Bioinformatics Engineering

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
<table>
<thead>
<tr>
<th><strong>Faculty</strong></th>
<th>Faculty of Engineering</th>
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<tr>
<td><strong>School</strong></td>
<td>School of Computer Science and Engineering</td>
</tr>
<tr>
<td><strong>Study Level</strong></td>
<td>Undergraduate</td>
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<tr>
<td><strong>Minimum Units of Credit</strong></td>
<td>168</td>
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<td><strong>Specialisation Type</strong></td>
<td>Honours</td>
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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

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 48 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
DESN2000  |  6 UOC  
Engineering Design and Professional Practice

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 24 UOC of the following courses.

BABS3121  |  6 UOC  
Molecular Biology of Nucleic Acids

BINF3010  |  6 UOC  
Applied Bioinformatics

COMP3121  |  6 UOC
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 | 3 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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