PROGRAM PLAN BACHELOR OF MECHATRONICS ENGINEERING (HONOURS)/ BACHELOR OF SCIENCE Physics major					PROGRAM OPTION: Physics majorThis program plan is an graduate. If at any time from your Program AdvSTART DATE: Semester 1 2019 – 2020PROGRAM HANDBOOL COURSE HANDBOOLLOCATION: CallaghanNAME: STUDENT NO:			enrolment guide to ensu you wish to vary from th sor to ensure you remai	vice C = Comple En = Enroll NS = Not S	COURSE STATUS KEY C = Completed En = Enrolled NS = Not Started	
SEMESTER 1 YEAR 1	ENGG1003ENGG1500Introduction to Procedural ProgrammingIntroduction to Professional EngineeringCORECORE		MATH Mathema Engineering, Techno COF Replaces MATH1	1110* atics for Science and ology 1 RE : option of 110 OR 11210	MECH1110 Mechanical Drawing/CAD & Workshop Practice CORE In 2021 changed from Sem2 to Sem1	SEMESTER 2	CIVL1100 Fundamentals of Engineering Mechanics CORE	ELEC1310 Introduction to Electrical Engineering CORE	MATH1120* Mathematics for Engineering, Science and Technology 2 CORE Replaces option of MATH1120 OR MATH1220	PHYS1210 Advanced Physics I CORE	COMPULSORY (
SEMESTER 1 YEAR 2	ELEC2320 Electrical and Electronic Circuits CORE	MECH2360     SCIE1001     SCIE       Dynamics of Machines     Professional Scientific Thinking     Multidist La       CORE     CORE     CORE		SCIE1002 Multidisciplina Labs CORE	STAT2110 Engineering Statistics CORE In 2020 this changed from Sem2 to Sem1	SEMESTER 2	ELEC1710 Digital and Computer Electronics 1 CORE	ENGG2440 Modelling and Control CORE	MATH2310 Calculus of Science & Engineering CORE	PHYS1220 Advanced Physics MAJOR	EEP)/INDUSTRIA
SEMESTER 1 YEAR 3	AERO3600 Embedded Control Systems CORE	ENGG3500MECManaging Engineering ProjectsMechanica DeCOREC		2110 Engineering In 1 RE	PHYS2111 Classical Physics 1 MAJOR	SEMESTER 2	ELEC2430 Circuits and Signals CORE	ENGG2300 Engineering Fluid Mechanics CORE # From 2021 ENGG2300 will count in place of MECH2710	ENGG2500 Sustainable Engineering Practice CORE In 2021 this changed from Sem1 to Sem2	PHYS2112 Classical Physics : MAJOR	L EXPERIENCE
SEMESTER 1 YEAR 4	MCHA3400 Embedded Systems Engineering CORE	MECH3695 Heat Transfer Please note, this is a different transition arrangement to the single Mechatronics degree CORE		2211 hysics 1 DR	PHYS3111 Biophysics MAJOR	SEMESTER 2	Mechatronics Eng Directed course Replaces ENGG4440 from 2023	MCHA3500 Mechatronics Design 1 CORE	SCIE2002 Interdisciplinary Challenges CORE	DIRECTED MATH2242 (replac MATH3242) or MATH3820 MAJOR	(IE) 12 WEEKS
SEMESTER 1 YEAR 5	PHYS3112 Photonics MAJOR	YS3112 MCHA4100** otonics Mechatronics Systems (20 units) AJOR CORE			ENGG4801A**A Engineering Final Year Project A CORE	SEMESTER 2	ENGG4801B**A Eng Final Year Project B CORE This must be completed in the semester immediately following ENGG4801A	Mechatronics Eng Directed course Engineering Complexity Replaces ENGG4500 from 2023	PHYS3211 Quantum Information Science MAJOR		PRACTICE

Information correct as of 6 March 2023 and subject to change Program code: 40202

## **PROGRAM PLAN** BACHELOR OF MECHATRONICS ENGINEERING (HONOURS)/ BACHELOR OF SCIENCE

## **Physics major**

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

Math Courses\*

Prior to 2021, students could choose to complete either MATH1110 and MATH120, 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.

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.

- ^ ENGG4801B must be completed in the semester immediately following ENGG4801A.
- Mechatronics Engineering Directed courses 20 units From Semester 1, 2023 replaces previous core courses of ENGG4500 and ENGG4440.
- Major courses 80 units
- 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 or part time equivalent.
- The maximum time to complete this program is 12 years.

Mechatronics Engineering Directed courses (These directed courses are subject to change – please refer to the program handbook for up to date information) – From Semester 1, 2023 20 units of Mechatronics Engineering Directed courses replace ENGG4500 and ENGG4440. Students who have not taken ENGG4500 and ENGG4440 choose 20 units from the below list. Students who have already taken ENGG4440 and ENGG4440 and ENGG4500 do not need to take and Mechatronics Engineering Directed courses.

 SENG2200
 Programming Languages and Paradigms

 ENG64440
 Nonlinear Control and Estimation

 MECH4580
 Computer Aided Engineering and Manufacturing

 ELEC4740
 Internet of Things

 SURV3610
 Photogrammetry



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 Program Advisor.

