

BACHELOR OF ADVANCED SCIENCE (3757)

Approved Abbreviation: BAdvSc

Western Sydney University Program Code: 3757

AQF Level: 7

CRICOS Code: 041145K

This program applies to students who commenced in 2022 or later.

For Commencement Year 2020 to 2021 - please refer to: 3757.1 Bachelor of Advanced Science (<http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3757.1>)

For Commencement Year 2016 to 2019 - please refer to: 3562.9 Bachelor of Science (Advanced Science) (<http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3562.9>)

For Commencement Year 2012 to 2019 - please refer to: 3683.1 Bachelor of Natural Science (Advanced) (<http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3683.1>)

If you enjoy being constantly challenged and extended by your studies and are thinking about a career involving Science research, then the Bachelor Advanced Science degree allows exposure to research in an undergraduate degree. Inquiry-based research is introduced for all science students in first year, however in second year, Advanced Science students interact with world renowned researchers to provide extensive and individual training to develop leadership and/or research skills. This involves completing advanced science subjects only available to Advanced Science students, which focus on research methodology and developing skills pertinent for a future in science project management. On completing a science major, the degree also allows for completion of an additional minor or four electives, so students can design their own learning journey.

Students choosing the Environmental Health testamur major must complete a compulsory work placement.

Students should note that different majors are offered on different campuses, and not all majors will be offered at every campus.

Study Mode

Three years full-time or six years part-time.

Program Advice

science@westernsydney.edu.au

Location

Campus	Attendance	Mode	Advice
Campbelltown Campus	Full Time	Internal	See above
Campbelltown Campus	Part Time	Internal	See above
Hawkesbury Campus	Full Time	Internal	See above
Hawkesbury Campus	Part Time	Internal	See above
Parramatta Campus - Victoria Road	Full Time	Internal	See above

Parramatta Campus - Victoria Road	Part Time	Internal	See above
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Accreditation

The Environmental Health major, when undertaken within the Bachelor of Advanced Science has Conditional Provisional Accreditation with Environmental Health Australia.

Work Integrated Learning

Western Sydney University seeks to enhance student learning experiences by enabling students to engage in the culture, expectations and practices of their profession or discipline. This program includes a placement or other community-based unpaid practical experience opportunities.

Students who select T076 Environmental Health testamur major must complete a compulsory work placement. Please contact the Program Advisor listed above for information.

Work integrated learning is a component of many subjects in the core of the course and testamur majors. Additionally, students will be allocated to or, depending on the testamur major selected, may choose one of three specific work integrated learning subjects.

The first of these, Complex Case Studies in Science, is designed to provide students with opportunities for personal development, industry and civic engagement and to develop career readiness. The subject assures that students can critically analyse and logically argue complex scientific issues whilst taking into account multiple competing perspectives and builds on employability and communication skills developed in earlier subjects.

Complex Forensic Studies is the second specific work integrated learning subject. Students in T049 Forensic Science will undertake Complex Forensic Studies which assures similar skills to those in Complex Case Studies but in a specific forensic science context.

In the third specific work integrated learning subject, Work Internship for Science Professionals, students undertake an industry placement. This subject is compulsory for students studying T076 Environmental Health to meet accreditation requirements. The placement will allow students to observe and develop professional skills and behaviour and integrate theoretical and practical science knowledge and conventions into a real-world setting. Student placements are unpaid and are undertaken in accordance with the requirements of Western Sydney University's Placement Policy (<https://policies.westernsydney.edu.au/document/view.current.php?id=308>). Students who are in relevant employment may apply for this experience to be recognised for advanced standing purposes. Students should consult the Credit for Prior Learning Policy (<https://policies.westernsydney.edu.au/document/view.current.php?id=176>)

Admission

Assumed Knowledge: Students should have at least 2 Unit English, 2 Unit science (any science) and 2 Unit mathematics at year 12 equivalent. Minimum ATAR of 90.

Students must maintain a Grade Point Average (GPA) of 5.0 or above to continue their enrolment in the program. If this GPA is not maintained they will be automatically transferred into the standard program after one warning (one semester of further study). Students in other WSU science programs who achieve a GPA of 5.0 or greater at the end of their first year of study may be admitted into the Advanced Science program by invitation if sufficient places are available.

Applications from Australian and New Zealand citizens and holders of permanent resident visas may be made via the Universities Admissions Centre (UAC) or directly through the Western Portal. Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

<http://www.uac.edu.au/>
<https://westernsydney.uac.edu.au/ws/>

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International students currently completing an Australian Year 12 in or outside Australia, an International Baccalaureate in Australia or a New Zealand National Certificate of Educational Achievement (NCEA) level 3 must apply via UAC International.

<http://www.uac.edu.au/>

All other International applicants must apply directly to the University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

International Office (<http://www.westernsydney.edu.au/international/>)

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Program Structure 2023

Qualification for this award requires the completion of 240 credit points comprising 120 credit points of core subjects, 80 credit points taken as a Science major and 40 credit points of elective subjects.

For the Environmental Health major, students must complete 120 credit points of core subjects plus 120 credit points of Environmental Health subjects.

Early Exit

Students may exit this program on completion of 80 cps with a Diploma in General Science (exit only)

Diploma in General Science (exit only) (<https://hbook.westernsydney.edu.au/archives/2023-2024/programs/diploma-general-science-exit-only/>)

Subject	Title	Credit Points
Core Subjects		
All students are required to complete the following two subjects:		
NATS 1019	Scientific Literacy	10
CHEM 1008	Introductory Chemistry	10
Major Areas		
Students are allocated core subjects from the following areas depending on the major chosen. Students should consult the sequence of subjects identified for each major.		
Students are allocated two of the following:		20
BIOS 1001	Biodiversity	
BIOS 1012	Cell Biology	

CHEM 1012	Essential Chemistry	
Students are allocated one of the following:		10
MATH 1026	Quantitative Thinking	
MATH 1014	Mathematics 1A	
MATH 1003	Biometry	
Students are allocated one of the following:		10
MATH 2001	Advanced Calculus	
BIOS 2042	Biochemistry	
NATS 2019	Forensic and Environmental Analysis	
NATS 2042	Science Research Methods	
CHEM 2001	Analytical Chemistry	
PUBH 2010	Epidemiology	
Students are allocated one of the following:		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
Students are allocated one of the following:		10
NATS 3027	Laboratory Quality Management	
NATS 3015	Field Project 1	
BIOS 3012	Conservation Biology	
NATS 3040	Topics in Medical Science	
Advanced Science		
All students are required to complete the following advanced science subjects:		
NATS 2001	Advanced Science Project A	10
NATS 2002	Advanced Science Project B	10
NATS 3043	Advanced Science Research Project C	20
Total Credit Points		120

Majors

Students are required to complete eight major subjects from one of the following primary Science majors. Students selecting the Environmental Health testamur major are required to complete twelve major core subjects.

Please note that the full three year program sequences are shown on each of the Major Testamur handbook pages via the links below.

Agrifood, Testamur Major (T123) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/agrifood-ug-testamur-major/>)

Animal Science, Testamur Major (T054) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/animal-science-ug-testamur-major/>)

Applied Physics, Testamur Major (T078) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/applied-physics-ug-testamur-major/>)

Biology, Testamur Major (T053) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/biology-ug-testamur-major/>)

Chemistry, Testamur Major (T026) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/chemistry-ug-testamur-major/>)

Environmental Health, Testamur Major (T076) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/environmental-health-ug-testamur-major/>)

Forensic Science, Testamur Major (T049) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/forensic-science-ug-testamur-major/>)

Innovative Foods, Testamur Major (T124) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/innovative-foods-ug-testamur-major/>)

Sustainable Environmental Futures, Testamur Major (T120) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/sustainable-environmental-futures-ug-testamur-major/>)

Zoology, Testamur Major (T029) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/zoology-ug-testamur-major/>)

Electives

Students may use their elective subjects to complete a minor from the same or another discipline area (40 credit points), or up to 40 credit points from the wide range of subjects offered by Western Sydney University.

Suggested minors

Environmental Health, Minor (0208) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/environmental-health-minor/>)

Infectious Diseases, Minor (0231) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/infectious-diseases-minor/>)

Mathematics, Minor (0059) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/mathematics-minor/>)

Microbiology, Minor (0105) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/microbiology-minor/>)

Minor elective spaces

Elective subjects may be used toward obtaining an additional approved minor (40 credit points). Western Sydney University offers minors in a range of areas including Sustainability and Indigenous Studies.

Global Sustainability Minor (<https://hbook.westernsydney.edu.au/majors-minors/global-sustainability-minor/>)

Indigenous Australian Studies Minor (<https://hbook.westernsydney.edu.au/majors-minors/indigenous-australian-studies-minor/>)

Western Sydney University also offers the following innovative transdisciplinary Challenge Minors (https://www.westernsydney.edu.au/educational_partnerships_and_quality/home/challenge_minors/) which we encourage those students who have elective space to consider.

Equitable Technologies (<https://hbook.westernsydney.edu.au/majors-minors/equitable-technologies-minor/>)

Urban Evolution (<https://hbook.westernsydney.edu.au/majors-minors/urban-evolution-minor/>)

Migration and Global Change (<https://hbook.westernsydney.edu.au/majors-minors/migration-global-change-minor/>)

Personal Innovation (<https://hbook.westernsydney.edu.au/majors-minors/personal-innovation-minor/>)

Innovating, Creating and Problem Solving (<https://hbook.westernsydney.edu.au/majors-minors/innovating-creating-problem-solving-minor/>)

Eco-Socially Conscious Design and Manufacturing (<https://hbook.westernsydney.edu.au/majors-minors/eco-socially-conscious-design-manufacturing-minor/>)

Water for Life (<https://hbook.westernsydney.edu.au/majors-minors/water-life-minor/>)

Climate Justice (<https://hbook.westernsydney.edu.au/majors-minors/climate-justice-minor/>)

Creative and Visual Communication (<https://hbook.westernsydney.edu.au/majors-minors/creative-visual-communication-minor/>)

Global Workplaces (<https://hbook.westernsydney.edu.au/majors-minors/global-workplaces-minor/>)

Innovating For Humans (<https://hbook.westernsydney.edu.au/majors-minors/innovating-humans-minor/>)

Creative Living for Cultural Wellbeing (<https://hbook.westernsydney.edu.au/majors-minors/creative-living-cultural-wellbeing-minor/>)

Ideate.Strategise.Innovate. (<https://hbook.westernsydney.edu.au/majors-minors/ideate-strategise-innovate-minor/>)

Humanising Data (<https://hbook.westernsydney.edu.au/majors-minors/humanising-data-minor/>)

For more information, visit the Challenge Minor (https://www.westernsydney.edu.au/educational_partnerships_and_quality/home/challenge_minors/) website.

Search for majors and minors (<https://hbook.westernsydney.edu.au/majors-minors/>)

Students can apply for an elective minor via Western Now.

WesternNow (<https://www.westernsydney.edu.au/westernnow/>)

Program Structure 2024

Qualification for this award requires the completion of 240 credit points that includes: 120 credit points of core subjects, 80 credit points taken as a Science specialisation and 40 credit points of flexible subjects.

An exception to this is T076 Environmental Health specialisation. Students undertaking this specialisation must complete 120 credit points of core units plus 120 credit points of Environmental Health subjects.

Early Exit

Students may exit this program on completion of 80 cps with a Diploma in General Science (exit only)

Diploma in General Science (exit only) (<https://hbook.westernsydney.edu.au/archives/2023-2024/programs/diploma-general-science-exit-only/>)

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Core Subjects		
All students are required to complete the following two subjects:		
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Major Areas		
Students are allocated core subjects from the following areas depending on the major chosen. Students should consult the sequence of subjects identified for each major.		
Students are allocated two of the following:		20
BIOS 1001	Biodiversity	
BIOS 1012	Cell Biology	
CHEM 1012	Essential Chemistry	
Students are allocated one of the following:		10
MATH 1026	Quantitative Thinking	
MATH 1014	Mathematics 1A	
MATH 1003	Biometry	
Students are allocated one of the following:		10
MATH 2001	Advanced Calculus	
BIOS 2042	Biochemistry	
NATS 2019	Forensic and Environmental Analysis	
NATS 2042	Science Research Methods	
CHEM 2001	Analytical Chemistry	
PUBH 2010	Epidemiology	
Students are allocated one of the following:		10

NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
NATS 3008	Complex Forensic Studies	10
And		
NATS 3055	Practicum 1	10
Advanced Science		
All students are required to complete the following advanced science subjects:		
NATS 2001	Advanced Science Project A	10
NATS 2002	Advanced Science Project B	10
NATS 3043	Advanced Science Research Project C	20
Total Credit Points		130

Infectious Diseases, Minor (0231) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/infectious-diseases-minor/>)

Mathematics, Minor (0059) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/mathematics-minor/>)

Microbiology, Minor (0105) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/microbiology-minor/>)

Specialisations

Students are required to complete eight specialisation units from one of the following primary Science specialisations. Students selecting T076 Environmental Health are required to complete twelve specialisation core units. Students may only select one testamur major.

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Applied Physics, Testamur Major (T078) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/applied-physics-ug-testamur-major/>)

Biology, Testamur Major (T053) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/biology-ug-testamur-major/>)

Chemistry, Testamur Major (T026) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/chemistry-ug-testamur-major/>)

Environmental Health, Testamur Major (T076) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/environmental-health-ug-testamur-major/>)

Forensic Science, Testamur Major (T049) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/forensic-science-ug-testamur-major/>)

Innovative Foods, Testamur Major (T124) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/innovative-foods-ug-testamur-major/>)

Sustainable Environmental Futures, Testamur Major (T120) (<https://hbook.westernsydney.edu.au/archives/2023-2024/majors-minors/sustainable-environmental-futures-ug-testamur-major/>)

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