Double Degree

Actuarial Studies / Advanced Mathematics (Honours)

3589 | 240 Units of Credit

Overview

The Bachelor of Actuarial Studies/Bachelor of Science (Advanced Mathematics) (Honours) (BCom/BSc (Adv Maths)(Hons) is a 5 year dual degree program which will meet the needs of students wanting an advanced program of study in mathematics or statistics, complemented with a strong, focused actuarial studies program. As part of this program students will complete a major stream in both a selected area of mathematics or statistics (from UNSW Science), and a sequence of actuarial studies courses within the UNSW Business School.

The Advanced Mathematics(Honours) component includes a single major and a research project, as well as the award of class of honours based on performance on the honours year. Majors are defined on the Advanced Mathematics (Honours) Program (3956) page.
Faculty
UNSW Business School
Faculty of Science

Campus
Kensington

Study Level
Undergraduate

Typical duration
5 Years

Intake Period
Term 1, Term 3

Academic Calendar
3+ Calendar

Minimum Units of Credit
240

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

UAC Code
424350

CRICOS Code
088858M
Learning Outcomes

3586 - Actuarial Studies

1. Business knowledge: Students will make informed and effective selection and application of knowledge in a discipline or profession, in the contexts of local and global business.

2. Problem solving: Students will define and address business problems, and propose effective evidence-based solutions, through the application of rigorous analysis and critical thinking.

3. Business communication: Students will harness, manage and communicate business information effectively using multiple forms of communication across different channels.

4. Teamwork: Students will interact and collaborate effectively with others to achieve a common business purpose or fulfil a common business project, and reflect critically on the process and the outcomes.

5. Responsible business practice: Students will develop and be committed to responsible business thinking and approaches, which are underpinned by ethical professional practice and sustainability considerations.

6. Global and cultural competence: Students will be aware of business systems in the wider world and actively committed to recognise and respect the cultural norms, beliefs and values of others, and will apply this knowledge to interact, communicate and work effectively in diverse environments.

7. Leadership development: Students will develop the capacity to take initiative, encourage forward thinking and bring about innovation, while effectively influencing others to achieve desired results.

3956 - Advanced Mathematics (Honours)

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.

Leaders  Professionals  Scholars

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

Leaders  Global Citizens

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

Global Citizens  Professionals

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.

Scholars  Professionals

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.

Professionals  Scholars

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.

Leaders  Global Citizens  Scholars

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.

Global Citizens

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 responsibility, multicultural, cultural and personal diversity.

Leaders  Global Citizens

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**Graduate Capabilities:**
For more information on Graduate Capabilities, please click on this link.
Stand Alone Programs

Click on the link below to find out more about each individual program.

Program 3586
Actuarial Studies

Program 3956
Advanced Mathematics (Honours)
Double Degree Structure

Students must complete 240 UOC.

Bachelor of Actuarial Studies/Advanced Mathematics (Hons) degree normally consists of 192 UOC.

These UOC are made up of:

Actuarial Studies component (96 UOC)
1. Level 1 Actuarial Studies Core Courses (42 UOC) (Please note: MATH1151 and MATH1251 are completed under the Advanced Mathematics component of the Double Degree)
2. Level 2 Actuarial Studies Core Courses (18 UOC) (Please note: ACTL2131 may be substituted by MATH2901 and MATH2931, please see below)
3. Level 3 Actuarial Studies Electives (18 UOC)
4. Business School Elective (18 UOC)

Bachelor of Advanced Mathematics (Honours) (144 UOC)
1. An approved Advanced Mathematics (Honours) major and
2. SCIF1131;
3. 48 units of credit Honours Year; and
4. Science elective courses

Alternative Actuarial Studies Majors

3586 - Actuarial Studies

Completion of a specialisation is optional. Students may choose a maximum of one specialisations below.

MAJOR:

ACTLE1 | 48 UOC
Actuarial Risk Management and Analytics

MATHE1 | 66 UOC
Quantitative Data Science

Optional Second Major/Minor
3586 - Actuarial Studies

A Major in at UNSW Business School is a sequence of at least 48 UOC courses in a single discipline or area of study.

Please note: completion of an additional major within combined Actuarial Studies degree may result in more UOC required for degree completion.

**MAJOR:**

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### 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

**Level 1 Core Courses**

Students must take 54 UOC of the following courses.

Please note: For students completing Actuarial Studies/Science or Actuarial Studies/Advanced Maths (Hons).  
MATH1151 & MATH1251 are compulsory core courses that count towards the other
Therefore, students must complete another 12 UOC of UNSW Business School electives to satisfy the 96 UOC depth component.

**Level 2 Core Courses**

3586 - Actuarial Studies

Students must take 18 UOC of the following courses.

Students may replace ACTL2131 with the two courses MATH2901 Higher Theory of Statistics and MATH2931 Higher Linear Models. If students make this replacement,
MATH2901 will count towards ACTL2131, and MATH2931 will be counted towards a major where this course is required or as a Business elective.

Please note: If you are studying Actuarial Studies/Science or Actuarial Studies/Advanced Maths (Hons), and wish to count MATH2901 and MATH2931 toward Science or Advance Maths (Hons) degree, you must complete more Business elective courses to achieve meet the minimum Business School Course requirement.

ACTL2102 | 6 UOC  
Foundations of Actuarial Models

ACTL2111 | 6 UOC  
Financial Mathematics for Actuaries

ACTL2131 | 6 UOC  
Probability and Mathematical Statistics

**Level 1 Core Course**

3956 - Advanced Mathematics (Honours)

Students must take the following course.

SCIF1131 | 6 UOC  
Introductory Skills for Science

**Level 3 Actuarial Electives**

3586 - Actuarial Studies

Students must complete 18 UOC of the following courses.

ACTL3141 | 6 UOC  
Actuarial Models and Statistics

ACTL3142 | 6 UOC  
Actuarial Data and Analysis

ACTL3151 | 6 UOC  
Life Contingencies
ACTL3162 | 6 UOC  
General Insurance Techniques

ACTL3182 | 6 UOC  
Asset-Liability and Derivative Models

ACTL3191 | 6 UOC  
Superannuation and Retirement Benefits

ACTL3192 | 6 UOC  
Retirement Saving and Spending Over the Lifecycle

**Business School Elective**

3586 - Actuarial Studies

Students must complete additional Business School electives to meet the 96 UOC of Business courses required for the Actuarial Studies component of the degree.

Please note: For students in Actuarial Studies/Law only 6 UOC of Business School electives are required. For students in Actuarial Studies/Science or Actuarial Studies/Adv Math (Hons), 18 UOC of Business School electives will need to be completed.

any course offered by UNSW Business School

**Level 2 Maturity Requirements**

3956 - Advanced Mathematics (Honours)

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

any level 2 course

**Level 3 Maturity Requirements**

3956 - Advanced Mathematics (Honours)

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

**Minimum Faculty UOC**

3586 - Actuarial Studies

Students must complete a minimum of 96 UOC of UNSW Business School courses.

any course offered by UNSW Business School

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**Maximum Level 1 UOC**

3586 - Actuarial Studies

No more than 60 UOC of Level 1 Business courses will be counted towards the degree.

any level 1 course

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**Maximum Level 1 UOC**

3956 - Advanced Mathematics (Honours)

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

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**Minimum Level 1 Science Courses**

3956 - Advanced Mathematics (Honours)

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
Minimum Level 3 Science Courses

3956 - Advanced Mathematics (Honours)

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

Requirements for Double Degree Actuarial Studies/Law
Law students are permitted to complete any TABL course offered in the Bachelor of Actuarial Studies (Taxation major), with the exception of TABL1710 and TABL2741, as part of the Actuarial Studies component of their program but are NOT permitted to complete any other TABL course.

**Mathematics Requirements for Double Degree**

3586 - Actuarial Studies

1. MATH1151 Mathematics for Actuarial Studies and Finance 1A (6 UOC) replaces MATH1141 Higher Mathematics 1A (6 UOC)
2. MATH1251 Mathematics for Actuarial Studies and Finance 1B (6 UOC) replaces MATH1241 Higher Mathematics 1B
This applies to any stream that requires either of these courses.

3. If MATH1041 Statistics for Life and Social Sciences (6 UOC) is a requirement in a stream, it is replaced by one of the following three courses:
   - ACTL2131 Probability and Mathematical Statistics (6 UOC)
   - MATH2801 Theory of Statistics (6 UOC)
   - MATH2901 Higher Theory of Statistics (6 UOC)

**Level 2 and 3 Maturity Requirements**

3586 - Actuarial Studies

Students must have completed 24 UOC before taking any Level 2 courses.
Students must have completed 48 UOC before taking any Level 3 courses.

**Major Declaration**

3956 - Advanced Mathematics (Honours)

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.

Please read the Double Degree Program rules as some specific rules apply to particular Double Degree combinations.

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