



Specialisation

Computer Engineering

COMPBH

168 Units of Credit

Overview

Computer Engineering encompasses the structured and integrated design of the hardware and software components of computerised systems. Not only do personal computer systems, such as desktops and laptops fall into this category, but so do embedded systems for gaming, cars and PDAs, supercomputers used in climate modelling and gene analysis, and prosthetic systems such as ocular implants intended to improve quality of life. The challenge for the engineer is to design these systems with maximal impact, and to trade off competing factors using engineering, scientific and mathematical principles. This stream teaches the principles and techniques necessary to engineer high quality systems.

Computer Engineering is studied as a major stream in the BE(Hons). Day to day administration of this stream is conducted through the Computer Science and Engineering Student Office.

This page outlines the core rules for the Computer Engineering stream when taken as part of a single or dual award. The requirements total 168 units of credit, plus 60 days of industrial training. Refer to the program page for full details on the overall program requirements.

Further details on the stream requirements, electives, and advice regarding the order and placement of courses in the stream can be found at the: [School website](#)

Faculty

Faculty of Engineering

School

School of Computer Science and Engineering

Study Level

Undergraduate

Minimum Units of Credit

168

Specialisation Type

Honours

Available in Program(s)

Program(s) in which this honours is available

Bachelor of Engineering (Honours) - **BE (Hons)**

3707 Engineering (Honours)

Faculty: Faculty of Engineering

Campus: Kensington

Units of Credit: 192

Typical Duration: 4 Years

Bachelor of Engineering (Honours) - **BE (Hons)**

Master of Biomedical Engineering - **MBiomedE**

3768 Engineering (Honours)/Biomedical Engineering

Faculty: Faculty of Engineering

Campus: Kensington

Units of Credit: 240

Typical Duration: 5 Years

Specialisation Structure

Students must complete 168 UOC.

Level 1 Core Courses

Students must take 54 UOC of the following courses.

COMP1511 | 6 UOC

Programming Fundamentals

COMP1521 | 6 UOC

Computer Systems Fundamentals

COMP1531 | 6 UOC

Software Engineering Fundamentals

ELEC1111 | 6 UOC

Electrical and Telecommunications Engineering

ENGG1000 | 6 UOC

Introduction to Engineering Design and Innovation

One of the following:

MATH1131 | 6 UOC

Mathematics 1A

MATH1141 | 6 UOC

Higher Mathematics 1A

One of the following:

MATH1231 | 6 UOC

Mathematics 1B

MATH1241 | 6 UOC

Higher Mathematics 1B

One of the following:

PHYS1121 | 6 UOC

Physics 1A

PHYS1131 | 6 UOC

Higher Physics 1A

One of the following:

PHYS1221 | 6 UOC

Physics 1B

PHYS1231 | 6 UOC

Higher Physics 1B

Level 2 Core Courses

Students must take 42 UOC of the following courses.

COMP2511 | 6 UOC

Object-Oriented Design & Programming

COMP2521 | 6 UOC

Data Structures and Algorithms

DESN2000 | 6 UOC

Engineering Design and Professional Practice

ELEC2133 | 6 UOC

Analogue Electronics

ELEC2134 | 6 UOC

Circuits and Signals

MATH2069 | 6 UOC

Mathematics 2A

MATH2099 | 6 UOC

Mathematics 2B

Level 3 Core Courses

Students must take 24 UOC of the following courses.

COMP3211 | 6 UOC

Computer Architecture

COMP3222 | 6 UOC

Digital Circuits and Systems

COMP3231 | 6 UOC

Operating Systems

COMP3601 | 6 UOC

Design Project A

Level 4 Core Courses

Students must take 24 UOC of the following courses.

COMP4601 | 6 UOC

Design Project B

COMP4920 | 6 UOC

Management and Ethics

COMP4951 | 4 UOC

Research Thesis A

COMP4952 | 4 UOC

Research Thesis B

COMP4953 | 4 UOC

Research Thesis C

Discipline Electives

Students must take at least 24 UOC of the following courses.

any level 3 Computer Science course

any level 4 Computer Science course

any level 6 Computer Science course

any level 9 Computer Science course

ENGG3060 | 3 UOC

Maker Games

Level 4 UOC Minimum

Students must complete a minimum of 36 UOC of Level 4 courses including core courses and at least 12 UOC of Level 4 Discipline Electives, including:

COMP4601 | 6 UOC

Design Project B

COMP4920 | 6 UOC

Management and Ethics

COMP4951 | 4 UOC

Research Thesis A

COMP4952 | 4 UOC

Research Thesis B

COMP4953 | 4 UOC

Research Thesis C

any level 4 course offered by School of Computer Science and Engineering

Enrolment Disclaimer

Unless advised otherwise by your program authority, you should follow the rules for

the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.

Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

[Pre-2019 Handbook Editions](#)

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Authorised by Deputy Vice-Chancellor (Academic)

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