



THE UNIVERSITY OF
SYDNEY

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sydney.edu.au/science
1800 SYD UNI (1800 793 864)
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Science coursework 2019

Science, Agriculture, Environment,
Veterinary Science



We acknowledge the tradition of custodianship and law of the Country on which the University of Sydney campuses stand. We pay our respects to those who have cared and continue to care for Country.



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Where will postgraduate study lead you?

Whether you want to gain new professional qualifications, change your career direction or pursue a personal ambition, the University of Sydney will steer you to places you never imagined.

With more than 450 courses on offer and a flexible range of study options, we make it easy for you to tailor a degree to your needs.

Our coursework and research degrees offer far more than knowledge. You'll join leading thinkers to challenge the known and explore the unknown, in a stimulating environment that encourages both learning and networking. To support research and teaching excellence, we are investing in the latest innovative technology and exceptional facilities.

The University's people drive our greatest feats. We give you access to leading lecturers, research supervisors, industry networks, research and teaching centre staff from Australia and worldwide – across many disciplines.

Our graduates are among the world's most sought-after employees – we are ranked first in Australia and fourth in the world for graduate employability.*

The University's regular ranking in the top 50 universities worldwide reflects our outstanding reputation.**



"Roles for dietetic professionals are so expansive. I entered my degree thinking that clinical work in hospitals was the only place I could end up, but now I know how much more is out there. The scope for evidence-based nutritional information is ever-advancing."

"Our work ties in with so many other health professionals, researchers and even corporate businesses. It's inspiring to know that dietitians are trickling into a spectrum of fields to inform physical and psychological health and wellbeing."

Michelle Hsu
Master of Nutrition and Dietetics

* QS Graduate Employability Rankings 2018
** QS World University Rankings 2019

Postgraduate coursework options



Master's degrees

These are ideal if you need specialised knowledge and skills, and want to take the next step in your career. You can gain professional qualifications for your next job, upskill for your current role, develop academic expertise in your chosen field, and expand your horizons.

Master's degrees typically require between one and two years of full-time study, or two to four years part time.

If you can't commit to a full-time master's degree due to other commitments, we also offer the flexibility of part-time study for domestic students.

– sydney.edu.au/study/flexible

Graduate diplomas and graduate certificates

Graduate diplomas and graduate certificates are usually based on master's degrees and offer a subset of the master's units.

They are an alternative worth considering if you want to try out postgraduate study, increase the breadth of your expertise and knowledge, or you don't quite meet the entry requirements for a master's degree.

Once you finish the graduate certificate (usually six months of full-time study) you may then be able to progress to the equivalent graduate diploma (usually one year full time) and a master's degree (see the progression diagram below as a guide – but note that progression requirements can vary).

Short courses

If you are not sure about studying a full degree at the University or are interested in professional development, you can choose to take a unit of study in a 'non-award' course.

We offer hundreds of units of study across selected faculties, including many that you can use to earn continuing professional development (CPD) points or explore subjects of general interest.

You will receive an official academic transcript at the end of your studies, and may be able to use it to request credit for a longer course, such as a master's degree, at the University.

– sydney.edu.au/study/short-courses

Graduate certificate
Complete some of the essential units of study towards a master's degree
Usually six months of full-time study

Graduate diploma
Complete more units of study that you can count towards a master's degree
Usually one year of full-time study

Master's degree
Gain specialised skills and knowledge or professional qualifications
Usually one or two years of full-time study

Global opportunities

We'll connect you to the world through our exchange programs, helping you gain real-life experience to enhance your career prospects and build your networks.

Exchange programs

The University has more than 270 exchange partners in 41 countries. All of them broaden your horizons and immerse you in different cultures and environments. More than 100 of these partners are ranked among the top 200 universities in the world.*

If you are eligible to become an exchange student,** you remain enrolled full time at the University of Sydney while you are overseas and continue to pay your usual tuition fees. A student from your host institution will come to Sydney, and the result is an exchange of students and places.

To find out more, visit our study abroad and student exchange website or check your faculty website for its specific exchange programs.

– sydney.edu.au/sydney-abroad



Outstanding facilities

As a Sydney student, you will have access to the latest facilities and specialist equipment in centres such as the Charles Perkins Centre, Sydney Nano, the Sydney Institute of Agriculture, our Veterinary Teaching Hospital, the Sydney Institute of Marine Science and the Institute of Medical Physics.

Research

We are one of the world's top research universities and a member of Australia's prestigious Group of Eight network and the Association of Pacific Rim Universities. The latter partners us with others that excel in research, including Stanford University, UCLA, Shanghai Jiao Tong University and the University of Hong Kong.

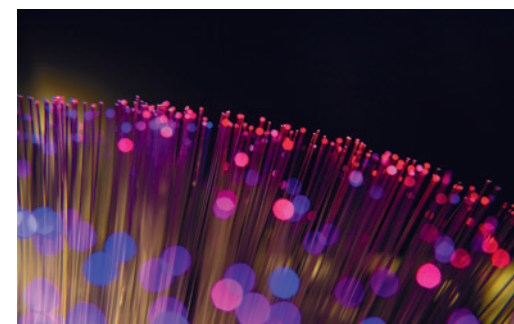
Our research is shaped by the big picture and combines the expertise of scholars across many disciplines. This collaborative spirit drives our interdisciplinary research and teaching centres, of which we have more than 90. In every area, we have a proud track record of excellence. The Australian Government ranked all of our research at world standard or above in its latest Excellence in Research for Australia ratings.

Learn about our current research:

– sydney.edu.au/research

Become a science leader

As a student with us, you'll join one of Australia's largest postgraduate communities and a global network of leading thinkers.



Excellence in the sciences

Placing 42 in the latest world rankings, the University of Sydney is in the top percent of universities worldwide.*

Our reputation within the sciences is just as impressive and is reflected in the performance of our individual subjects. In veterinary science, for example, we are placed No. 1 in Australia and 11 in the world.**

As a result, we attract renowned researchers, competitive funding and prestigious international prizes.

Our other subjects ranked among the world's best include:

- life sciences and medicine (15)
- geography (24)
- psychology (25)
- agriculture and forestry (42)
- natural sciences (43)
- chemistry (43)
- mathematics (45)
- biology, physics, earth and marine sciences (51-100).**

Leading graduates

Ranked No. 1 in Australia and 4th in the world, we are also leaders in graduate employability.***

Many of our graduates have become inspirational leaders in their fields, improving lives in Australia and across the world. They've changed the face of global science and continue to inform national and worldwide science and health agendas.

* Times Higher Education World University Rankings 2016-17

** Postgraduate students can go on exchange if their course does not have specific accreditation requirements that must be completed here in Sydney.

* QS World University Rankings 2019

** QS World University Rankings by Subject 2018

*** QS Graduate Employability Rankings 2018

Animal or human health

Careers in health are varied and rewarding. The concept of ‘one health’ recognises the role the physical environment plays in the spread of disease in humans and animals.

In the Faculty of Science, we offer a range of accredited programs across both animal and human health including nutrition and dietetics, medical physics and veterinary medicine.

Animal or human health courses					
Course	Admission criteria	Credit points	Duration	CRICOS code	Entry
Master of Medical Physics	A bachelor’s degree in Science or Engineering, with a major in physics and a Credit average (65 percent)	72	Full time: 1.5 years Part time: 3 years	050097E	February
Graduate Diploma in Medical Physics	A bachelor’s degree in Science or Engineering with a major in physics	48	Full time: 1 year	050098D	February
Master of Nutrition and Dietetics	A Bachelor of Science with a Credit average (65 percent), plus all of the following: <ul style="list-style-type: none">– 12 credit points of junior chemistry, or equivalent– 12 credit points of junior biology*, or equivalent– 12 credit points of intermediate or senior Biochemistry and/or Molecular Biology, or equivalent– 12 credit points of intermediate or senior Human Physiology, or equivalent– 6 credit points of intermediate or senior Nutrition Science, or equivalent– 6 credit points of intermediate or senior Food Science, or equivalent.	96	Full time: 2 years	008414B	February
Doctor of Veterinary Medicine	A bachelor’s degree with a minimum Credit average (65 percent), plus: <ul style="list-style-type: none">– prerequisites in chemistry, organic chemistry, biology and biochemistry– Admission Statement including a minimum 28 days of relevant work experience and animal handling experience– references from at least four referees.	192	Full time: 4 years	079224J	February

* For entry from 2021 onwards, this requirement will change to junior human biology

See page 24 for English language requirements.
Part-time study is available only to domestic students.

Medical physics



Medical physics is the specialist application of radiation physics, dosimetry, imaging, radiobiology, and radiation detection and protection – crucial skills in the diagnosis and treatment of many diseases.

Studying medical physics gives you the latest knowledge and techniques to apply in the fields of medical imaging, physiological monitoring, medical electronics and the diagnosis and treatment of cancer and other diseases.

The University’s medical physics program is offered through the School of Physics, which has world-class teaching and research facilities. It provides highly experienced staff through the Institute of Medical Physics and affiliated teaching hospitals and research institutes.

The program offers a wide variety of coursework units of study in radiation physics, nuclear physics, radiation dosimetry, anatomy and biology, nuclear medicine, radiotherapy physics, medical imaging physics, image processing (including radiomics), radiation biology, health physics, health data management systems and research methodology.

Accreditation

The Master of Medical Physics is accredited by the Australasian College of Physical Scientists and Engineers in Medicine.

Career opportunities

The Master of Medical Physics is the entry-level qualification required to practise as a clinical physical scientist. It is designed to meet the growing demand for graduates with the specialised skills and expertise to work in a clinical setting in the highly scientific and technical environment of medical physics.

Our graduates have also developed careers in research, industry and health data analytics.

Sample course progression

Master of Medical Physics (full time, 1.5 years)	
Semester 1	Semester 2
Year 1	
Anatomy and Biol Essentials for Physicists	Radiotherapy Physics
Nuclear Medicine Physics	Medical Imaging Physics
Nuclear Physics	Health Physics and Radiation Protection
Radiation Physics and Dosimetry	Computation and Image Processing
Year 2	
Research Methodology and Project	

Nutrition and dietetics

Make a real difference to the prevention of chronic lifestyle diseases by developing expertise in all aspects of human nutrition – including food science, nutrition science, dietary assessment, medical nutrition, public health, community nutrition and food service management.



The University of Sydney is a recognised leader in nutrition and dietetics education, having offered its first postgraduate course in the field in 1967. Our courses draw on the expertise of leading researchers and clinicians in nutrition science, public health, medicine and dietetics, who translate the latest research into evidence-based practice.

The Master of Nutrition and Dietetics provides professional education for dietitians and nutritionists. It builds on major concepts from the study of human biochemistry and physiology to discuss the roles of nutrients, nutritional contents of food and diet in health and disease. It ensures graduates reach competence in public health, medical nutrition therapy, food service management, communication, management, and research and evaluation.

Accreditation

The Master of Nutrition and Dietetics is accredited by the Dietitians Association of Australia (DAA). Graduates are eligible to become full members of DAA and join the Accredited Practising Dietitian Program.

The University is required to maintain a current accreditation status as outlined in the DAA accreditation process.

- daa.asn.au/becoming-a-dietitian-in-australia/currently-accredited-dietetic-programs

Career opportunities

Once you graduate, you will have the skills for a career as a nutritionist or dietitian in clinical or public health, hospitals or private practice, or conduct community health research.

Sample course progression

Master of Nutrition and Dietetics (full time, 2 years)	
Semester 1	Semester 2
Year 1	
Dietary Intake and Nutritional Assessment	Food Service Management
Nutritional and Food Science	Community and Public Health Nutrition
Methods in Nutrition Research	Medical Nutrition
Dietetics Professional Studies	
Year 2	
Dietetics and Training Placement	Nutrition Research Project

Veterinary medicine

Become a career-ready graduate with expertise in managing animal health and disease, and protecting and advancing animal, human and environmental health and welfare, locally and globally.



The University of Sydney’s Doctor of Veterinary Medicine is a four-year graduate-entry program, taught by the number one veterinary school in Australia and the 11th best in the world.*

Teaching is research-driven, so you will learn about the latest developments in evidence-based practice, veterinary medical research, animal behaviour, animal welfare science and veterinary public health. The integrated curriculum provides you with clinical and professional skills training, clinical exposure and animal handling from your first semester.

Learning takes place within a ‘one health’ framework, ensuring you understand the critical role of the veterinary professional in animal, human and ecosystem health at local, national and global levels.

Accreditation

Our veterinary degrees are accredited by the Australasian Veterinary Boards Council, the American Veterinary Medical Association and the Royal College of Veterinary Surgeons. Graduating from the University of Sydney School of Veterinary Science will allow you to obtain a licence to practise veterinary medicine in Australia and several countries abroad.

Career opportunities

Graduates can work in rural and urban areas in Australia and around the world. The Doctor of Veterinary Medicine will equip you to become a veterinary medical professional in the global health community and you can choose from a wide range of exciting fields including clinical veterinary practice, public veterinary practice, animal welfare, policy, diagnostic services, and education.

* QS World University Rankings by Subject 2018

Sample course progression

Doctor of Veterinary Medicine (full time, 4 years)	
Semester 1	Semester 2
Year 1: Structure and Function of the Normal Body	
Foundations of Veterinary Science	Foundations of Veterinary Science
Professional Practice	Animal Management Systems
Professional Skills	Professional Skills
Research and Enquiry	Research and Enquiry
Year 2: Principle and Approach to Animal Disease	
Principles of Animal Disease	Principles of Animal Disease
Professional Practice	Animal Management Systems
Professional Skills	Professional Skills
Research and Enquiry	Research and Enquiry
Year 3: Health and Disease Management	
Veterinary Public Practice	Small Animal Practice
Clinical Foundations	Livestock Practice
Small Animal Practice	Equine Practice
Livestock Practice	Intensive Animal Production Practice
Equine Practice	Practice management
Exotic and Wildlife Practice	Research and Enquiry
Research and Enquiry	
Year 4: Professional Placements	
Intramural Small Animal Medicine and Surgery	
Intramural Large Animal Medicine and Surgery	
Extramural Small Animal Medicine and Surgery	
Extramural Large Animal Medicine and Surgery	
Industry, community, public practice placement	

Psychology

Psychology is arguably one of the fastest developing and most exciting sciences of our time.

Psychology is the scientific study of human behaviour and mental processes. It investigates how we behave in groups and as individuals, how we act and what we think, and how we interact with our physical environment as well as with each other. The outcomes of these investigations are applied to diverse professional settings, such as the treatment of mental illness, job selection, health promotion and education policy.

Psychology courses

Course	Admission criteria	Credit points	Duration	CRICOS code	Entry
Master of Clinical Psychology	APAC-accredited four-year bachelor’s degree in psychology with at least second-class division 1 honours (2.1), or equivalent; referee reports; plus a selection interview	96	Full time: 2 years	082878M	February
Master of Clinical Psychology/ PhD	APAC-accredited four-year bachelor’s degree in psychology from a university with at least first-class honours, or equivalent; referee reports; plus a selection interview	96 plus PhD	Full-time: 4.5 years	082918G	February
Master of Science in Coaching Psychology	Three-year degree in psychology or a cognate discipline with a major in areas such as (but not limited to) arts, humanities, business, science or law with a Credit average; plus at least three years relevant employment experience	48	Full time: 1 year Part time: 2 years	074185G	February
Graduate Diploma in Coaching Psychology	As above	36	Full time: 1 year Part time: 1.5 years	074184G	February
Graduate Certificate in Coaching Psychology	As above	24	Part time: 1 year	N/A	February
Graduate Diploma in Psychology*	A bachelor’s degree (without a psychology major); and successful completion of Psychology 1001 and Psychology 1002 or equivalent	60	Mix of full and part time: 2 years Part time only: up to 4 years	N/A	February/ August

See page 24 for English language requirements.
Part-time study is available only to domestic students.
Where a CRICOS code is marked as N/A, it indicates this course is not available to international students for onshore study with an Australian student visa.

Clinical psychology



Postgraduate options in clinical psychology include the Master of Clinical Psychology coursework program and the double degree Master of Clinical Psychology and Doctor of Philosophy, which incorporates coursework, supervised clinical placements and research.

Both programs adopt a scientific and evidence-based approach to clinical psychology. The treatment model is based on a cognitive-behavioural approach, with the introduction of alternative models of therapy in the second year, ensuring depth and breadth of clinical training.

The programs include 1200 hours of experience on a clinical placement. Qualified clinical psychologists and clinical neuropsychologists provide supervised clinical practice in an on-campus psychology clinic and a range of external teaching hospitals, clinics and community health services.

The double degree provides clinical and doctorate-level research training consistent with international standards of professional psychology.

Accreditation

Both programs are accredited by the Australian Psychology Accreditation Council and are approved qualifications for Associate Membership of the Australian Clinical Psychology Association and the Australian Psychological Society College of Clinical Psychologists.

The Australian Health Practitioner Regulation Agency’s Psychology Board of Australia also approves the programs for the purposes of registration and for endorsement of practice in clinical psychology.

Graduates are recognised by NSW Health as qualifying for progression to the grade of clinical psychologist.

Career opportunities

You will graduate with the highly developed knowledge base and strong clinical skills to work as a professional clinical psychologist in many clinical and community settings. You’ll also be eligible to apply for a registrar program leading to area-of-practice endorsement in clinical psychology.

Sample course progression

Master of Clinical Psychology (full time, 2 years)	
Semester 1	Semester 2
Year 1	
Treatment Across the Lifespan	Specialised Areas of Practice
Assessment Across the Lifespan	Placement 1
Research, Ethics, and Professional Practice	Health and Neuropsychology
Clinical Skills and Practice	Case and Research Seminars 1
Year 2	
Reflective Practice and Placement 2	Advanced Models and Seminars
External Placement 1	External Placement 2
Research Project 1	Research Project 2
Case and Research Seminars 2	Case and Research Seminars 3

Coaching psychology

Coaching psychology aims to enhance the performance, productivity and quality of life of individuals, organisations and the broader community.

The coaching industry is a rapidly growing service area providing exciting opportunities for both personal development and growth alongside the challenge of helping individuals, teams and organisations to thrive.

Our coaching psychology program is an applied psychology course that sits at the intersection of counselling, clinical, positive and organisational psychology. It has a focus on coaching in business and organisational settings, and gives you the skills to coach in a wide variety of settings, including executive, management and personal coaching in all industries.

To ensure you receive the best available training and development, our course is taught by practising coaching psychologists and training and management consultants. Each have extensive experience in their specialised fields and international reputations as practitioners, educators and researchers.

Our coaching psychology team is the first of its kind in the world and is recognised for leading the way in coaching theory and research, as well as real-world applications.

Accreditation and further study

While there is no generally recognised professional qualification for coaches, the program is consistent with the International Coach Federation core competencies, so it can contribute towards accreditation on the federation’s portfolio track.

This program does not qualify as an alternative fourth year for registration as a clinical psychologist, nor as an accredited honours-equivalent degree in psychology for the purposes of registration or membership of the Australian Psychological Society.

If you already have a four-year degree in psychology, you may be able to use this program as part of the requirements for registration as a psychologist via the supervision track.

Through the completion of the specialised research stream, you may qualify for access to higher degree research opportunities at master’s or PhD levels without a current fourth year in psychology.

Career opportunities

After graduating, you could work in a range of fields including human resources, change management, private practice, organisational consultancy, coaching, executive coaching or professional services.

Sample course progression

Master of Science in Coaching Psychology (full time, 1 year)

Semester 1	Semester 2
Year 1	
Theories and Techniques of Coaching Psychology	Coaching Practice
Fundamentals of Coaching Practice	Coursework elective
Coursework elective	Coursework elective
Coursework elective/ research project	Coursework elective/ research project

Electives include: Socio-Cognitive Issues in Coaching Psychology; Positive Organisational Coaching; Groups, Teams and Systems; Applied Positive Psychology; Psychology of Peak Performance; Research Project in Applied Psychology.

Psychology

For graduates who are new to this field, the Graduate Diploma in Psychology opens doors to the discipline. Whether you want to gain registration as a practising professional or continue to higher studies, this course will get you started on the path to becoming a psychologist.

The Graduate Diploma in Psychology involves a minimum of two years of combined full-time and part-time study, or the part-time equivalent. It includes units of study identical to the second- and third-year psychology units necessary for a psychology major in an undergraduate degree, plus at least two additional units at a more advanced level. You then have the opportunity to complete an honours year, if you meet the admission criteria.

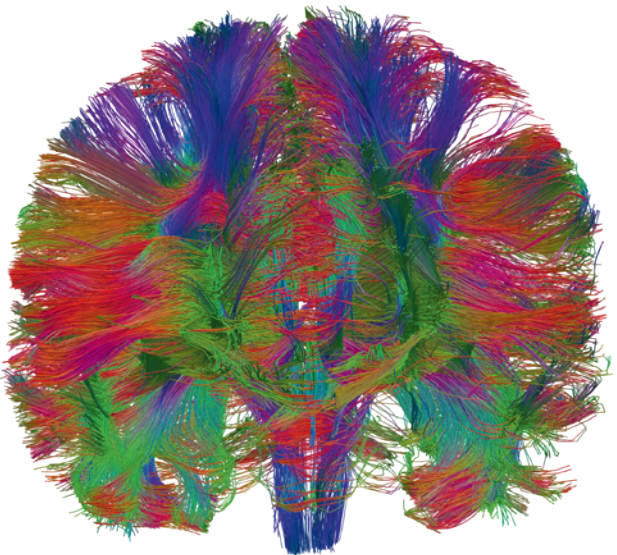
Due to the nature of the course and subjects, it is not possible to study the Graduate Diploma in Psychology at a full-time load every semester.

Psychology disciplines within this course include: social, cognitive, behaviour, perceptual systems, statistics, personality, developmental, abnormal, applications, psychiatry, neuroscience.

Accreditation

The Graduate Diploma in Psychology meets the accreditation requirements of the Australian Psychology Accreditation Council for an undergraduate sequence in psychology, and can lead to a fourth year of study (honours or equivalent) in psychology.

Full membership of the Australian Psychological Society requires an honours or honours equivalent fourth year, followed by a fifth and sixth year of postgraduate study.



Tractography of neural tracts of a human brain

Career opportunities

Registered psychologists are in high demand. As well as achieving the basis for registration, students who complete a four-year psychology program (the graduate diploma and an honours year) can work in areas such as schools, hospitals, prisons, human resources, developmental disabilities and various social policy areas in the private and public sectors.

These qualifications are also required for entry into all professional psychology programs, such as postgraduate clinical training programs, which will qualify you to become a clinical psychologist. They also form the ideal base to pursue graduate research programs such as the PhD.

Sample course progression

Graduate Diploma in Psychology (full/part time, 2 years)

Year 1	
Semester 1 (part time)	Semester 2
Brain and Behaviour Psychology	Cognition, Intelligence and Perception
Statistics and Research Methods for Psychology	Personality and Social Psychology
	Advanced Statistics for Psychology (honours prerequisite)
Year 2	
Semester 1	Semester 2 (part time)
Learning and Behaviour	Introduction to Clinical Psychology*
Abnormal Psychology	Health Psychology*
Social Psychology	

* Scheduling for these units is still being finalised, so they may be available in Semester 1 or 2.

Protecting the globe and feeding the world

The sustainability of our global environment is the greatest challenge facing 21st century natural, social and political science. The United Nations Development Programme describes climate change as the “defining human development issue of our generation”.

More than ever, people with knowledge and skills in agriculture, environmental science and marine science will be called upon to find innovative solutions in a rapidly changing world. Our programs will equip you to play a vital role in the sustainable development not just of our society, but our entire planet.



Sustainability, agriculture and environment courses

Course	Admission criteria	Credit points	Duration (credit points)	CRICOS code	Entry
Master of Agriculture and Environment	Bachelor's degree with a Credit average (65 percent) in agriculture, science or economics, or an equivalent qualification	72	Full time: 1.5 years Part time: 3 years	084693D	February/ August
Graduate Diploma in Agriculture and Environment	Bachelor's degree in agriculture, science or economics, or an equivalent qualification	48	Full time: 1 year Part time: 2 years	084694C	February/ August
Master of Environmental Science	Bachelor of Science, with a Credit average, in at least one of the following disciplines: biology, chemistry, physics, mathematics, ecology, climate and atmospheric sciences, marine science, geology, geography, environmental studies, environmental engineering, agriculture and/or natural resource management; or a bachelor's degree in any discipline, in addition to successfully completing three units of undergraduate science (biology, chemistry, geography) at the University of Sydney with a Credit average.	72	Full time: 1.5 years Part time: 3 years	082877A	February/ August
Graduate Diploma in Environmental Science	Bachelor's degree as per the Master of Environmental Science, with a Pass average	48	Full time: 1 year Part time: 2 years	074173M	February/ August
Graduate Certificate in Environmental Science	Bachelor's degree as per the Master of Environmental Science, with a Pass average	24	Full time: 0.5 years Part time: 1 year	074172A	February/ August
Master of Environmental Science and Law	Bachelor of Science in the discipline of biology, chemistry, physics, mathematics, ecology, climate and atmospheric sciences, marine science, geology, geography, environmental studies, environmental engineering, agriculture or natural resource management with a Credit average, or equivalent qualification	72	Full time: 1.5 years Part time: 3 years	083651M	February/ August
Master of Marine Science and Management	Bachelor of Science, with a Credit average in biology, chemistry, physics, mathematics, ecology, climate and atmospheric sciences, marine science, geosciences, geography, geology, environmental studies, environmental engineering, civil engineering, aquaculture, agriculture or natural resource management, or equivalent qualification	72	Full time: 1.5 years Part time: 3 years	083318B	February/ August
Graduate Diploma in Marine Science and Management	Bachelor's degree as per the Master of Marine Science and Management, with a Pass average	48	Full time: 1 year Part time: 2 years	074731G	February/ August
Graduate Certificate in Marine Science and Management	Bachelor's degree as per the Master of Marine Science and Management, with a Pass average	24	Part time: 1 year	N/A	February/ August

See page 24 for English language requirements.
Part-time study is available only to domestic students.
Where a CRICOS code is marked as N/A, it indicates this course is not available to international students for onshore study with an Australian student visa.

Agriculture and environment



The Master of Agriculture and Environment trains you to solve some of the world’s biggest challenges: food security, climate change, and management of carbon, water and the environment.

The course will deepen your understanding of the key scientific and economic concepts and processes affecting managed systems and the environment. It will allow you to apply the knowledge you gain through research to develop sustainable solutions to critical issues within managed systems and the environment.

Through professional experience in the lab and out in the field, you’ll be ready to contribute to a booming sector that generates more than \$150 billion a year in production, contributes around 16 percent of Australia’s export earnings, and tackles the biggest global issues of our time.

By completing one of our specialisations, you can develop your expertise in:

- agricultural and environmental technologies
- agricultural and environmental economics
- forest and atmosphere interactions
- horticultural technologies.

You will also complete a research project in which you will innovatively address modern-day problems, while honing your skills in project management, communication and interdisciplinary thinking.

Accreditation

Accreditation is not a requirement for this area. Graduates of the Master of Agriculture and Environment are eligible for membership of several professional bodies in the fields of agriculture and natural resource management. Some examples are the Australasian Plant Pathology Society, Soil Science Australia, Australian Society of Plant Sciences, and the Australian Society of Horticultural Science.

Career opportunities

Once you graduate, you will be able to use your expertise in Australia and overseas, working in research institutions, public and private enterprises in agriculture, horticulture, forestry and the environment. You could also work in relevant sections of the regulatory, banking and finance sectors.

Sample course progression

Master of Agriculture and Environment (full time, 1.5 years)

Semester 1	Semester 2
Year 1	
Soil Processes, Assessment and Management	Climate Change: Process, History, Issues
Crop and Pasture Agronomy	Environmental Economics
Specialisation elective	Research proposal and approach
Specialisation elective	Research review
Year 2	
Research Communication	
Research Paper	
Specialisation elective/ elective	
Specialisation elective/ elective	

Sample of electives: International Trade, Sustainable Farming Systems, Remote Sensing, GIS and Land Management, Plants and the Environment, Global Environmental Politics.

Environmental science

Environmental science is concerned with our natural and human-made surroundings, and how we can use or manage them for the benefit of humanity and the world.

Drawing on a wide range of science-based disciplines and applications – from ecology to solar power, analytical chemistry and remote sensing – the Master of Environmental Science gives you a grounding in basic environmental issues while offering great flexibility in the subjects you take and how deep you delve into them.

The course’s focus is on linking your education in environmental sciences (such as ecology, climate change and chemistry) with studies in politics and law, project evaluation and assessment, decision-making and conflict resolution. As a result, you will be able to understand the environmental problems that can arise and the disparate solutions that can be applied to solve them.

You can also pursue your particular interests with our range of electives, including marine science, Australasian wildlife, sustainable development, law and the environment, geographic information science (GIS), and more.

Environmental scientists and managers require a broad interdisciplinary knowledge base and the ability to apply this knowledge flexibly and innovatively. That’s why our programs span and integrate several disciplines and develop your problem-solving skills.



Research pathway

If you maintain a distinction average, you may apply to complete the research pathway and take on an individualised research project under the supervision of an academic staff member. If you successfully complete this project, you will be eligible to apply for a research program such as the Master of Science or Doctor of Philosophy.

Career opportunities

Master of Environmental Science graduates are found in a variety of professional roles – from analytical scientists to policymakers and environmental or catchment managers. Within Australia our graduates have acquired jobs in federal, state and local government bodies, including the Forestry Corporation of NSW, Roads and Maritime Services and the National Parks and Wildlife Service, as well as with private consultancies.

Sample course progression

Master of Environmental Science (full time, 1.5 years)

Semester 1	Semester 2
Year 1	
Integrated Environmental Practice	Climate Change: Process, History, Issues
Introduction to Environmental Chemistry	Energy – Sources, Uses and Alternatives
Social Science of Environment	Elective
Elective	Elective
Year 2	
Elective	
Elective	
Elective	
Elective	

Elective units cover disciplines including agriculture, environmental science, geography, government, marine science, sustainability, resource economics, and wildlife management.

Environmental science and law



The Master of Environmental Science and Law integrates diverse disciplines into an outstanding program. If you are a science graduate looking to learn about environmental policy, this is a unique opportunity to combine science, environment and law in a single degree.

The Master of Environmental Science and Law is a chance to extend your scientific knowledge into environmental areas and acquire an introduction to the field of environmental law and policy.

This program is unique as it brings together subjects that are normally taught separately and are difficult to study together outside of the degree. As a student at the University of Sydney, you will benefit from an exceptional combination of resources, such as the Australian Centre for Climate and Environmental Law, known around the world for the outstanding quality of its research in environmental science and management.

Career opportunities

You will graduate with a practical and theoretical background in the key aspects of environmental science and law. This qualification will complement your science background and open doors to careers in environmental management and policy development. The course does not qualify you as a practising lawyer, but you will have the knowledge and capabilities to take on roles that require development of policy and management schedules.

Sample course progression	
Master of Environmental Science and Law (full time, 1.5 years)	
Semester 1	Semester 2
Year 1	
Environmental Law and Policy	Legal Reasoning and the Common Law System
Environmental Science core unit	Environmental Science core unit
Environmental Law core unit	Environmental Law core unit
Elective	Elective
Year 2	
Integrated Environmental Practice	
Environmental Science core unit	
Environmental Law core unit	
Elective	
An 18-credit-point research project is available to meritorious students from second semester (in place of the Integrated Environmental Practice unit and two electives).	

Marine science and management



Our Master of Marine Science and Management is taught by renowned experts in some of the best coastal locations in the country.

In-depth study in marine science and management subjects, plus plenty of hands-on experience in incredible aquatic field sites, will give you the skills, knowledge and confidence to work in the multidisciplinary field of marine science.

Developed in collaboration with the Sydney Institute of Marine Science and its partner universities, the degree's rich array of subjects include the science and management of coasts, marine ecology and conservation, coral reefs, climate change, oceanography (physical, geological and biological) and engineering (coastal and marine). While you will undertake core units at the University of Sydney, you can take elective units at one of our partner universities.

As a student of this degree you will have access to premier locations, like the University's Marine Studies Institute – a recently refurbished heritage building overlooking Sydney Harbour with state-of-the-art laboratories and facilities. Further afield, we have a tropical research station in the Great Barrier Reef, where several classes are taught.

The coastal expertise at the University of Sydney is among the best in Australia. We have international leaders in areas ranging from coastal science and management to coastal ecology and biology.

The subjects we cover, including coastal management, modelling, geographic information systems, ecological statistics, remotely sensed data analysis and marine and coastal law – challenge you to solve real-world problems and learn to tackle multifaceted problems that affect our coasts and the ocean.

Research pathway

If you are maintaining a distinction average, you can apply to complete the research pathway in which you take on an individualised research project under the supervision of an academic staff member. If you successfully complete this project, you will be eligible to apply for a research program such as a Master of Science or Doctor of Philosophy.

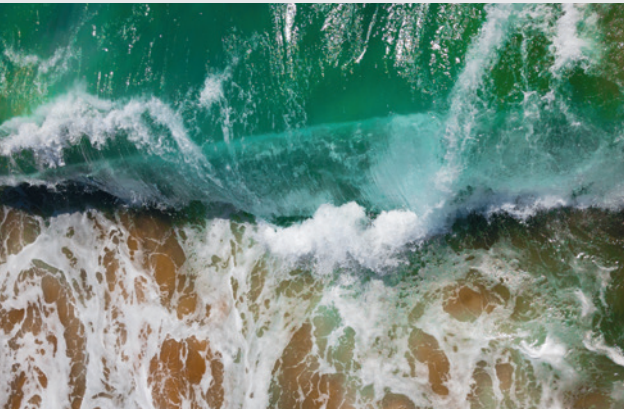
Career opportunities

After graduating, you can take up career opportunities in the government agencies that manage coastal and marine resources and environments and in consulting companies that seek coastal and marine specialists. With climate change predictions that impact on sea levels, ocean conditions and marine ecology, there will be a need for more coastal and marine experts to deal with the associated effects.

Sample course progression	
Master of Marine Science and Management (full time, 1.5 years)	
Semester 1	Semester 2
Year 1	
Topics in Australian Marine Science	Methods in Applied Ecology
Coastal Processes and Systems	Coastal Management Field School
Partner institution unit	Partner institution unit
Elective	Elective
Year 2	
Elective/marine research project	
Elective/marine research project	
Elective/marine research project	
Elective/marine research project	
You can select electives from the following disciplines: marine biology/biological oceanography, marine geosciences/coastal engineering, physical oceanography/marine engineering, and environmental management/sustainability.	

Mathematics and multidisciplinary studies

More than ever before, employers are seeking graduates with good problem-solving skills who can critically analyse data to find efficient solutions that address current and future challenges.



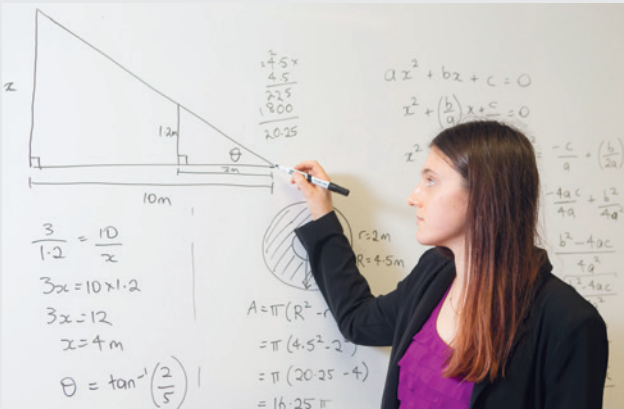
To prepare our students to solve the complex and multifaceted issues of the future, we have applied a multidisciplinary approach to our courses.

Our Master of Sustainability, for example, will give you the business, legal and environmental knowledge to succeed in a wide range of careers relating to the sustainable development of our world.

Analysis courses

Course	Admission criteria	Credit points	Duration	CRICOS code	Entry
Master of Sustainability	Bachelor's degree with a Credit average or equivalent qualification	72	Full time: 1.5 years Part time: 3 years	068694C	February/ August
Graduate Diploma in Sustainability	Bachelor's degree or equivalent qualification	48	Full time: 1 year Part time: 2 years	068693D	February/ August
Graduate Certificate in Sustainability	Bachelor's degree or equivalent qualification	24	Full time: 0.5 years Part time: 1 year	068692E	February/ August
Master of Mathematical Sciences	Bachelor's degree (or equivalent) including at least 24 credit points of mathematical sciences units at 3000-level with at least a distinction average.	96	Full time: 2 years Part time: 4 years	097035J	February/ August

See page 24 for English language requirements. Part-time study is available only to domestic students.



The Master of Mathematical Sciences also provides the tools to thrive in an ever-changing environment. You will graduate with strong skills in reasoning and logic which you can apply to a career in finance, government, data science, technology, energy, economics or many other areas.

Sustainability

The Master of Sustainability will equip you to further your career in diverse areas such as environmental protection, business consulting, government at all levels, finance, law, public health, urban planning and sustainable building.

In this course, you will learn about renewable energy and energy conservation, population health, food and water security, sustainability law and policy, business leadership and sustainability analysis tools. You will be able to apply your new knowledge in a unique, practical capstone project that involves a placement in a business tasked with solving key sustainability issues.

The program lets you tailor subjects to suit your background and career interests. First, you will build a foundation in sustainability, with core units including health and population, energy and resources, food and water security, policy and governance, social change, and sustainability analysis tools. You will then broaden your study by choosing electives across a range of areas or focus on one aspect by choosing related electives and designing your master's course capstone project in that area.

By joining the sustainability program at the University of Sydney, you will be part of a truly multidisciplinary experience. You will be guided by the University's highly regarded experts and industry professionals, who partner with the program as guest speakers and mentors to provide insight into a range of workplaces.

Career opportunities

Graduates will be equipped to help develop and implement solutions to the complex question of how to deliver acceptable lifestyles for all without compromising the fate of future generations. The capstone project gives you experience working on a real sustainability issue, and the generalist nature of the program allows you to plan a course of study that aligns with your professional aspirations and career goals.

Sample course progression

Master of Sustainability (full time, 1.5 years)	
Semester 1	Semester 2
Year 1	
Introduction to Sustainability	Food and Water Security
Energy and Resources	Sustainability Development and Population Health
Sustainability: Business and Leadership	Law, Policy and Sustainability
Elective	Elective
Year 2	
Research project	



Mathematical sciences

In our increasingly technological world, the study of mathematics is vital to future developments and discoveries. A foundation in this area will enable you to apply logic and quantitative reasoning to a vast array of situations, changing the way you think about your surroundings and how things work.

Our Master of Mathematical Sciences is designed to provide you with thorough, internationally competitive training in mathematics, so you can become a leader in the field. It will also assist you if you wish to transition from undergraduate studies to research in mathematical sciences.

The skills you will acquire in this course are highly transferable, making you a desirable graduate with numerous options. With your high-level cognitive training, you could make an impact in areas such as science, finance, engineering, medicine or technology.



Career opportunities

Completion of the Master of Mathematical Sciences opens a wide range of career options. You could pursue a career in business as a financial or market analyst. You could also become an energy forecaster, data scientist, meteorologist, economic modeller, actuary, game designer, web analyst or teacher – the prospects are almost infinite.

Sample course progression

Master of Mathematical Sciences* (full time, 2 years)	
Semester 1	Semester 2
Year 1	
Mathematical Computing	Financial Mathematics
Analysis A	Analysis B
Applied Statistics A	Applied Statistics B
Measure Theory A	Measure Theory B
Year 2	
Geometry A	Geometry B
Probability A	Probability B
Mathematics Research Project	Mathematics Research Project

* Subject names are indicative only and may be subject to change.

Research degrees

Our research programs are designed to help you advance your research interests while also developing professional skills and networks.

Embarking on a research degree at Sydney is an opportunity to work alongside some of the world's brightest and most accomplished academics.

We have the drive to challenge traditional ways of thinking. You will have the support you need to contribute to research that makes a meaningful, real-world impact and changes lives.

We are investing in major new facilities to support collaboration and partnerships with researchers from diverse disciplines who are tackling society's most challenging problems.

We offer several higher degrees by research. The Doctor of Philosophy (PhD) is the highest qualification that you can attain in Australia.

To learn more, see our guide to postgraduate research degrees in science, or visit:

– sydney.edu.au/study/pg-research

If you are interested in pursuing a research degree in the sciences, these are your options:

Course	Admission criteria	CRICOS code	Duration
Doctor of Philosophy (PhD) in Science	One of the following in a subject area related to your proposed research area: bachelor's degree with first class honours; or master's degree by research such as the MPhil (Science); or a master's degree by coursework in a relevant subject area with an independent research component such as a thesis, dissertation or research project with a minimum overall credit average; or a Graduate Diploma of Science with a final mark of at least 80.	000722K	3–4 years full time or equivalent
Master of Philosophy (Science)	One of the following in a subject area related to your proposed research area: bachelor's degree with a minimum overall credit average in the senior level unit(s) of study relevant to the proposed area of research; or master's degree; or a Graduate Diploma of Science with a final mark of at least 80.	086400F	Full time: 1.5–2 years Part time: 3–4 years
Graduate Diploma in Science	Bachelor's degree from the Faculty of Science or equivalent qualification, containing a minimum of 24 credit points of senior units of study (or equivalent at another institution) relating to the nominated science subject area of study.	012846K	Full time: 1 year Part time: 2 years
Master of Veterinary Clinical Studies	Bachelor of Veterinary Science or equivalent.	008426J	2 years full time or equivalent

See page 24 for English language requirements.
Part-time study is available only to domestic students.



How to apply

Postgraduate coursework

If you are a domestic or international applicant, apply online by following these steps:

Step 1: Choose a course

Find your course at sydney.edu.au/courses

Step 2: Check admission requirements

Make sure you meet the admission criteria, including academic and English language requirements.

- sydney.edu.au/study/admission-criteria

Step 3: Submit your application

Click the 'apply now' button.

Postgraduate research

See our guide on research degrees in science, or visit:

- sydney.edu.au/study/how-to-apply

English language requirements

You will need to demonstrate your English language proficiency if:

- English is not your first language, or
- you have not undertaken tertiary studies in English within the past five years at an institution where the medium of instruction, assessment and examination was English.

To learn more, visit:

- sydney.edu.au/study/english-reqs



Credit for previous studies

You may be eligible for credit if we assess your previous studies as being directly equivalent to our units of study. In some cases you may be granted a block of credit if your previous study is in the same subject area. Some faculties or courses have existing credit arrangements for some qualifications.

You need to apply for credit when completing your online course application. We will let you know in your offer letter if you're successful.

- sydney.edu.au/study/credit

Minimum English language test scores needed for entry into our degrees

Degree	IELTS (or equivalent)
Doctor of Veterinary Medicine Master of Clinical Psychology*	7.5 overall, minimum 7.0 in each band
Master of Nutrition and Dietetics	7.5 overall, minimum 6.5 in each band
Master of Science in Coaching Psychology Graduate Diploma in Coaching Psychology Graduate Certificate in Coaching Psychology	7.5 overall, minimum 6.0 in each band
Master of Veterinary Clinical Studies	7.0 overall, minimum 6.5 in each band
Master of Environmental Science and Law	7.0 overall, minimum 6.0 in each band
Master of Medical Physics Graduate Diploma in Medical Physics Graduate Diploma in Psychology Master of Agriculture and Environment Graduate Diploma in Agriculture and Environment Master of Environmental Science Graduate Diploma in Environmental Science Graduate Certificate in Environmental Science Master of Marine Science and Management Graduate Diploma in Marine Science and Management Graduate Certificate in Marine Science and Management Master of Sustainability Graduate Diploma in Sustainability Graduate Certificate in Sustainability Master of Mathematical Sciences Doctor of Philosophy (PhD) in Science Master of Philosophy (Science) Graduate Diploma in Science	6.5 overall, minimum 6.0 in each band

IELTS = International English Language Testing System

* Additional English language requirements apply under the current Australian Health Practitioner Regulation Agency standards for registration. Where these are inconsistent with the University of Sydney standards, the higher standard will apply.

Important dates

Here are some important dates to add to your calendar, to help plan for the year ahead.

Open Day

25 August 2018

Postgraduate Study and Research Week

10 to 14 September 2018

Academic Advice Day

Wednesday 16 January 2019

Applications closing dates*

Semester 1, 2019

Domestic: 11 February 2019

International: 31 January 2019

* Exceptions apply. Please search for your course online to check its exact application closing date.

- sydney.edu.au/courses

For other important dates, visit:

- sydney.edu.au/dates

Still have questions?

For more information about the application process (or anything else), please ask us a question online:

- sydney.edu.au/ask

or call:

1800 SYD UNI (1800 793 864)

This guide provides the key information you need to apply for a postgraduate coursework degree in science, mathematical science, agriculture, environment and veterinary science. The next step is up to you.

To learn more, attend one of our postgraduate information sessions, call our helpline or visit our website.

sydney.edu.au

sydney.edu.au/ask
1800 SYD UNI (1800 793 864)