



## Specialisation

# Software Engineering

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## SENGAH

Software Engineering is an Engineering profession concerned with the processes, methods, and tools for the design and development of high quality, reliable software systems. This involves the study and application of software specification, design, implementation, testing, and documentation of software. Target systems may range from simple software applications to mission-critical real-time systems.

Software Engineering is studied as a 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 Software 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

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**School**

School of Computer Science and Engineering

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**Study Level**

Undergraduate

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**Minimum Units of Credit**

168

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**Specialisation Type**

Honours

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## Available in Program(s)

Program(s) in which this honours is available

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

**3707 Engineering (Honours)**

Faculty: Faculty of Engineering

Campus: Kensington

Units of Credit: 192

Typical Duration: 4 Years

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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 42 UOC of the following courses.

COMP1511 | 6 UOC

Programming Fundamentals

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COMP1521 | 6 UOC

Computer Systems Fundamentals

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COMP1531 | 6 UOC

Software Engineering Fundamentals

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ENGG1000 | 6 UOC

Introduction to Engineering Design and Innovation

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MATH1081 | 6 UOC

Discrete Mathematics

One of the following:

MATH1131 | 6 UOC

Mathematics 1A

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MATH1141 | 6 UOC

Higher Mathematics 1A

One of the following:

MATH1231 | 6 UOC

Mathematics 1B

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MATH1241 | 6 UOC

Higher Mathematics 1B

## Level 2 Core Courses

Students must take 42 UOC of the following courses.

COMP2041 | 6 UOC

Software Construction: Techniques and Tools

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COMP2111 | 6 UOC

System Modelling and Design

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COMP2511 | 6 UOC

Object-Oriented Design & Programming

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COMP2521 | 6 UOC

Data Structures and Algorithms

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MATH2400 | 3 UOC

Finite Mathematics

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MATH2859 | 3 UOC

Probability, Statistics and Information

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SENG2011 | 6 UOC

Workshop on Reasoning about Programs

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SENG2021 | 6 UOC

Requirements and Design Workshop

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## Level 3 Core Courses

Students must take 24 UOC of the following courses.

COMP3141 | 6 UOC

Software System Design and Implementation

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COMP3311 | 6 UOC

Database Systems

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COMP3331 | 6 UOC

Computer Networks and Applications

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SENG3011 | 6 UOC

Software Engineering Workshop 3

### **Level 4 Core Courses**

Students must take 18 UOC of the following courses.

COMP4920 | 6 UOC

Management and Ethics

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COMP4951 | 4 UOC

Research Thesis A

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COMP4952 | 4 UOC

Research Thesis B

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COMP4953 | 4 UOC

Research Thesis C

### **Discipline Electives**

Students must take at least 36 UOC of the following courses.

any level 3 Computer Science course

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any level 4 Computer Science course

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any level 6 Computer Science course

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any level 9 Computer Science course

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any level 3 Electrical Engineering course

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any level 4 Electrical Engineering course

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ENGG3060 | 6 UOC

Maker Games

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any level 3 Information Systems course

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any level 4 Information Systems course

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any level 3 Mathematics course

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any level 4 Mathematics course

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any level 6 Mathematics course

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any level 3 Telecommunications course

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any level 4 Telecommunications course

### **Free Elective**

Students must take at least 6 UOC of the following courses.

any course

### **Level 4 (or higher) COMP UOC Minimum**

Students must complete a minimum of 30 UOC of the following courses.

any level 4 Computer Science course

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COMP4920 | 6 UOC

Management and Ethics

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COMP4951 | 4 UOC

Research Thesis A

COMP4952 | 4 UOC

Research Thesis B

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COMP4953 | 4 UOC

Research Thesis C

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any level 6 Computer Science course

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any level 9 Computer Science course

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### **Enrolment Disclaimer**

You are 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. Do not assume that because you have enrolled in a course that the course will be credited towards your program.



## **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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