

# PROGRAM PLAN

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

**PROGRAM OPTION:**  
Commencing in Semester 1

**START DATE:**  
2019 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](#)

**NAME:**

**STUDENT NO.:**

YEAR 1	<b>SEMESTER 1</b> <b>ENGG1500</b> Introduction to Professional Engineering  CORE	<b>ENGG1003</b> Introduction to Procedural Programming  CORE	<b>MATH1110</b> Maths for Engineering, Science & Technology 1  <i>(Replaces option of MATH1110 OR MATH1210)</i> CORE	<b>PHYS1210</b> Advanced Physics I  CORE	YEAR 2	<b>SEMESTER 2</b> <b>ELEC1310</b> Introduction to Electrical Engineering  CORE	<b>ELEC1710</b> Digital and Computer Electronics 1  CORE	<b>MATH1120</b> Maths for Engineering, Science & Technology 2  <i>(Replaces option of MATH1120 OR MATH1220)</i> CORE	<b>PHYS1220</b> Advanced Physics II  CORE
	<b>SEMESTER 1</b> <b>SENG1110</b> Object Oriented Programming  CORE	<b>ELEC2720</b> Introduction to Embedded Computing  CORE	<b>ELEC2320</b> Electrical and Electronic Circuits  CORE	<b>SCIE1001</b> Professional Scientific Thinking  CORE		<b>SEMESTER 2</b> <b>SENG1120</b> Data Structures  CORE	<b>ELEC2430</b> Circuits and Signals  CORE	<b>ENGG2500</b> Sustainable Engineering Practice  <i>In 2021 changed from Sem 1 to Sem 2</i> CORE	<b>SCIE2002</b> Interdisciplinary Challenges  CORE
YEAR 3	<b>SEMESTER 1</b> <b>STAT2110</b> Engineering Statistics  <i>In 2021 changed from Sem 2 to Sem 1</i> CORE	<b>MATH2310</b> Calculus of Science and Engineering  CORE	<b>PHYS2111</b> Classical Physics 1  COMPULSORY	<b>SCIE1002</b> Multidisciplinary Laboratories  CORE	YEAR 4	<b>SEMESTER 2</b> <b>SENG2250</b> System and Network Security  CORE	<b>ELEC3240</b> Analog Electronics  CORE	<b>MATH2242</b> Complex Analysis Or <b>MATH3820</b> Numerical Methods  DIRECTED	<b>PHYS2112</b> Classical Physics 2  COMPULSORY
	<b>SEMESTER 1</b> <b>COMP3500</b> Security Attacks: Analysis and Mitigation Strategies  <i>(will count in place of SENG2050)</i> CORE	<b>ELEC3730</b> Digital and Computer Electronics 2  CORE	<b>ENGG3500</b> Managing Engineering Projects  CORE	<b>PHYS2211</b> Modern Physics 1  COMPULSORY		<b>SEMESTER 2</b> <b>DIRECTED</b> Computer Systems  <i>(will count in place of ELEC3850)</i> DIRECTED	<b>ELEC3500</b> Telecommunication Networks  CORE	<b>ELEC3540</b> Analog and Digital Communications  CORE	<b>PHYS3211</b> Quantum Information Science  COMPULSORY
YEAR 5	<b>SEMESTER 1</b> <b>ELEC4840A</b> Final Year Engineering Project Part A  CORE	<b>DIRECTED</b> Computer Systems  DIRECTED	<b>PHYS3112</b> Photonics  COMPULSORY	<b>PHYS3111</b> Biophysics  COMPULSORY	YEAR 5	<b>SEMESTER 2</b> <b>ELEC4840B</b> Final Year Engineering Project Part B <i>This course must be taken following ELEC4840A (20 units)</i> CORE	<b>ENGG4500</b> Engineering Complexity  CORE	<b>ELEC4720</b> Programmable Logic Design  CORE	

COMPULSORY PROFESSIONAL PRACTICE: INDUSTRIAL EXPERIENCE (12 WEEKS)

## PROGRAM PLAN

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

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
- Directed courses – 30 units including 20 units of Computer Systems Engineering courses and 10 units of MATH courses.
- 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.

*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.

- 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](#). 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](#).

## PROGRAM PLAN

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

## Computer Systems Engineering Directed Courses

Subject to change - Please refer to the program handbook for up to date information.

Choose **20 units** of Computer Systems Engineering Directed Courses

**ELEC4740** Internet of Things (*replaced ELEC4700*)  
**ELEC3400** Signal Processing  
**ELEC4210** Electronics Design  
**COMP3260** Data Security  
**COMP3330** Machine Intelligence  
**COMP3340** Data Intelligence  
**COMP3600** Security Standards and Practices in Industry  
**SENG2200** Programming Languages and Paradigms

**Removed from the program in 2021**

*If you have not already completed this course prior to 2021, then you will complete a different course from the above Directed course list:*

*ELEC4550 Wireless Communication*

*If you have completed ELEC3850, this will count as 10 units of directed courses*