Overview

The three-year Bachelor of Data Science and Decisions has been developed to train scientists to meet the current, and future, strong demand for Data Scientists and Data Analysts.

Graduates will have broad and coherent knowledge and skills in Data Science across the three areas of mathematics and statistics, computer science, and economics, and they will gain deeper knowledge of Data Science in one of these three areas by pursuing studies in one of three streams.

Students will also have the opportunity to increase their breadth of experience using electives.

The Bachelor of Data Science and Decisions has been designed to:

1. Develop graduates who have a working knowledge of scientific criteria and methods of investigation, and a concern for objectivity and precision.
2. Enable students to understand the significance of science, technology, economics and social factors in modern society, and of the contributions they can make in improving material conditions.
3. Produce graduates able to read critically and with understanding, to think logically, and to communicate clearly by written and oral means.
4. Create graduates able to analyse information critically in a mathematical setting.
5. Allow students to understand the role of speculation in the selection and solution of problems, the construction of hypotheses, and the design of experiments.
6. Train graduates to work successfully as part of a team.
7. Train students to demonstrate knowledge and skills in formulating problems involving both qualitative and quantitative data.
8. Produce graduates able to prepare, process, interpret and present data using appropriate qualitative and quantitative techniques.

9. Enable students to apply mathematical and computational techniques and business sensibilities to real-world problems involving complex data sets.

10. Encourage graduates to apply the highest ethical standards to their professional and personal lives

11. Provide opportunities for the development of students' motivations and social maturity, and an awareness of their capabilities in relation to a choice of career which will be fruitful to themselves and to society.
<table>
<thead>
<tr>
<th><strong>Faculty</strong></th>
<th>Faculty of Science</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Campus</strong></td>
<td>Kensington</td>
</tr>
<tr>
<td><strong>Study Level</strong></td>
<td>Undergraduate</td>
</tr>
<tr>
<td><strong>Typical duration</strong></td>
<td>3 Years</td>
</tr>
<tr>
<td><strong>Delivery Mode</strong></td>
<td>Face-to-face</td>
</tr>
<tr>
<td><strong>Intake Period</strong></td>
<td>Term 1, Term 2, Term 3</td>
</tr>
<tr>
<td><strong>Academic Calendar</strong></td>
<td>3+ Calendar</td>
</tr>
<tr>
<td><strong>Minimum Units of Credit</strong></td>
<td>144</td>
</tr>
<tr>
<td><strong>Award type</strong></td>
<td>Bachelors Pass</td>
</tr>
<tr>
<td><strong>Award(s)</strong></td>
<td>Bachelor of Data Science and Decisions - BDataSci</td>
</tr>
<tr>
<td><strong>UAC Code</strong></td>
<td>429150</td>
</tr>
<tr>
<td><strong>CRICOS Code</strong></td>
<td>093085J</td>
</tr>
</tbody>
</table>
Learning Outcomes

1. Graduates will be able to analyse information critically in a mathematical setting.

   Professionals  Scholars

2. Graduates will apply mathematical and computational techniques and business sensibilities to real-world problems involving complex data sets.

   Global Citizens  Scholars

3. Graduates will understand the role of speculation in the selection and solution of problems, the construction of hypotheses, and the design of experiments.

   Professionals  Leaders

4. Graduates will have a working knowledge of scientific criteria and methods of investigation, and a concern for objectivity and precision.

   Scholars  Professionals

5. Graduates will be able to work successfully as part of a team.

   Global Citizens  Leaders  Professionals

6. Graduates will apply the highest ethical standards to their professional and personal lives.

   Global Citizens  Professionals

7. Graduates will understand the significance of science, technology, economics and social factors in modern society, and of the contributions they can make in improving material conditions.

   Global Citizens  Leaders  Professionals

8. Graduates will be able to read critically and with understanding, to think logically, and to communicate clearly by written and oral means.

   Scholars  Professionals

9. Graduates will demonstrate knowledge and skills in formulating problems involving both qualitative and quantitative data.

   Professionals  Scholars

10. Graduates will be able to prepare, process, interpret and present data using appropriate qualitative and quantitative techniques.

    Scholars  Professionals

Graduate Capabilities:
For more information on Graduate Capabilities, please click on this link.
Program Structure

Students must complete 144 UOC as a standalone program.

Students in the Data Science and Decisions program are expected to complete **144 UOC** of courses.

**120 UOC Data Science and Decisions courses**
- 72 UOC of core courses across Stages 1, 2 and 3
- One major. An approved major is 66-72 UoC. 18-24 UoC of program core courses are double-counted towards your major and the remaining 48 UoC are specific to your major.

**12 UOC Free Electives**. These courses can be taken from any Faculty of the University at any stage of your program.

**12 UOC General Education courses**. These courses cannot be Science, Engineering or Business courses. Please see the rules regarding General Education below. These courses can be taken at any stage in your program.

Please click the Sample Programs link below to view a typical enrolment pattern for this program.

Majors

Students must complete only one of the following majors. Each major is 66-72 UoC. 18-24 UoC of program core courses are double-counted towards your major and the remaining 48 UoC are specific to your major.

**MAJOR:**

**COMPZ1 | 66 UOC**
Computational Data Science

**ECONL1 | 66 UOC**
Business Data Science

**MATHE1 | 66 UOC**
Quantitative Data Science

Level 1 Core Courses
Students must take 36 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP1511</td>
<td>6</td>
</tr>
<tr>
<td>Programming Fundamentals</td>
<td></td>
</tr>
<tr>
<td>COMP2521</td>
<td>6</td>
</tr>
<tr>
<td>Data Structures and Algorithms</td>
<td></td>
</tr>
<tr>
<td>DATA1001</td>
<td>6</td>
</tr>
<tr>
<td>Introduction to Data Science and Decisions</td>
<td></td>
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</table>

One of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH1131</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 1A</td>
<td></td>
</tr>
<tr>
<td>MATH1141</td>
<td>6</td>
</tr>
<tr>
<td>Higher Mathematics 1A</td>
<td></td>
</tr>
</tbody>
</table>

One of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH1231</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 1B</td>
<td></td>
</tr>
<tr>
<td>MATH1241</td>
<td>6</td>
</tr>
<tr>
<td>Higher Mathematics 1B</td>
<td></td>
</tr>
</tbody>
</table>

**Level 2 Core Courses**

Students must take 18 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON2112</td>
<td>6</td>
</tr>
<tr>
<td>Game Theory and Business Strategy</td>
<td></td>
</tr>
</tbody>
</table>

One of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH2501</td>
<td>6</td>
</tr>
<tr>
<td>Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>MATH2601</td>
<td>6</td>
</tr>
</tbody>
</table>
Higher Linear Algebra

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

MATH2901  |  6 UOC
Higher Theory of Statistics

**Free Electives**

Students must take 12 UOC of the following courses.

*any course*

**General Education**

Students must take 12 UOC of the following courses.

Any course defined as a Science course (see Table 1) cannot be taken as General Education (GE). Any exceptions to these rules must be approved by the Associate Dean (Academic Programs) or nominee.

*any General Education course*

**Excluded General Education Courses**

Students may not undertake any Science, Engineering or Business courses towards their General Education requirement.

*any Computer Science course*

*any Food Technology course*

*any course offered by School of Medical Sciences*

*any course offered by UNSW Business School*

*any course offered by Faculty of Engineering*
any course offered by Faculty of Science

any General Education - Faculty of Business course

any General Education - Faculty of Engineering course

any General Education - Faculty of Science course

**Level 3 Core Courses**

Students must take 18 UOC of the following courses.

**COMP3311 | 6 UOC**

*Database Systems*

**DATA3001 | 6 UOC**

*Data Science and Decisions in Practice*

**ECON3203 | 6 UOC**

*Econometric Theory and Methods*

**Maximum Level 1 UOC**

Students may complete up to a maximum of 72 UOC of Level 1 courses (including General Education courses).

*any level 1 course*

**Level 2 Maturity Requirement**

Students must have completed 30 UOC before taking any of the following courses.

*any level 2 course*

**Course Information Rule**

GEN# courses cannot count towards the free elective component, or towards science core courses or science electives in the program. Any exceptions to these
rules must be approved by the Associate Dean (Academic Programs) or nominee.

**Level 3 Maturity Requirement**

Students must have completed 72 UOC before taking any of the following courses.

*any level 3 course*

**Sample Programs**

To access sample program(s), please visit:

*Sample Science Programs*

**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.
Related Programs

Related Double Degree Programs

Bachelor of Data Science and Decisions - BDataSci
Bachelor of Laws - LLB

4795 Data Science and Decisions / Law

Faculty: Faculty of Law, Faculty of Science
Campus: Kensington
Units of Credit: 264
Typical Duration: 5.7 Years

Read More

Related Programs

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

Read More

Bachelor of Science - BSc

3970 Science

Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 144
Typical Duration: 3 Years

Read More
Program Requirements

Progression Requirements

Progression rules are in accordance with university policy.

For more information on university policy on progression requirements please visit Academic Progression.
Pathways

Honours Programs

Bachelor of Science (Honours) - BSc(Hons)

4500 Science (Honours)

Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 48
Typical Duration: 1 Years

Read More

Bachelor of Economics (Honours) - BEc (Hons)

4502 Economics (Honours)

Faculty: UNSW Business School
Campus: Kensington
Units of Credit: 48
Typical Duration: 1 Years

Read More

Bachelor of Science (Honours) - BSc (Hons)

4515 Computer Science & Engineering (Honours)

Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 48
Typical Duration: 1 Years

Read More

Post Graduate

Doctor of Philosophy - PhD

1540 Economics

Faculty: UNSW Business School
Campus: Kensington
Units of Credit: 144
Typical Duration: 3 to 4 Years

Read More
Doctor of Philosophy - **PhD**

**1650 Computer Science and Eng**

Faculty: Faculty of Engineering  
Campus: Kensington  
Units of Credit: 144  
Typical Duration: 3 to 4 Years

Read More

Doctor of Philosophy - **PhD**

**1880 Mathematics**

Faculty: Faculty of Science  
Campus: Kensington  
Units of Credit: 144  
Typical Duration: 3 to 4 Years

Read More

Master of Philosophy - **MPhil**

**2585 Commerce & Economics**

Faculty: UNSW Business School  
Campus: Kensington  
Units of Credit: 72  
Typical Duration: 1.7 Years

Read More

Master of Science - **MSc**

**2920 Mathematics**

Faculty: Faculty of Science  
Campus: Kensington  
Units of Credit: 96  
Typical Duration: 2 Years

Read More

Master of Economics - **MEc**

**8412 Economics**

Faculty: UNSW Business School  
Campus: Kensington  
Units of Credit: 48  
Typical Duration: 1 Years

Read More

Master of Information Technology - **MIT**
8543 Information Technology

Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 96
Typical Duration: 2 Years

Read More

Master of Statistics - MStats

8750 Statistics

Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 72
Typical Duration: 1.7 Years

Read More
Professional Outcomes

Career Opportunities

Business analyst, data analyst, data engineer, data manager, data scientist, statistician.
Recognition of Achievement

University Medal

The University Medal is awarded to recognise outstanding academic performance by a bachelor degree student in line with the University Medal Policy and University Medal Procedure.

Award of Pass with Distinction

The Award of Pass with Distinction is awarded when a weighted average mark (WAM) of at least 75% has been achieved and at least 50% of the requirements of the award completed at UNSW. All eligible programs will award Pass with Distinction except in special circumstances where approval of Academic Board has been given for a program to opt out.

For more information, please visit:

Current Students Pass With Distinction
Additional Information

Definition of 'Science' courses

Table 1

Science Handbook Rules and Editions

Students must follow the program rules and requirements in the UNSW Handbook published in the year they commenced their studies with the Faculty of Science.

Students who transfer from another UNSW Faculty into Science (for example, from a Bachelor of Arts into a Bachelor of Science) must follow the program rules and requirements in the UNSW Handbook published in the year of their transfer.

Students who are readmitted to UNSW after a period of unapproved absence or deferment, or after exclusion, must satisfy the program rules in the Handbook published in the year of their readmission. In addition, these students may be subject to restrictions on which courses taken at UNSW may be counted on their return. In some cases, students returning from an unapproved absence may be required to repeat courses. See the Recognition of Prior Learning (RPL) and Advanced Standing sections for more details. Students who take approved leave or deferment will follow the Handbook for the year of their original commencement unless otherwise approved by the Associate Dean (Academic Programs).

Faculty of Science Rules

The Faculty of Science has some rules that relate to all students enrolled in programs offered by the Faculty in relation to recognition for prior learning, general education, course exclusions, study load, and cross-institutional study. All students should read the information contained on the Faculty General Rules and Requirements page.
Program Fees

At UNSW fees are generally charged at course level and therefore dependent upon individual enrolment and other factors such as student's residency status. For generic information on fees and additional expenses of UNSW programs, click on one of the following:

Domestic Students
Commonwealth Supported Students
International Students
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
© UNSW Sydney (CRICOS Provider No.: 00098G), 2019. The information contained in this Handbook is indicative only. While every effort is made to keep this information up-to-date, the University reserves the right to discontinue or vary arrangements, programs and courses at any time without notice and at its discretion. While the University will try to avoid or minimise any inconvenience, changes may also be made to programs, courses and staff after enrolment. The University may also set limits on the number of students in a course.

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