Overview

Bioinformatics is becoming a central enabling discipline in the life sciences with the explosion in high-throughput data generated by genomics and proteomics technologies. Bioinformatics applies the methods and discipline of computer science and statistics to the data and goals of molecular biology and provides a computational framework to analyse these data and generate new knowledge in the life sciences.

The day to day administration of this part of the program is conducted through the Computer Science and Engineering Student Office.

This page outlines the core program rules for the Bioinformatics stream when taken as part of a single or dual award in Science, Science (International), Science and Business, and Advanced Science. Advice regarding the order and placement of courses in the program can be found on the CSE website.
<table>
<thead>
<tr>
<th><strong>Faculty</strong></th>
<th>Faculty of Engineering</th>
</tr>
</thead>
<tbody>
<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>
</tr>
<tr>
<td><strong>Minimum Units of Credit</strong></td>
<td>96</td>
</tr>
<tr>
<td><strong>Specialisation Type</strong></td>
<td>Major</td>
</tr>
</tbody>
</table>
Available in Program(s)

Program(s) in which this major is available

Bachelor of Science and Business - BSc&Bus
3925 Science and Business
Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 144
Typical Duration: 3 Years

Bachelor of Advanced Science (Honours) - BAdvSci(Hons)
3962 Advanced Science (Honours)
Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 192
Typical Duration: 4 Years

Bachelor of Science - BSc
3970 Science
Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 144
Typical Duration: 3 Years

Bachelor of Science (International) - BSc(International)
3987 Science (International)
Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 192
Typical Duration: 4 Years
**Specialisation Structure**

Students must complete 96 UOC.

**Level 1 Core Courses**

Students must take 42 UOC of the following courses.

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

- **COMP1511** | 6 UOC  
  Programming Fundamentals

- **COMP2521** | 6 UOC  
  Data Structures and Algorithms

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

One of the following:

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

- **CHEM1031** | 6 UOC  
  Higher Chemistry 1A: Atoms, Molecules and Energy
Level 2 Core Courses

Students must take 30 UOC of the following courses.

BINF2010  |  6 UOC  
Introduction to Bioinformatics

BIOC2101  |  6 UOC  
Principles of Biochemistry (Advanced)

BIOC2201  |  6 UOC  
Principles of Molecular Biology (Advanced)

COMP2041  |  6 UOC  
Software Construction: Techniques and Tools

One of the following:
MATH2801  |  6 UOC  
Theory of Statistics

MATH2901  |  6 UOC  
Higher Theory of Statistics

Level 3 Core Courses

Students must take 24 UOC of the following courses.

BABS3121  |  6 UOC  
Molecular Biology of Nucleic Acids

BABS3281  |  6 UOC  
Molecular Frontiers
BINF3010 | 6 UOC
Applied Bioinformatics

One of the following:
BINF6111 | 6 UOC
Genome Informatics Engineering Design Workshop

BINF6112 | 6 UOC
Computational Biology Engineering Design Workshop

**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.
**Additional Information**

1. To continue in this major students are required to get a credit or higher in MATH1031 Mathematics for Life Sciences. Where students do not meet this requirement they will need to consider undertaking a different major within their Science program. Advice on related majors can be received from staff in the School of Biotechnology and Biomolecular Science.

2. Students considering transferring to the 3707 Bachelor of Engineering in Bioinformatics Engineering, should enrol in MATH1131 (or MATH1141) and MATH1231 (or MATH1241) otherwise they will be ineligible for full credit on transfer to the Engineering program.

**Honours**

For further information on Honours in Bioinformatics, please see staff in either the School of Computer Science and Engineering (for research focused more primarily on the computational side of Bioinformatics), or the School of Biotechnology and Biomolecular Science (for research focused more primarily on the biology aspect of Bioinformatics).
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions