Double Degree

Advanced Science (Honours) / Engineering (Honours)

3762 | 288 Units of Credit

Overview

The Faculty of Science and the Faculty of Engineering offer a dual degree program which qualifies students for two degrees after the equivalent of six years of successful full-time study leading to the award of the degrees Bachelor of Advanced Science (Honours) and Bachelor of Engineering (Honours).

The Faculty of Science administers the program, and delegates administration of the Bachelor of Engineering (Honours) requirements to the School which offers the Engineering discipline selected. Students should seek advice from the Faculty of Science regarding their Advanced Science (Honours) program, and the relevant Engineering School Office, or the Faculty of Engineering, regarding their Engineering program.
**Faculty**
Faculty of Science  
Faculty of Engineering

**Campus**
Kensington

**Study Level**
Undergraduate

**Typical duration**
6 Years

**Intake Period**
Term 1, Term 3

**Academic Calendar**
3+ Calendar

**Minimum Units of Credit**
288

**Award(s)**
Bachelor of Advanced Science (Honours) - 
BAdvSci(Hons)
Bachelor of Engineering (Honours) - 
BE (Hons)

**UAC Code**
429360

**CRICOS Code**
088866M
Learning Outcomes

3962 - Advanced Science (Honours)

1. Effective and appropriate communication in both professional (intra and interdisciplinary) and social (local and international) contexts.
   - Scholars
   - Professionals
   - Global Citizens
   - Leaders

2. 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.
   - Scholars
   - Professionals
   - Global Citizens
   - Leaders

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

4. 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
   - 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 one or more disciplines, and knowledge of research principles and methods.
   - Global Citizens
   - Professionals
   - Leaders
   - Scholars

6. 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
   - Scholars

7. 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.
   - Professionals
   - Scholars

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.

Global Citizens  Professionals

3707 - Engineering (Honours)

1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.

Scholars

2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.

Scholars

3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.

Scholars

4. Discernment of knowledge development and research directions within the engineering discipline.

Scholars

5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.

Professionals  Scholars  Global Citizens

6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.

Global Citizens  Scholars  Professionals

7. Application of established engineering methods to complex engineering problem solving.

Global Citizens  Scholars  Professionals

8. Fluent application of engineering techniques, tools and resources.

Professionals  Scholars


Scholars  Global Citizens  Professionals

10. Application of systematic approaches to the conduct and management of engineering projects.

Global Citizens  Scholars  Leaders  Professionals
11. Ethical conduct and professional accountability.
Global Citizens  Professionals

12. Effective oral and written communication in professional and lay domains.
Global Citizens  Scholars  Leaders

13. Creative, innovative and pro-active demeanour.
Professionals  Scholars  Leaders

14. Professional use and management of information.
Leaders  Scholars

15. Orderly management of self, and professional conduct.
Leaders  Scholars  Professionals

16. Effective team membership and team leadership.
Leaders  Global Citizens  Scholars  Professionals

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 3962
Advanced Science (Honours)

Program 3707
Engineering (Honours)
Double Degree Structure

Students must complete 288 UOC.

Bachelor of Engineering (Honours) (168 UOC)
1. 168 UOC plus at least 60 days of approved Industrial Training experience
2. At least 48 UOC Disciplinary Knowledge and Enquiry-based Courses
3. 30-42UOC Introductory Knowledge core courses
4. At least 12 UOC of elective courses
5. The balance of stream to consist of Foundation Disciplinary Knowledge Courses

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

Note: Because of an overlap of 24 units of credit of Science courses in the core for both degrees, the total units of credit required for completion is 288 UoC, rather than 312 UoC.

Majors

3962 - Advanced Science (Honours)

Students must complete at least one Science major selected from the list below.

When offered in a particular major, students must take higher versions of any Level 2 or 3 courses. Any variation to this must be approved by the Associate Dean (Academic Programs) or nominee.

Bioinformatics is a 96 UOC major, students will not be able to complete this major as part of a double degree within the minimum UOC. This major will involve extra time and costs to meet the degree requirements and may have visa implications for international students. Contact the Science Student Centre for more details.

MAJOR:

ANATA1  |  72 UOC
Anatomy
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<thead>
<tr>
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<td>84</td>
<td>Molecular and Cell Biology</td>
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<td>BIOSG1</td>
<td>78</td>
<td>Ecology</td>
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<td>Biology</td>
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Honours Specialisations

3962 - Advanced Science (Honours)

Students must complete at least one Science Honours stream selected from the list below.

HONOURS:

ARCYBH  |  48 UOC
Palaeoscience

BABS BH  |  48 UOC
Bioinformatics

BIOCFH  |  48 UOC
Molecular and Cell Biology

BIOCGH  |  48 UOC
Genetics

BIOSKH  |  48 UOC
Biology

BIOSLH  |  48 UOC
Ecology

BIOTBH  |  48 UOC
Biotechnology

CHEMFH  |  48 UOC
Chemistry

CLIMDH  |  48 UOC
Climate Science
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**Minors**

3962 - Advanced Science (Honours)

Students may choose to complete an optional minor in one of the following areas, using their Science and/or free electives

**MINOR:**

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# Vision Science Majors

3707 - Engineering (Honours)

Students must complete at least one of the specialisations below.

## HONOURS:

**AEROAH | 168 UOC**  
Aerospace Engineering

**BINFAH | 168 UOC**  
Bioinformatics Engineering

**CEICAH | 168 UOC**  
Chemical Engineering

**CEICDH | 168 UOC**  
Chemical Product Engineering

**COMPBH | 168 UOC**  
Computer Engineering

**CVENAH | 168 UOC**  
Civil Engineering

**CVENBH | 168 UOC**  
Environmental Engineering

**ELECAH | 168 UOC**  
Electrical Engineering

**GMATDH | 168 UOC**  
Surveying
Students must take 6 UOC of the following courses
Note: Students in the Vision Science major should take VISN1101 Seeing the World Perspectives from Vision Science instead. Students in Engineering Dual Programs should take ENGG1000 Introduction to Engineering Design and Innovation.

**SCIF1131 | 6 UOC**
Introductory Skills for Science

**Level 2 Maturity Requirements**

3962 - Advanced Science (Honours)

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

*any level 2 course*

**Level 3 Maturity Requirements**

3962 - Advanced Science (Honours)

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

*any level 3 course*

**Level 3 Maturity Requirements**

3707 - Engineering (Honours)

Students must have completed 42 UOC before taking any of the following courses.

*any level 3 course*

**Level 4 Maturity Requirements**

3707 - Engineering (Honours)

Students must have completed 102 UOC before taking any of the following courses.

*any level 4 course*

**Maximum Level 1 UOC**

3962 - Advanced Science (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*

**Minimum Level 1 Science UOC**

3962 - Advanced Science (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*

*any level 1 Neuroscience course*

*any level 1 Pathology course*

*any level 1 Pharmacology course*

*any level 1 Physiology course*

*any level 1 Medical Science course*

**Minimum Science UOC**

3962 - Advanced Science (Honours)

Students must take 'science' courses so that the major plus SCIF1131, plus Honours year plus 'science' courses total 144 units of credit.

*any Anatomy course*
any Computer Science course

any Food Technology course

any course offered by Faculty of Science

any Neuroscience course

any Pathology course

any Pharmacology course

any Physiology course

any Medical Science course

**Minimum Level 3 Science UOC**

3962 - Advanced Science (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

Course Substitution

3762 - Advanced Science (Honours) / Engineering (Honours)

Students must take 6 UOC of the following courses
ENGG1000 - Introduction to Engineering Design and Innovation (6 UOC) - (replaces SCIF1131)

COMP COURSE RULE

3762 - Advanced Science (Honours) / Engineering (Honours)

Students may not count 'COMP' courses towards their Science requirements unless they are specified as core courses in their major (i.e. for these students 'COMP' courses will not count as 'Science' courses).

Industrial Experience Requirement

3707 - Engineering (Honours)

Students must complete a minimum of 60 days of Industrial Training to graduate. Industrial Training must be undertaken concurrently with enrolment in the program.

For more information on Industrial Training, please visit https://www.engineering.unsw.edu.au/study-with-us/engineering-students-industrial-training

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
Additional Information

Accreditation:

This Engineering component of this dual degree has the same accreditation status as the Bachelor of Engineering (Hons). For details please see Program 3707
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions