

PROGRAM PLAN

BACHELOR OF MECHATRONICS ENGINEERING (HONOURS)/ BACHELOR OF SCIENCE

Physics major

PROGRAM OPTION:
Physics major

START DATE:
Semester 1 2019 – 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 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

| Year | Semester | Course 1 | Course 2 | Course 3 | Course 4 |
|--------|----------|---|--|--|--|
| YEAR 1 | SEM 1 | ENGG1003 Introduction to Procedural Programming CORE | ENGG1500 Introduction to Professional Engineering CORE | MATH1110 * Mathematics for Engineering, Science and Technology 1 CORE | PHYS1210 Advanced Physics I CORE |
| | SEM 2 | CIVL1100 Fundamentals of Engineering Mechanics CORE | ELEC1310 Introduction to Electrical Engineering CORE | MATH1120 * Mathematics for Engineering, Science and Technology 2 CORE | MECH1110 Mechanical Drawing/CAD & Workshop Practice CORE |
| YEAR 2 | SEM 1 | SCIE1001 Professional Scientific Thinking CORE | SCIE1002 Multidisciplinary Labs CORE | ELEC2320 Electrical and Electronic Circuits CORE | MECH2360 Dynamics of Machines CORE |
| | SEM 2 | ELEC1710 Digital and Computer Electronics 1 CORE | ENGG2440 Modelling and Control CORE | MATH2310 Calculus of Science & Engineering CORE | PHYS1220 Advanced Physics II MAJOR |
| YEAR 3 | SEM 1 | AERO3600 Embedded Control Systems CORE <i>Replaces ENGG3440</i> | ENGG2500 Sustainable Engineering Practice CORE | MECH2110 Mechanical Engineering Design 1 CORE | PHYS2111 Classical Physics 1 MAJOR |
| | SEM 2 | ELEC2430 Circuits and Signals CORE | MECH2710 Fluid Mechanics 1 CORE | SCIE2002 Interdisciplinary Challenges CORE | PHYS2112 Classical Physics 2 MAJOR |
| YEAR 4 | SEM 1 | PHYS2211 Modern Physics 1 MAJOR | ENGG3500 Managing Engineering Projects CORE | MCHA3400 Embedded Systems Engineering CORE <i>Replaces ELEC3730</i> | MECH3695 Heat Transfer CORE |
| | SEM 2 | ENGG4440 Nonlinear Control and Estimation CORE | MCHA3500 Mechatronics Design 1 CORE | DIRECTED MATH3242 or MATH3820 MAJOR | STAT2110 Engineering Statistics CORE |
| YEAR 5 | SEM 1 | PHYS3111 Biophysics MAJOR | PHYS3112 Photonics MAJOR | MCHA4000 Mechatronics Design 2 CORE | MECH4841A or ELEC4840A FYP Part A CORE |
| | SEM 2 | MECH4841B^A or ELEC4840B^A FYP Part B (20 units) CORE | ENGG4500 Engineering Complexity CORE | PHYS3211 Quantum Information Science MAJOR | |

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

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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 – 320 units
 - ^ [MECH4841B/ELEC4840B](#) must be completed in the semester immediately following [MECH4841A/ELEC4840A](#)
- MATH courses – 20 units. Choice 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 in your [Program Handbook](#)
- [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



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](#).