# Bachelor of Engineering (Honours) (Software)

📅 **Commenced in 2015 and 2016**  📍 **Studying at Callaghan**

This program plan is an enrolment guide to ensure you are on track to graduate. Details on the teach-out arrangements can be found in your program handbook. If at any time you wish to vary from this program plan seek prior advice from your Academic Program Advisor to ensure you remain on track.

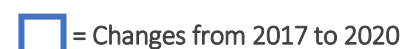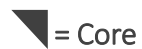THE UNIVERSITY OF NEWCASTLE AUSTRALIA

## Semester 1

| Year 1 | ENGG1500 Introduction to Professional Engineering Replaces GENG1803 | MATH1110 Maths for Eng, Science and Tech 1 *Replaces* option of MATH1110 **OR** MATH1210 | SENG1110 Object Orientated Programming | ELECTIVE |
|---|---|---|---|---|
| Year 2 | COMP2270 Theory of Computation | SENG2130 Systems Analysis and Design | SENG2200 Programming Languages and Paradigms | SENG2050 Web Engineering |
| Year 3 | ELECTIVE | ENGG3500 Managing Engineering Projects Replaces GENG3830 | SENG3150 Software Project 1: Requirements Engineering and Design | SENG4430 Software Quality Replaces SENG3130 |
| Year 4 | DIRECTED 4000 level | DIRECTED 3000 or 4000 level | SENG4400 Enterprise Software Architectures | SENG4211A Software Engineering Final Year Project Part A Replaces SENG4800A |

## Semester 2

| Year 1 | SENG1050 Web Technologies Replaces COMP1050 | MATH1510 Discrete Mathematics | MATH1120 Maths for Eng, Science and Tech 2 *Replaces* option of MATH1120 **OR** MATH1220 | SENG1120 Data Structures |
|---|---|---|---|---|
| Year 2 | COMP2230 Algorithms | COMP2240 Operating Systems | ELEC1710 Digital and Computer Electronics 1 Replaces ELEC1700 | COMP1140 Database and Information Management Replaces INFT2040 |
| Year 3 | ELEC3500 Telecommunication Networks Replaces SENG3400 | SENG3160 Software Project 2: Software Implementation, Testing, and Maintenance | DIRECTED 3000 level | DIRECTED 3000 level |
| Year 4 | SENG4211B Software Engineering Final Year Project Part B (20 units) *This course **must** be taken in the semester immediately following SENG4211A* Replaces SENG4800B | | ENGG4500 Engineering Complexity Replaces PHIL3910 | DIRECTED 4000 level |

**Program Plan Key:**  ◣ = Core  ◣ = Directed  ◣ = Elective  ☐ = Changes from 2017 to 2020  ☐ = Changes from 2021 onwards

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 – 250 units.

> *Prior to 2021,* students 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 maths 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.
>
> *From 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 – 50 units total (with a minimum 20 units of 3000 level courses and minimum of 20 units at 4000 level).

✔ Electives – 20 units. Visit the Course Handbook to see a list of available electives.

✔ No more than 120 units is permitted at the 1000 level.

✔ It is also a requirement that students complete a total of 12 weeks of industrial experience. More information is here.

✔ The duration of this program is 4 years full time (40 units per semester) or part time equivalent.

✔ The maximum time to complete this program is 10 years.

✔ Please note that courses marked in coloured boxes are changing for your program.

See the next page for a list of directed courses

Some courses have assumed knowledge and/or requisites, please refer to the individual Course Handbook.

The Program Handbook has valuable information on program structure and requirements, if you are intending on studying part time or varying from this program plan please seek prior advice from your Academic Program Advisor.

# Bachelor of Engineering (Honours) (Software) – Directed courses

Subject to change- Please refer to the [program handbook](#) for up to date information.

| Choose **20 units** (3000 Level) from the list of following courses. | | |
|---|---|---|
| | ELEC2700 | Computer Engineering II *(no longer offered)* |
| | COMP3260 | Data Security |
| | COMP3290 | Compiler Design |
| | COMP3320 | Computer Graphics |
| | COMP3330 | Machine Intelligence |
| | COMP3340 | Data Mining |
| | COMP3350 | Advanced Database |
| | ELEC4720 | Programmable Logic Design (*replaces ELEC3720* Programmable Logic Design) |
| | ELEC3730 | Digital and Computer Electronics 2 |
| | SENG2260 | Human-Computer Interaction (*replaces SENG3300* User Interface Design) |

| Choose **20 units** (4000 Level) from the list of following courses. | | |
|---|---|---|
| | COMP4110 | Special Topic A |
| | COMP4120 | Special Topic B |
| | ELEC4740 | Internet of Things *(replaces ELEC4700)* |
| | *SENG4150* | *Special Topics in Software Engineering (not currently offered)* |
| | *SENG4160* | *Directed Studies in Software Engineering (not currently offered)* |

## Directed Courses removed from the program in 2021

If you have not already completed these courses prior to 2021 then you choose a different Directed course in the above list.

| Choose **10 units** from either 3000 *or* 4000 level. | | |
|---|---|---|
| | *COMP4130* | *Special Topic C - Removed from the Directed List in 2021* |
| | *COMP4240* | *Special Topic G - Removed from the Directed List in 2021* |