Overview

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.

- **BABS1201 | 6 UOC**
  Molecules, Cells and Genes

- **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:

- **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
PHYS1121  |  6 UOC  
Physics 1A

PHYS1131  |  6 UOC  
Higher Physics 1A

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.

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
<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH2801</td>
<td>6</td>
<td>Theory of Statistics</td>
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<tr>
<td>MATH2901</td>
<td>6</td>
<td>Higher Theory of Statistics</td>
</tr>
<tr>
<td>BABS2202</td>
<td>6</td>
<td>Molecular Cell Biology 1</td>
</tr>
<tr>
<td>BABS2204</td>
<td>6</td>
<td>Genetics</td>
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<tr>
<td>BABS2264</td>
<td>6</td>
<td>Genetics (Advanced Level)</td>
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<tr>
<td>BIOC2101</td>
<td>6</td>
<td>Principles of Biochemistry (Advanced)</td>
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<tr>
<td>MICR2011</td>
<td>6</td>
<td>Microbiology 1</td>
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**Level 3 Core Courses**

Students must take 30 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
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<tbody>
<tr>
<td>BABS3121</td>
<td>6</td>
<td>Molecular Biology of Nucleic Acids</td>
</tr>
<tr>
<td>BINF3010</td>
<td>6</td>
<td>Applied Bioinformatics</td>
</tr>
<tr>
<td>BINF6111</td>
<td>6</td>
<td>Genome Informatics Engineering Design Workshop</td>
</tr>
<tr>
<td>COMP3121</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Algorithms and Programming Techniques

COMP3311  |  6 UOC  
Database Systems

**Level 4 Core Courses**

Students must take 24 UOC of the following courses.

BINF6112  |  6 UOC  
Computational Biology Engineering Design Workshop

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 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**

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)
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Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179