Software Engineering

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

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 42 UOC of the following courses.

- **COMP1511** 6 UOC
  Programming Fundamentals

- **COMP1521** 6 UOC
  Computer Systems Fundamentals

- **COMP1531** 6 UOC
  Software Engineering Fundamentals

- **ENGG1000** 6 UOC
  Introduction to Engineering Design and Innovation

- **MATH1081** 6 UOC
  Discrete Mathematics

  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
## Level 2 Core Courses

Students must take 42 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP2041</td>
<td>6</td>
</tr>
<tr>
<td>Software Construction: Techniques and Tools</td>
<td></td>
</tr>
<tr>
<td>COMP2111</td>
<td>6</td>
</tr>
<tr>
<td>System Modelling and Design</td>
<td></td>
</tr>
<tr>
<td>COMP2511</td>
<td>6</td>
</tr>
<tr>
<td>Object-Oriented Design &amp; Programming</td>
<td></td>
</tr>
<tr>
<td>COMP2521</td>
<td>6</td>
</tr>
<tr>
<td>Data Structures and Algorithms</td>
<td></td>
</tr>
<tr>
<td>MATH2400</td>
<td>3</td>
</tr>
<tr>
<td>Finite Mathematics</td>
<td></td>
</tr>
<tr>
<td>MATH2859</td>
<td>3</td>
</tr>
<tr>
<td>Probability, Statistics and Information</td>
<td></td>
</tr>
<tr>
<td>SENG2011</td>
<td>6</td>
</tr>
<tr>
<td>Workshop on Reasoning about Programs</td>
<td></td>
</tr>
<tr>
<td>SENG2021</td>
<td>6</td>
</tr>
<tr>
<td>Requirements and Design Workshop</td>
<td></td>
</tr>
</tbody>
</table>

## Level 3 Core Courses

Students must take 24 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP3141</td>
<td>6</td>
</tr>
<tr>
<td>Software System Design and Implementation</td>
<td></td>
</tr>
<tr>
<td>COMP3311</td>
<td>6</td>
</tr>
<tr>
<td>Database Systems</td>
<td></td>
</tr>
</tbody>
</table>
COMP3331 | 6 UOC
Computer Networks and Applications

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

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 36 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

any level 3 Electrical Engineering course

any level 4 Electrical Engineering course
ENGG3060 | 6 UOC
Maker Games

any level 3 Information Systems course

any level 4 Information Systems course

any level 3 Mathematics course

any level 4 Mathematics course

any level 6 Mathematics course

any level 3 Telecommunications course

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

COMP4920 | 6 UOC
Management and Ethics

COMP4951 | 4 UOC
Research Thesis A
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.
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