Bioinformatics Engineering

BINFAH

Bioinformatics 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 Bioinformatics 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: Bioinformatics
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 60 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BABS1201</td>
<td>6 UOC</td>
<td>Molecules, Cells and Genes</td>
</tr>
<tr>
<td>COMP1511</td>
<td>6 UOC</td>
<td>Programming Fundamentals</td>
</tr>
<tr>
<td>COMP1521</td>
<td>6 UOC</td>
<td>Computer Systems Fundamentals</td>
</tr>
<tr>
<td>COMP1531</td>
<td>6 UOC</td>
<td>Software Engineering Fundamentals</td>
</tr>
<tr>
<td>ENGG1000</td>
<td>6 UOC</td>
<td>Introduction to Engineering Design and Innovation</td>
</tr>
<tr>
<td>MATH1081</td>
<td>6 UOC</td>
<td>Discrete Mathematics</td>
</tr>
</tbody>
</table>

One of the following:

- CHEM1011  | 6 UOC  | Chemistry 1A: Atoms, Molecules and Energy
- CHEM1031  | 6 UOC  | Higher Chemistry 1A: Atoms, Molecules and Energy

One of the following:

- PHYS1111  | 6 UOC  | Fundamentals of Physics
Level 2 Core Courses

Students must take 42 UOC of the following courses.

BINF2010  |  6 UOC
Introduction to Bioinformatics

BIOC2201  |  6 UOC
Principles of Molecular Biology (Advanced)

COMP2041  |  6 UOC
Software Construction: Techniques and Tools

COMP2511  |  6 UOC
Object-Oriented Design & Programming

COMP2521  |  6 UOC
Data Structures and Algorithms
One of the following:
MATH2801  |  6 UOC
Theory of Statistics

MATH2901  |  6 UOC
Higher Theory of Statistics

One of the following:
BABS2202  |  6 UOC
Molecular Cell Biology 1

BABS2204  |  6 UOC
Genetics

BABS2264  |  6 UOC
Genetics (Advanced Level)

BIOC2101  |  6 UOC
Principles of Biochemistry (Advanced)

MICR2011  |  6 UOC
Microbiology 1

**Level 3 Core Courses**

Students must take 30 UOC of the following courses.

BABS3121  |  6 UOC
Molecular Biology of Nucleic Acids

BINF3010  |  6 UOC
Applied Bioinformatics

BINF6111  |  6 UOC
Genome Informatics Engineering Design Workshop

COMP3121  |  6 UOC
**Level 4 Core Courses**

Students must take 24 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
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<tbody>
<tr>
<td>BINF6112</td>
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<tr>
<td>Computational Biology Engineering Design Workshop</td>
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</table>

<table>
<thead>
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<th>UOC</th>
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<tbody>
<tr>
<td>COMP4920</td>
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</tr>
<tr>
<td>Management and Ethics</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
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</thead>
<tbody>
<tr>
<td>COMP4951</td>
<td>4</td>
</tr>
<tr>
<td>Research Thesis A</td>
<td></td>
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<table>
<thead>
<tr>
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<th>UOC</th>
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<tbody>
<tr>
<td>COMP4952</td>
<td>4</td>
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<tr>
<td>Research Thesis B</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
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</thead>
<tbody>
<tr>
<td>COMP4953</td>
<td>4</td>
</tr>
<tr>
<td>Research Thesis C</td>
<td></td>
</tr>
</tbody>
</table>

**Discipline Electives**

Students must take 12 UOC of the following:

- Level 3 or higher COMP courses.
- Level 3 BABS, BIOC or MICR courses
- any level 3 Biotechnology & Biomolecular Sciences course
- any level 3 Biochemistry course
- 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    6 UOC
Maker Games

any level 3 Microbiology course

**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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ABN: 57 195 873 179