

PROGRAM PLAN

BACHELOR OF COMPUTER SYSTEMS ENGINEERING (HONOURS) / BACHELOR OF COMPUTER SCIENCE

PROGRAM OPTION:
Commencing in Semester 1

START DATE:
2017 to 2021

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](#)

YEAR 1	SEMESTER 1	COMP1010 Computing Fundamentals CORE	MATH1110 Mathematics for Engineering, Science and Technology 1 CORE <i>Replaces option of MATH1110 OR MATH1210</i>	ENGG1003 Introduction to Procedural Programming CORE	SENG1110 Object Oriented Programming CORE	SEMESTER 2	ELEC1310 Introduction to Electrical Engineering CORE	ELEC1710 Digital and Computer Electronics 1 CORE	MATH1510 Discrete Mathematics CORE	PHYS1220 Advanced Physics II CORE
	SEMESTER 1	ENGG1500 Introduction to Professional Engineering CORE	MATH1120 Mathematics for Engineering, Science and Technology 2 CORE <i>Replaces option of MATH1120 OR MATH1220</i>	ELEC2320 Electrical and Electronic Circuits CORE	SENG1120 Data Structures CORE	SEMESTER 2	SENG1050 Web Technologies CORE	COMP1140 Database and Information Management CORE	COMP2240 Operating Systems CORE	ELEC2430 Circuits and Signals CORE
YEAR 3	SEMESTER 1	STAT2110 Engineering Statistics CORE <i>In 2021 changed from Sem 2 to Sem 1</i>	ELEC2720 Introduction to Embedded Computing CORE	SENG2130 Systems Analysis and Design CORE	COMP2270 Theory of Computation CORE	SEMESTER 2	COMP2230 Algorithms CORE	SENG2250 System and Network Security CORE	SENG2260 Human-Computer Interaction CORE	ENGG2500 Sustainable Engineering Practice CORE <i>In 2021 changed from Sem 1 to Sem 2</i>
	SEMESTER 1	ENGG3500 Managing Engineering Projects CORE	ELEC3730 Digital and Computer Electronics 2 CORE	COMP3500 Security Attacks: Analysis and Mitigation Strategies CORE <i>From 2021, will count in place of SENG2050</i>	DIRECTED Computer Systems DIRECTED <i>Replaced SENG3400 in 2019</i>	SEMESTER 2	ELEC3500 Telecommunication Networks CORE	ELEC3540 Analog and Digital Communications CORE	ELEC3240 Analog Electronics CORE	COMP3290 Compiler Design COMPULSORY
YEAR 5	SEMESTER 1	ELEC4840A Final Year Engineering Project Part A CORE	COMP3330 Machine Intelligence COMPULSORY	DIRECTED Computer Systems DIRECTED <i>From 2021, 10 units Directed will count in place of ELEC3850</i>	DIRECTED Computer Science DIRECTED	SEMESTER 2	ELEC4840B Final Year Engineering Project Part B <i>This course must be taken following ELEC4840A (20 units)</i> CORE		ENGG4500 Engineering Complexity CORE	ELEC4720 Programmable Logic Design CORE

COMPULSORY PROFESSIONAL PRACTICE: INDUSTRIAL EXPERIENCE: 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 and Compulsory courses** – 370 units

Math courses - 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](#).

Prior to 2021, students could choose to complete either MATH1110 and MATH1120, **OR** MATH1210 and MATH1220. 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.

- **Directed courses** – 30 units

From 2019, 10 units of Directed courses will count in place of SENG3400. If you have already completed SENG3400, please note this will count as 10 units of Engineering Directed courses. Refer to the transition document in the [Program Handbook](#) for further information.

From 2021, 10 units of Directed courses will count in place of ELEC3850. If you have already completed ELEC3850, please note this will count as 10 units of Engineering Directed courses. Refer to the transition document in the [Program Handbook](#) for further information.

- 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.

IMPORTANT: Continuing students should refer to the transition document in the [Program Handbook](#) for further information.



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](#).

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DIRECTED COURSES

COMPUTER SYSTEMS ENGINEERING

Complete 20 units from:

SENG2200: Programming Languages and Paradigms
COMP3260: Data Security
COMP3340: Data Mining
COMP3600: Security Standards and Practices in Industry
ELEC3400: Signal Processing
ELEC4210: Electronics Design
ELEC4740: Internet of Things
PHYS3360: Advanced Electromagnetism (no longer offered)

If you have completed ELEC3850 and/or SENG3400, these will count as directed courses.

DIRECTED COURSES

COMPUTER SCIENCE – COMPUTER SYSTEMS & ROBOTICS MAJOR

Complete 10 units from:

SENG2200: Programming Languages and Paradigms
SENG3320: Software Verification and Validation
COMP3260: Data Security
COMP3320: Computer Graphics
COMP3350: Advanced Database
ELEC3400: Signal Processing
ELEC4210: Electronics Design
ELEC4550: Wireless Communications (no longer offered)