SEMESTER 2	ELEC1310 Introduction to Electrical Engineering CORE	ELEC1710 Digital and Computer Engineering 1 CORE	ENGG2300 Engineering Fluid Mechanics CORE *# From 2021 ENGG2300 will count in place of MECH2710*	MATH2310 Calculus of Science & Engineering CORE
YEAR 2	SEMESTER 1	ENGG1003 Introduction to Procedural Programming CORE	ENGG1500 Introduction to Professional Engineering CORE	MATH1120 Mathematics for Engineering, Science and Technology 2 CORE *Replaces option of MATH1120 OR MATH1220*	ELECTIVE *This can be of any level, and can be taken in any term, including summer or winter*
	SEMESTER 2	ELEC2430 Circuits and Signals CORE	ELECTIVE** OR ELECTIVE***	ENGG2440 Modelling and Control CORE	ENGG2500 Sustainable Engineering Practice CORE *In 2021 changed from Sem 1 to Sem 2*
YEAR 3	SEMESTER 1	ELEC2320 Electrical & Electronic Circuits CORE	ENGG2100 Engineering Risk & Uncertainty CORE *# From 2021 ENGG2100 will count in place of MECH3695*	MECH2110 Mechanical Engineering Design 1 CORE	MECH2360 Dynamics of Machines CORE
	SEMESTER 2	ENGG4440 Nonlinear Control and Estimation CORE	ENGG4500 Engineering Complexity CORE	ENGG4801A* Engineering Final Year Project A CORE	MCHA3500 Mechatronics Design 1 CORE
YEAR 4	SEMESTER 1	AERO3600 Embedded Control Systems CORE	ELECTIVE *This can be of any level, and can be taken in any term, including summer or winter*	ENGG3500 Managing Engineering Projects CORE	MCHA3400 Embedded Systems Engineering *Replaced ELEC3730* CORE
YEAR 5	SEMESTER 1	ELECTIVE *At least 10 units of electives must be 2000 level or higher. This can be taken in any term, including summer or winter*	ENGG4801B* Engineering Final Year Project B CORE *This must be completed in the semester immediately following ENGG4801A*	MCHA4100* Mechatronics Systems (20 units) CORE	

COMPULSORY REQUIREMENT: EXPOSURE TO PROFESSIONAL PRACTICE (EEP)/INDUSTRIAL EXPERIENCE (IE) 12 WEEKS

*Prior to 2021 students were required to complete MCHA4000 (10 units) **PLUS** MECH4841A / MECH4841B OR ELEC4840A /ELEC4840B (30 units total). From 2021, students will be required to follow the new arrangement: MCHA4100 (20 units) **PLUS** ENGG4801A / ENGG4801B (20 units total).

REFER TO THE TRANSITION DOCUMENT *IN THE* PROGRAM HANDBOOK FOR MORE INFORMATION.

Students who have already completed 310 units towards their program and who have not yet completed MCHA4000 will be required to contact their Program Convenor.

PROGRAM PLAN

BACHELOR OF MECHATRONICS ENGINEERING (HONOURS)

2021 PROGRAM PLAN FOR STUDENTS WHO COMPLETED YEAR 1 AND 2

YEAR 1	SEMESTER 1	**CIVL1100** Fundamentals of Engineering Mechanics **CORE**	**MATH1110** Mathematics for Engineering, Science and Technology 1 **CORE** ***Replaces*** *option of MATH1110* ***OR*** *MATH1210*	**MECH1110** Introduction to Mechanical Engineering Design **CORE** *In 2021 changed from Sem 2 to Sem 1*	**MECH1750** Engineering Materials 1 **CORE** *# From 2021 MECH1750 will count in place of PHYS1210*
	SEMESTER 2	**ELEC1310** Introduction to Electrical Engineering **CORE**	**ELEC1710** Digital and Computer Engineering 1 **CORE**	**ELECTIVE** *This can be of any level, and can be taken in any term, including summer or winter*	**MATH2310** Calculus of Science & Engineering **CORE**
YEAR 2	SEMESTER 1	**ENGG1003** Introduction to Procedural Programming **CORE**	**ENGG1500** Introduction to Professional Engineering **CORE**	**MATH1120** Mathematics for Engineering, Science and Technology 2 **CORE** ***Replaces*** *option of MATH1120* ***OR*** *MATH1220*	**ELECTIVE** *This can be of any level, and can be taken in any term, including summer or winter*
	SEMESTER 2	**ELEC2430** Circuits and Signals **CORE**	**ENGG2300** Engineering Fluid Mechanics **CORE** *# From 2021 ENGG2300 will count in place of MECH2710*	**ENGG2440** Modelling and Control **CORE**	**ENGG2500** Sustainable Engineering Practice **CORE** *In 2021 changed from Sem 1 to Sem 2*
YEAR 3	SEMESTER 1	**ELEC2320** Electrical & Electronic Circuits **CORE**	**ENGG2100** Engineering Risk & Uncertainty **CORE** *# From 2021 ENGG2100 will count in place of MECH3695*	**MECH2110** Mechanical Engineering Design 1 **CORE**	**MECH2360** Dynamics of Machines **CORE**
	SEMESTER 2	**ENGG4440** Nonlinear Control and Estimation **CORE**	**ENGG4500** Engineering Complexity **CORE**	**ENGG4801A*** Engineering Final Year Project A **CORE**	**MCHA3500** Mechatronics Design 1 **CORE**
YEAR 4	SEMESTER 1	**AERO3600** Embedded Control Systems **CORE**	**ELECTIVE** *This can be of any level, and can be taken in any term, including summer or winter*	**ENGG3500** Managing Engineering Projects **CORE**	**MCHA3400** Embedded Systems Engineering *Replaced ELEC3730* **CORE**
YEAR 5	SEMESTER 1	**ELECTIVE** *At least 10 units of electives must be 2000 level or higher. This can be taken in any term, including summer or winter*	**ENGG4801B*** Engineering Final Year Project B **CORE** *This must be completed in the semester immediately following ENGG4801A*	**MCHA4100*** Mechatronics Systems (20 units) **CORE**	

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REFER TO THE TRANSITION DOCUMENT *IN THE* PROGRAM HANDBOOK FOR MORE INFORMATION.

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PROGRAM PLAN

BACHELOR OF MECHATRONICS ENGINEERING (HONOURS)

2021 PROGRAM PLAN FOR STUDENTS WHO COMPLETED YEAR 1, 2 AND 3

YEAR 1	SEMESTER 1	**CIVL1100** Fundamentals of Engineering Mechanics **CORE**	**MATH1110** Mathematics for Engineering, Science and Technology 1 **CORE** ***Replaces*** *option of MATH1110* ***OR*** *MATH1210*	**MECH1110** Introduction to Mechanical Engineering Design **CORE** *In 2021 changed from Sem 2 to Sem 1*	**MECH1750** Engineering Materials 1 **CORE** *# From 2021 MECH1750 will count in place of PHYS1210*
	SEMESTER 2	**ELEC1310** Introduction to Electrical Engineering **CORE**	**ELEC1710** Digital and Computer Engineering 1 **CORE**	**ELECTIVE** *This can be of any level, and can be taken in any term, including summer or winter* **OR** **ELECTIVE****	**MATH2310** Calculus of Science & Engineering **CORE**
YEAR 2	SEMESTER 1	**ENGG1003** Introduction to Procedural Programming **CORE**	**ENGG1500** Introduction to Professional Engineering **CORE**	**MATH1120** Mathematics for Engineering, Science and Technology 2 **CORE** ***Replaces*** *option of MATH1120* ***OR*** *MATH1220*	**ELECTIVE** *This can be of any level, and can be taken in any term, including summer or winter*
	SEMESTER 2	**ELEC2430** Circuits and Signals **CORE**	**ENGG2300** Engineering Fluid Mechanics **CORE** *# From 2021 ENGG2300 will count in place of MECH2710*	**ENGG2440** Modelling and Control **CORE**	**ENGG4440** Nonlinear Control and Estimation **CORE**
YEAR 3	SEMESTER 1	**ELEC2320** Electrical & Electronic Circuits **CORE**	**ENGG2500** Sustainable Engineering Practice **CORE** *In 2021 changed from Sem 1 to Sem 2*	**MECH2110** Mechanical Engineering Design 1 **CORE**	**MECH2360** Dynamics of Machines **CORE**
	SEMESTER 2	**ELECTIVE**** **OR** **ELECTIVE*****	**ENGG4500** Engineering Complexity **CORE**	**ENGG4801A*** Engineering Final Year Project A **CORE**	**MCHA3500** Mechatronics Design 1 **CORE**
YEAR 4	SEMESTER 1	**AERO3600** Embedded Control Systems **CORE**	**ENGG2100** Engineering Risk & Uncertainty **CORE** *# From 2021 ENGG2100 will count in place of MECH3695*	**ENGG3500** Managing Engineering Projects **CORE**	**MCHA3400** Embedded Systems Engineering *Replaced ELEC3730* **CORE**
YEAR 5	SEMESTER 1	**ELECTIVE** *At least 10 units of electives must be 2000 level or higher. This can be taken in any term, including summer or winter*	**ENGG4801B*** Engineering Final Year Project B **CORE** *This must be completed in the semester immediately following ENGG4801A*	**MCHA4100*** Mechatronics Systems (20 units) **CORE**	

COMPULSORY REQUIREMENT: EXPOSURE TO PROFESSIONAL PRACTICE (EEP/INDUSTRIAL EXPERIENCE (IE) 12 WEEKS

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BACHELOR OF MECHATRONICS ENGINEERING (HONOURS)

To be eligible to graduate make sure you have completed 320 units (10 units = 1 course unless otherwise specified) which meet the following criteria:

- Core courses – 280 units
  Prior to 2021**,** students could choose to complete either MATH1110 and MATH1120, ***OR*** MATH1210 and MATH1220. Choice of maths courses is based on your assumed knowledge. To find out which MATH course you should enrol in please see the **Enrolling in Maths information**. More information is in your **Program Handbook**. Note that due to course offerings it is recommended midyear commencing students take MATH1110 and MATH1120, and that you also consider the University's **Summer School** offerings following your first semester.
  After 2021**,** the option to do MATH1210 and MATH1220 has been removed from the program. ***From 2021 onwards***: 1) if you have not yet completed MATH1210 you must complete MATH1110; and 2) if you haven't completed MATH1220 then you must complete MATH1120.
  # *Students are required to complete just one of these two courses. Refer to the transition document in the* **Program Handbook** *for further information.*
- **Electives** – 40 units. Students can choose from any **unrestricted** courses taught at the University (as long as it is not already a core course of this degree). Visit the **Program Handbook** and **Course Handbook** to see a list of available electives.
  ******* *Elective – you can study this as an elective, if you like ENGG3300 Machine Learning for Engineers. Alternatively, you can choose from any unrestricted course, of any level.*
  ********* *Elective – you can study this as an elective, if you like MCHA4400 Vision-based Navigation. Alternatively, you can choose from any unrestricted course, of any level.*
  At least 10 units must be **2000 level or higher**
  Please note, completion of MATH1002 counts as 10 units of electives
- At least 40 units must be taken at each level from the 2000 level and above in this program.
- Students must not exceed 120 units at 1000 level in this program.
- Students must undertake 12 weeks of approved **industrial experience.**
- The duration of this program is 4 year full-time (40 units per semester) or part-time equivalent.
- The maximum time to complete this program is 10 years.

Some courses have assumed knowledge and/or requisites, please refer to the individual **Course Handbook**. Please refer to the **Program Handbook** for specific information on program structure. If you are intending varying from this program plan please seek advice from your **Academic Program Advisor**.