

**Bachelor of Computer Systems Engineering  
(Honours)/Bachelor of Science  
Program Code: 40198**



**Transition Arrangements**

Last Updated October 2020

The following description outlines the approved transition arrangements for students who commenced in the Bachelor of Computer Systems Engineering (Honours)/Bachelor of Science in or prior to 2021. Students who commence the program in 2021 onwards must complete the courses and follow the program structure that is outlined in the [Program Handbook](#). If you need further advice, then please contact your Academic Program Advisor on [programadvice@newcastle.edu.au](mailto:programadvice@newcastle.edu.au).

Course Code and Title (Not yet completed)	New Course Code and Title (Course to be completed from 2021 onwards as offered)
‘Completed’ means successfully passed a course or received approved credit for a course	
<b>CORE COURSES</b>	
<p><b><u>Mathematics Core Option</u></b> <b><u>Option 1</u></b></p> <p>MATH1110 Mathematics for Engineering, Science and Technology 1 <b>AND</b> MATH1120 Mathematics for Engineering, Science and Technology 2</p> <p><b>OR</b> <b><u>Option 2</u></b> MATH1210 Mathematical Discovery 1 <b>AND</b> MATH1220 Mathematical Discovery 2</p>	<p><b>MATH1110 Mathematics for Engineering, Science and Technology 1</b></p> <p><b>AND</b></p> <p><b>MATH1120 Mathematics for Engineering, Science and Technology 2</b></p> <p><i>Please note: 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.</i></p>
<p>ELEC3850 Electrical Engineering Design and Practice</p>	<p><b>*Select 10 units of directed courses.</b></p>
<p>SENG2050 Web Engineering</p>	<p>If you have not completed SENG2050 prior to 2021, then you will complete</p> <p><b>COMP3500 Security Attacks: Analysis and Mitigation Strategies **</b></p> <p>(COMP3500 <i>will count in place of</i> SENG2050)</p>

**\*ELEC3850 Electrical Engineering Design and Practice**

In 2020, ELEC3850 Electrical Engineering Design and Practice was removed from the program and replaced by 10 units of Computer Systems Engineering directed courses. If you have previously completed ELEC3850 you do not need to complete 10 units of Computer Systems Engineering directed courses.

**Computer Systems Engineering Directed List**

**Course Code and Title**  
(Not yet completed)

**New Course Code and Title**  
(Course to be completed from 2021 onwards as offered)

'Completed' means successfully passed a course or received approved credit for a course

**DIRECTED COURSES**

Choose 10 units from the following directed courses

PHYS3360 Advanced Electromagnetism	<b>If you have not yet done this course, then choose another Directed course from the list.</b>
ELEC4700 Advanced Computer Systems	<b>ELEC4740 Internet of Things</b>
COMP3330 Machine Intelligence	COMP3330 Machine Intelligence
ELEC3400 Signal Processing	ELEC3400 Signal Processing
ELEC4210 Electronics Design	ELEC4210 Electronics Design
ELEC4550 Wireless Communication	<b>If you have not yet done this course, then choose another Directed course from the list.</b>
	<b>COMP3260 Data Security</b>
	<b>COMP3330 Machine Intelligence</b>
	<b>COMP3340 Data Mining</b>
	<b>COMP3600 Security Standards and Practices in Industry</b>
	<b>SENG2200 Programming Languages and Paradigms</b>

**SENG2050 Web Engineering and COMP3500 Security Attacks: Analysis and Mitigation Strategies**

- From 2021 onwards SENG2050 Web Engineering (10 units) was removed from the program and COMP3500 Security Attacks: Analysis and Mitigation Strategies (10 units) was added as a new core course.
- **If you completed SENG2050** prior to 2021 it still counts towards your program. You do not have to complete COMP3500 Security Attacks: Analysis and Mitigation Strategies. Students in this situation who **also** have an available 10-unit Elective course are permitted to choose COMP3500 as one 10-unit Elective course.
- **If you did not complete SENG2050 prior to 2021** then you must complete COMP3500.

## Physics Major

### Course Code and Title

(Not yet completed)

### New Course Code and Title

(Course to be completed from 2021 onwards as offered)

'Completed' means successfully passed a course or received approved credit for a course

### COMPULSORY COURSES

Complete the following compulsory courses to fulfil the requirements of this major.

PHYS2111 Classical Physics 1	PHYS2111 Classical Physics 1
PHYS2112 Classical Physics 2	PHYS2112 Classical Physics 2
PHYS2211 Modern Physics 1	PHYS2211 Modern Physics 1
PHYS3111 Biophysics	PHYS3111 Biophysics
PHYS3112 Photonics	PHYS3112 Photonics
PHYS3211 Quantum Information Science	PHYS3211 Quantum Information Science

### Directed courses

Choose 10 units from the following directed courses

MATH3242 Complex Analysis	<b>MATH2242 Complex Analysis</b>
MATH3820 Numerical Methods	MATH3820 Numerical Methods