Overview

The Advanced Mathematics degree is aimed at high achieving students who wish to specialise in mathematics as a basis for the increasing range of quantitative careers in areas such as finance, environmental modelling and research. This four-year degree combines advanced coursework with an Honours-level research project in one of the available plans of study. UNSW offers mathematics students advanced facilities combined with innovative teaching. This program has been designed to cater for the specific abilities and interests of talented students with a superior ATAR.
Faculty of Science

Campus
Kensington

Study Level
Undergraduate

Typical duration
4 Years

Delivery Mode
Face-to-face

Intake Period
Term 1, Term 3

Academic Calendar
3+ Calendar

Minimum Units of Credit
192

Award type
Bachelors Honours

Award(s)
Bachelor of Science (Advanced Mathematics) (Honours) - BSc(AdvMath)(Hons)

UAC Code
429300

CRICOS Code
088843G
Learning Outcomes

1. Capability and motivation for intellectual development; including capacity for creativity, critical evaluation, entrepreneurship and demonstrating a commitment to their own learning, motivated by personal autonomy, accountability, curiosity and an appreciation of the value of learning.

2. Effective and appropriate communication in both professional (intra and inter disciplinary) and social (local and international) contexts.

3. Information literacy including the ability to make appropriate and effective use of information and information technology relevant to their discipline.

4. Research, enquiry and high level analytical thinking abilities including the ability to construct new concepts or create new understanding through the process of enquiry, critical analysis and problem solving, including constructing a research project, that demonstrates technical skills in research and design.

5. Independently identify and formulate solutions to complex problems with intelligence, initiative and judgement in scholarship that demonstrates advanced knowledge and critical thinking of the underlying principles and concepts in Mathematics and Statistics, and knowledge of research principles and methods.

6. Teamwork, collaborative and management skills including the ability to recognise opportunities and contribute positively to collaborative scientific research, and to demonstrate a capacity for self management, teamwork, leadership and decision making based on open-mindedness, objectivity and reasoned analysis in order to achieve common goals and further the learning of themselves and others.

7. Appreciation and respect of the social, cultural and global context of science with an ability to communicate across cultures and to develop an international professional network.

8. Ethical, social and professional understanding including the ability to critically reflect upon broad ethical principles and codes of conduct in order to behave consistently with a personal respect and commitment to ethical practice and social
Leaders   Global Citizens

Graduate Capabilities:

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

Students must complete 192 UOC as a standalone program.

Students in the Advanced Mathematics (Honours) program are expected to complete 192 UOC of courses.

144 UOC of Advanced Mathematics Core Courses:
- One approved Bachelor of Advanced Mathematics (Honours) major
- SCIF1131
- 48 UOC Honours year
- Science elective courses. Science courses are defined in 'Table 1' in the Additional Information section.

36 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. 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.

Major Specialisation Requirements

Students must complete at least one of the specialisations below.

MAJOR:

MATHA1 | 90 UOC
Applied Mathematics

MATHP1 | 90 UOC
Pure Mathematics

MATHU1 | 90 UOC
Advanced Statistics

Honours Specialisation Requirements

Students must complete at least one of the specialisations below.
HONOURS:

MATHAH | 48 UOC
Applied Mathematics

MATHPH | 48 UOC
Pure Mathematics

MATHTH | 48 UOC
Statistics

Free Electives

Students must take 36 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 cannot be taken as General Education (GE). All other courses can be used to fulfil the GE requirement of this program, including GEN# coded courses. Any exceptions to these rules must be approved by the Associate Dean (Academic Programs) or nominee.

any General Education 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.

Excluded General Education Courses

Students may not undertake any of the following excluded courses.

any Computer Science course

any Food Technology course
any course offered by Faculty of Science

any General Education - Faculty of Science course

any Medical Science course

**Level 1 Core Course**

Students must take the following course.

SCIF1131  |  6 UOC
Introductory Skills for Science

**Major Declaration**

Students must complete exactly one approved Bachelor of Science (Advanced Mathematics) (Honours) major, and this must be declared before enrolling in Level III courses. Students cannot undertake a double major in this program.

**Maximum Level 1 UOC**

A maximum of 72 UOC of Level 1 courses can be taken, including any General Education or mainstream Level 1 course taken to fulfil either the General Education or the Free Elective requirement.

any level 1 course

**Minimum Level 1 Science Courses**

Students must complete a minimum of 24 UOC of the following courses.

any level 1 Anatomy course

any level 1 Computer Science course

any level 1 Food Technology course

any level 1 course offered by Faculty of Science
any level 1 Neuroscience course

any level 1 Pathology course

any level 1 Pharmacology course

any level 1 Physiology course

**Minimum Level 3 Science Courses**

Students must complete a minimum of 30 UOC of the following courses.

any level 3 Anatomy course

any level 3 Computer Science course

any level 3 Food Technology course

any level 3 course offered by Faculty of Science

any level 3 Neuroscience course

any level 3 Pathology course

any level 3 Pharmacology course

any level 3 Physiology course

any level 3 Medical Science course

**Level 2 Maturity Requirements**

Students may commence Level 2 courses upon successful completion of 30 UOC of Level 1 courses.
any level 2 course

**Level 3 Maturity Requirements**

Students may commence Level 3 courses upon successful completion of 72 UOC.

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 Science (Advanced Mathematics) (Honours) - BSc(AdvMath)(Hons)
Bachelor of Commerce - BCom

3523 Advanced Mathematics (Honours) / Commerce

Faculty: UNSW Business School, Faculty of Science
Campus: Kensington
Units of Credit: 240
Typical Duration: 5 Years

Read More

Bachelor of Economics - BEc
Bachelor of Science (Advanced Mathematics) (Honours) - BSc(AdvMath)(Hons)

3564 Economics / Advanced Mathematics (Honours)

Faculty: UNSW Business School, Faculty of Science
Campus: Kensington
Units of Credit: 240
Typical Duration: 5 Years

Read More

Bachelor of Actuarial Studies - BActSt
Bachelor of Science (Advanced Mathematics) (Honours) - BSc(AdvMath)(Hons)

3589 Actuarial Studies / Advanced Mathematics (Honours)

Faculty: UNSW Business School, Faculty of Science
Campus: Kensington
Units of Credit: 240
Typical Duration: 5 Years

Read More

Bachelor of Science (Advanced Mathematics) (Honours) - BSc(AdvMath)(Hons)
Bachelor of Engineering (Honours) - BE (Hons)

3761 Advanced Mathematics (Honours) / Engineering (Honours)

Faculty: Faculty of Science, Faculty of Engineering
Campus: Kensington
Units of Credit: 288
Typical Duration: 6 Years

Read More

Bachelor of Science (Advanced Mathematics) (Honours) - **BSc(AdvMath)(Hons)**

**Bachelor of Science - BSc**

**3781 Advanced Mathematics (Honours) / Computer Science**

Faculty: Faculty of Science, Faculty of Engineering
Campus: Kensington
Units of Credit: 240
Typical Duration: 5 Years

Read More

Bachelor of Science (Advanced Mathematics) (Honours) - **BSc(AdvMath)(Hons)**

**Bachelor of Arts - BA**

**3949 Advanced Mathematics (Honours) / Arts**

Faculty: Faculty of Science, Faculty of Arts and Social Sciences
Campus: Kensington
Units of Credit: 240
Typical Duration: 5 Years

Read More

Bachelor of Science (Advanced Mathematics) (Honours) - **BSc(AdvMath)(Hons)**

**Bachelor of Laws - LLB**

**3998 Advanced Mathematics (Honours) / Law**

Faculty: Faculty of Law, Faculty of Science
Campus: Kensington
Units of Credit: 288
Typical Duration: 6 Years

Read More

**Related Programs**

**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 (Honours) - BSc(Hons)

4500 Science (Honours)

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

Recognition of Prior Learning

UNSW Students may be granted Recognition for Prior Learning (RPL) which may or may not reduce the amount of learning required to achieve a degree at UNSW. Generally, RPL is only granted based on the completion of tertiary-level studies, but in exceptional circumstances may also include non-formal or informal learning such as professional experience. RPL will not be granted based on partly completed tertiary courses. All applications for RPL at UNSW are subject to UNSW Recognition of Prior Learning (Coursework Programs) Policy and Procedures. Students seeking credit for courses completed at another university are required to submit documentary evidence (course outlines, academic transcripts) to support their application, and to nominate the course(s) for which they seek credit. In addition, the following conditions apply for all UNSW Science programs (including the Science component of dual award programs): Specified course credit, i.e. credit granted for an exact or near exact equivalence to a course at UNSW, will not be granted when more than 7 years has elapsed from the successful completion of the course (or other learning) and the student’s commencement in the Science program. Where this time period is shorter it will be stipulated in the individual rules for the relevant program. Unspecified course credit (e.g. General Education or free electives) will not be granted when more than 10 years has elapsed from the successful completion of the course (or other learning) and the student’s commencement in the Science program. Students may only receive credit of up to a maximum of 50% of the coursework component of their Science program, excluding Honours. For most undergraduate programs this will be 72 UOC. For dual award programs that include a Science component, it will be a maximum of 50% of the Science component of the dual degree, excluding Honours. Credit for the other program will be assessed by the Faculty that administers that program. Applications for RPL will only be assessed for students who have accepted a place to study in a UNSW Science program. Students must formally apply for RPL unless they become a UNSW student as part of a formal Articulation Agreement. Applications for RPL should be made as early as possible in the student’s program. Students who are readmitted into a Science program after a period of unapproved absence or deferment, or after exclusion, will not necessarily retain credit for all units completed at UNSW prior to the absence if the date of completion of the units of study is greater than the 7 and 10-year rules outlined in points 1 and 2 above. In these cases, the credit retained will be decided by the Associate Dean (Academic Programs) in consultation (when necessary) with the Program and/or Course Authority.
Progression Requirements

Progression to stages 2, 3, and 4 of this program is subject to academic performance. Students will be required to attain a Weighted Average Mark (WAM) of 70 in each term. If a student does not maintain this minimum level of academic performance, they will be transferred to the Bachelor of Science.

Students must complete a 48 UoC Honours sequence at Stage 4. Progression to Stage 4 is subject to academic performance and requires the completion of a total of 144 UoC and all the requirements of the first three years of the program, including Level I, major, and General Education requirements. To progress to Honours, students are required to have achieved a WAM of 70 or higher in their level III mathematics courses, and a WAM of 70 or higher in the level III courses for their chosen major and honours discipline. Students should seek the guidance of the School of Mathematics and Statistics at an early stage of study to ensure that the study plan being followed is best suited to lead to the Stage 4 Honours. Applications for admission into Honours should be made with the School of Mathematics and Statistics.

Students who are ineligible to progress to Honours, will be required to transfer to the Bachelor of Science program (3970) and graduate with the Bachelor of Science award at pass level. Students should be aware that not all 3956 majors are available in program 3970 (meaning that graduation in 3970 may occur in a less specialised major). Students enrolled in the Advanced Mathematics (Honours) program who wish to take out the BSc award at pass level without proceeding to Honours are required to transfer to the Science program (3970). Applications to transfer should be lodged no later than the census date for the term in which the student expects to satisfy requirements. Students applying after that date may not be able to graduate in the next round of ceremonies.

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

Accreditations

Professional institutes that offer accreditation on completion of this program:

- Statistical Society of Australia
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.

Honours Classes

Honours Grades are awarded as follows:-

- Honours Class 1: mark or weighted average of 85 or greater;
- Honours Class 2 Division 1: mark or weighted average from 75 to 84;
- Honours Class 2 Division 2: mark or weighted average from 65 to 74;
- Honours Class 3: mark or weighted average below 65;

A student's Honours Grading is calculated only on their performance in the final year of the program based on performance in the thesis and the 5 courses taken as part of the honours year. The thesis contributes 37.5% (90% written thesis and 10% seminar) to the overall honours mark, and the 5 courses each contribute 12.5%.

University Medal

Nominees for the University Medal will be determined by Schools within the Faculty of Science in accordance with UNSW University Medal policies and procedures.
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 commence 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.

Choosing Electives

In addition to choosing 'Science' and General Education courses as per the Program Rules above, students may take up to 36 UoC of free electives in the single degree program. These free electives can be taken from any Faculty at UNSW subject to the rule that no more than 72 units of credit of Level I courses (including courses taken for General Education) can be taken throughout the program.

Students may choose to undertake further 'Science' courses, or may explore
subject areas from outside of Science. For students interested in developing their research skills, the following courses are highly recommended:

- SCIF2041 Research Internship A (6 UOC)
- SCIF3041 Research Internship B (6 UOC)
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

Additional Expenses

No change to current program.
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