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
<table>
<thead>
<tr>
<th>Program(s) in which this honours is available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Engineering (Honours) - <strong>BE (Hons)</strong></td>
</tr>
<tr>
<td><strong>3707 Engineering (Honours)</strong></td>
</tr>
<tr>
<td>Faculty: Faculty of Engineering</td>
</tr>
<tr>
<td>Campus: Kensington</td>
</tr>
<tr>
<td>Units of Credit: 192</td>
</tr>
<tr>
<td>Typical Duration: 4 Years</td>
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<tr>
<td></td>
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<tr>
<td>Bachelor of Engineering (Honours) - <strong>BE (Hons)</strong></td>
</tr>
<tr>
<td>Master of Biomedical Engineering - <strong>MBiomedE</strong></td>
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<tr>
<td><strong>3768 Engineering (Honours)/Biomedical Engineering</strong></td>
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<tr>
<td>Faculty: Faculty of Engineering</td>
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<tr>
<td>Campus: Kensington</td>
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<tr>
<td>Units of Credit: 240</td>
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<tr>
<td>Typical Duration: 5 Years</td>
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</table>
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
<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
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<tbody>
<tr>
<td>PHYS1121</td>
<td>6</td>
</tr>
<tr>
<td>PHYS1131</td>
<td>6</td>
</tr>
<tr>
<td>PHYS1121</td>
<td>6</td>
</tr>
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<td>PHYS1131</td>
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<tr>
<td>MATH1131</td>
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<td>MATH1141</td>
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<td>MATH1231</td>
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<tr>
<td>MATH1241</td>
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</table>

**Level 2 Core Courses**

Students must take 42 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
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<tbody>
<tr>
<td>BINF2010</td>
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<tr>
<td>BIOC2201</td>
<td>6</td>
</tr>
<tr>
<td>COMP2041</td>
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<td>COMP2511</td>
<td>6</td>
</tr>
<tr>
<td>COMP2521</td>
<td>6</td>
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</tbody>
</table>

*Introduction to Bioinformatics*

*Principles of Molecular Biology (Advanced)*

*Software Construction: Techniques and Tools*

*Object-Oriented Design & Programming*

*Data Structures and Algorithms*
One of the following:

**MATH2801 | 6 UOC**
Theory of Statistics

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**MATH2901 | 6 UOC**
Higher Theory of Statistics

One of the following:

**BABS2202 | 6 UOC**
Molecular Cell Biology 1

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**BABS2204 | 6 UOC**
Genetics

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**BABS2264 | 6 UOC**
Genetics (Advanced Level)

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**BIOC2101 | 6 UOC**
Principles of Biochemistry (Advanced)

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**MICR2011 | 6 UOC**
Microbiology 1

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**Level 3 Core Courses**

Students must take 30 UOC of the following courses.

**BABS3121 | 6 UOC**
Molecular Biology of Nucleic Acids

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**BINF3010 | 6 UOC**
Applied Bioinformatics

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**BINF6111 | 6 UOC**
Genome Informatics Engineering Design Workshop

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**COMP3121 | 6 UOC**
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.
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