2017 UNDERGRADUATE SCIENCE
Geelong | Melbourne | Warrnambool | Cloud Campus

BIOLOGICAL SCIENCE
BIOMEDICAL SCIENCE
FORENSIC SCIENCE
SCIENCE
ZOOLOGY AND ANIMAL SCIENCE
Whether you want to learn how to interpret a crime scene, understand and treat diseases or pursue your interest in the biology of animals, Deakin’s courses in science have something for you.

With incredible advances in science in recent years, it’s difficult to imagine what life was like before Wi-Fi and equally hard to believe how much we’ve discovered about Mars. So what’s next? How many more amazing scientific discoveries will we see by the end of the next decade? And how will these discoveries change our lives?

Excited about a career in science? Keep reading to start your journey at Deakin.
IN THIS GUIDE

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DEAKIN HALLMARKS
Deakin Hallmarks are awards that recognise students’ outstanding achievement of Graduate Learning Outcomes, which are highly valued in the workplace.

- Communication
- Digital literacy
- Teamwork
- Critical thinking
- Problem solving
- Self-management
- Global citizenship
Science at Deakin is not just about lab work, it prepares you for a range of real-life settings in which today’s science graduates work. Our teaching and research staff are experts in their fields, with broad international links and experiences. Studying science at Deakin provides you with opportunities to be involved in scientific developments that hold the key to the future, with breakthroughs being discovered every day.

**Well-rounded graduates**
Deakin provides you with a broad range of skills, including specialist knowledge, practical experience, the ability to think critically, solve problems and to learn independently, while also being an effective team member. This broad skill set, together with having access to the latest scientific research, gives Deakin students evidence-based decision-making skills that employers want in their new recruits.

**Your scientific journey**
How you study science at Deakin depends on your interests and career aspirations. You can study a general science degree, with 11 interesting and diverse study areas, allowing you to design a program for the direction you want to take in science. Alternatively, you can choose a specialist science degree – in biological, biomedical, forensic or zoology and animal science – getting you started on your career journey sooner.

You can also choose to combine science studies with arts, commerce, criminology, law and teaching, expanding your career options even further.

**Gain professional accreditation**
Deakin is the first university in Australia, and the only university in the Asia-Pacific region, to offer a professionally accredited forensic science degree. Both the Bachelor of Forensic Science and the Bachelor of Forensic Science component of the combined course in forensic science and criminology are professionally accredited by the Chartered Society of Forensic Sciences in the UK.
Science at Deakin opens the door to a range of careers that are stimulating, challenging and rewarding. Choose science at Deakin if you are interested in finding solutions to key global issues such as the impact of climate change, reducing our carbon footprint, the use of stem cells in medical research to improve our quality of life, or using nanotechnology to create new and innovative materials.

THE STUDENT EXPERIENCE
Hear what students have to say about studying science at Deakin by visiting deakin.yt/sci-students. Interested in the staff perspective? Visit deakin.yt/sci-staff.
WHY DEAKIN?

Technology hub and purpose-built facilities
Studying at Deakin gives science students access to cutting-edge technology and the very best in facilities, with the Geelong Technology Precinct featuring the latest research capabilities in materials, biotechnology, chemistry and environmental engineering. Deakin also has regional strengths in manufacturing and agri-processing; a purpose-built crime scene training facility for our forensic science students; and state-of-the-art biomedical research laboratories, with links to the Deakin Medical School.

Experiential learning
All Deakin science courses have a focus on practical experience and offer hands-on learning from year one. Professional practice units provide opportunities for workplace visits, field trips, industry learning and the establishment of valuable networks. Our science, biological science and biomedical science students complete placements at leading organisations, including pathology laboratories (for example, Healthscope), research institutions (for example, Baker IDI, CSIRO, Murdoch Children’s Institute, Peter MacCallum Cancer Centre), hospitals (for example, St Vincent’s) and secondary school and university laboratories.

Experience the world while you study

Study Abroad
Our Study Abroad and Exchange Office offers various programs, including exchange, study abroad, short-term study programs, study tours and international volunteering opportunities, with Deakin science students having studied in a wide range of countries. Recently, students had the opportunity to go on a two-week study tour to China to learn the theory and operation of laboratory equipment, laboratory tests and laboratory diagnosis of common diseases in a hospital clinical setting at Dalian Medical University. For more information, visit deakin.edu.au/studyoverseas.

Global Science and Technology Program
The Global Science and Technology Program is designed to add an international experience to your science degree, supporting you to develop new skills and a broader world view while studying overseas. You can work in an international organisation and explore real world issues from a different perspective. For more information, visit deakin.edu.au/sebe/global.

‘I would recommend getting as much experience as you can during your degree. It is highly valued by potential placement organisations and employers – a little experience goes a long way! I landed a highly competitive placement at Zoos Victoria.’

KATE ROWE
Biological science student

YOUR DIGITAL LEARNING TOOLS
DeakinSync is a personal online hub giving Deakin students, staff and alumni easy access to relevant University resources, customised to their specific needs. You can access everything from unit sites to enrolment details, study tools to your calendar, as well as IBM Watson – a question and answer tool.
Visit deakin.edu.au/deakinsync or ibmwatson.deakin.edu.au for more information.
IBM Watson is a trademark of International Business Machines Corporate, registered in many jurisdictions worldwide.
Science pathway

A science degree is an excellent pathway degree, providing a stepping stone to postgraduate studies in teaching, nutrition or medicine, as well as a strong pathway to further research, with Deakin boasting a robust research culture across all of its campuses.
WHAT CAN I STUDY?

Science is a practical discipline in which teamwork, critical thinking and problem-solving are crucial to finding creative solutions to everyday problems.

Animal biology
This study area provides a broad introduction to different aspects of animal biology, including animal structure and function, evolution and evolutionary biology.

See ...
Bachelor of Science, page 16
Combined courses, pages 20–22.

Biological science
Biological science covers the science underpinning medical applications, from basic biology to specific disease processes. Gain the theoretical foundation and scientific skills to expand and apply your knowledge of human biology and health, with an emphasis on causes, diagnosis and treatment of disease at the molecular, cellular and system levels.

See Bachelor of Biomedical Science, page 13.

Cell biology
This study area provides an introduction to the molecular and biochemical basis of cells, including their physiological properties, development, function and interaction with their environment. You will also learn about the molecular basis of disease.

See ...
Bachelor of Science, page 16
Combined courses, pages 20–22.

Biomedical science
Biomedical science covers the science underpinning medical applications, from basic biology to specific disease processes. Gain the theoretical foundation and scientific skills to expand and apply your knowledge of human biology and health, with an emphasis on causes, diagnosis and treatment of disease at the molecular, cellular and system levels.

See Bachelor of Biomedical Science, page 13.

Biology
Biology is the study of life in all its forms: from the smallest microbes to plants and animals. Equip yourself with the skills needed to tackle the environmental and medical challenges of the 21st century with Deakin’s Bachelor of Biological Science. Study a wide range of areas, including animal and plant biology, microbiology, genetics, molecular cell biology and evolution.

See ...
Bachelor of Biological Science, page 13
Bachelor of Science, page 16
Combined courses, pages 20–22.

Chemistry
Chemistry at Deakin provides an introduction to the synthesis, separation, detection and measurement of chemical substances, their properties and reactions.

See ...
Bachelor of Science, page 16
Bachelor of Food and Nutrition Sciences, page 23
Combined courses, pages 20–22.

Chemistry and materials science
Gain an initial grounding in chemistry and build towards specialised skills in materials chemistry, which involves the study and design of new materials, and electrochemistry, dealing with the interaction between electrical energy and chemical change.

See ...
Bachelor of Science, page 16
Combined courses, pages 20–22.
Environmental health
With a focus on healthy environments and healthy people, this study area is recommended if you are interested in working in public health policy, environmental health and other related areas.
See ...
Bachelor of Biomedical Science, page 13
Bachelor of Health Sciences, page 23.

Environmental science
This study area focuses on the technical science aspects of environmental science, providing a balance between environmental studies on the geosphere, hydrosphere, atmosphere and biosphere.
See ...
Bachelor of Science, page 16
Combined courses, pages 20–22.

Fisheries and aquaculture
Fisheries and aquaculture provides you with comprehensive training in fisheries resource management, aquaculture management and fisheries biology, with a focus on environmental sustainability, in particular renewable resource exploitation and sustainable aquaculture of marine and freshwater species. Learn about fisheries and aquaculture from a global perspective, including topics such as fish markets, nutrition and farm certification processes, the history of Australian fisheries, fisheries methods and impacts of fishing.
Field trips and professional practice activities provide you with the opportunity to gain practical, hands-on skills.
See Bachelor of Science, page 16.

Forensic biology
Forensic biology provides you with the specific biological skills that are critical in the forensic science workplace. These biological-based skills complement the generic forensic science attributes developed in the core units of the forensic science course. Study in this area may lead to a career based on entomology, human anatomy and DNA-based forensic science.
See ...
Bachelor of Forensic Science, page 14
Bachelor of Forensic Science/Bachelor of Criminology, page 22.

Forensic chemistry
Forensic chemistry provides you with the specific chemistry skills that are critical in the forensic science workplace. These chemically based skills complement the generic forensic science attributes developed in the core units of the forensic science course. Study in this area may lead to a career based on toxicology, drug detection and chemical detection.
See ...
Bachelor of Forensic Science, page 14
Bachelor of Forensic Science/Bachelor of Criminology, page 22.

Forensic science
Studies in forensic science provide formal training in the skills and techniques essential in the modern forensic field, including the examination and presentation of scientific evidence. Deakin is the first university in Australia, and the only university in the Asia-Pacific region, to offer a professionally accredited forensic science course.
See ...
Bachelor of Forensic Science, page 14
Bachelor of Forensic Science/Bachelor of Criminology, page 22.
WHAT CAN I STUDY?

Freshwater biology
Freshwater biology is the study of freshwater ecosystems and the relationship between freshwater organisms and their physical and chemical environment. Focused on understanding and managing rivers, lakes and wetlands, develop the knowledge and skills to manage freshwater ecosystems and resources, while participating in fieldwork opportunities and industry placements.

See Bachelor of Science, page 16.

Human biology
Discover how the body works and why it works that way through studies covering a broad range of areas relevant to human biology, including physiology and genetics, and their relationship to human disease.

See ...
Bachelor of Science, page 16
Combined courses, pages 20–22.

Infection and immunity
The infection and immunity study area builds on the core skills of genetics, microbiology and immunology. It is an advanced and integrated course that provides you with a deeper understanding of host-pathogen interactions, as well as the public health and clinical epidemiological burdens of infectious diseases.

See Bachelor of Biomedical Science, page 13.

Mathematical modelling
Studies in mathematics provides you with a strong critical knowledge base and develops powers of analysis, logical thinking and problem-solving, as well as a high level of numerical ability. With an emphasis on developing solid background knowledge in the discipline, this study area will cover traditional subjects (calculus, algebra and discrete mathematics) and also modern topics (information modelling and data analysis), which will assist in the development of practical skills that can be used to implement mathematics in a variety of applications.

See ...
Bachelor of Science, page 16
Combined courses, pages 20–22.

Medical biotechnology
Medical biotechnology uses cells and cell materials to produce pharmaceutical and diagnostic products that help treat and prevent human diseases. It provides you with a sound understanding of the core sciences underpinning biotechnology for medical advancement.

See ...
Bachelor of Biomedical Science, page 13
Bachelor of Health Sciences, page 23.

Molecular life sciences
This study area enables students to acquire an advanced understanding of chemical, physiological and genetic processes that determine health and disease at the molecular level. In addition, technical skills relevant for biomedical research will be obtained.

See Bachelor of Biomedical Science, page 13.
‘I am fascinated by natural history, animal behaviour and biological processes. Every biological field that I have studied at Deakin has altered my perception of the world and of my own existence, and I think that’s pretty gnarly.’

DARCY WATCHORN
Biological science (honours) student

Natural history
Natural history involves the study of plants and animals in their natural environment and leans more towards observational than experimental study methods. This study area emphasises the biological aspects of natural history and includes studies in zoology, botany and palaeontology.

See ...
Bachelor of Science, page 16
Combined courses, pages 20–22.

Pharmaceutical science
This study area covers the chemistry, biology and technology of medicines providing an enhanced understanding of the discovery, design and function of drugs, which is applicable both in medicinal research and the pharmaceutical industry.

See Bachelor of Biomedical Science, page 13.

Plant biology
This study area is ideally suited to those interested in botany and includes studies in plant morphology, identification, reproduction and evolution, as well as vegetation management and biogeography.

See ...
Bachelor of Science, page 16
Combined courses, pages 20–22.

Zoology and animal science
This study area provides an understanding of the form and function of different animals and how they are adapted to their environment, including the diversity, ecology, behaviour, physiology, genetics and evolutionary biology of animals, from amoeba through to zebra.

It has a strong focus on Australian fauna and its unique importance to the global environment, and is underpinned by the latest research in zoology.

See Bachelor of Zoology and Animal Science, page 18.

Deakin offers a number of combined courses in science, see pages 20–22 or visit deakin.edu.au/study-at-deakin/find-a-course/science.
GETTING INTO DEAKIN

Life doesn’t always follow a straight line – and your path to Deakin doesn’t have to either.

Finishing Year 12?
If you are finishing Year 12, you can apply for most of Deakin’s undergraduate courses commencing in Trimester 1 (March) through the Victorian Tertiary Admissions Centre (VTAC) at vtac.edu.au. For courses commencing in Trimester 2 (July) or Trimester 3 (November), apply directly to Deakin at deakin.edu.au/apply.

Finished Year 12 a few years ago?
If you’re returning to study after a break, you can apply for most of Deakin’s undergraduate courses (bachelor’s degrees) commencing in Trimester 1 (March) through the Victorian Tertiary Admissions Centre (VTAC), or you may be able to apply directly to Deakin. For courses beginning in Trimester 2 (July) or Trimester 3 (November), apply directly to Deakin at deakin.edu.au/apply.

What are pathways?
Pathways provide alternative options for entry into university if you currently do not meet the requirements. You can choose pathways through TAFE, other tertiary institutions or private providers, through the workforce or even through other Deakin courses or campuses.

Pathways through Deakin
You can take many different pathways through Deakin to get into your dream course, including transferring between Deakin courses or campuses or undertaking a single unit of study, which can be used as credit towards a degree.

Pathways through Deakin College
Deakin College offers an excellent pathway to Deakin for students who do not meet the admission requirements. The first year of a Deakin College diploma is equivalent to the first year of the relevant Deakin degree. Upon satisfactory completion of a Deakin College diploma, and subject to meeting University entrance criteria, domestic graduates are eligible to apply for a Commonwealth Supported Place in the second year of the relevant Deakin undergraduate degree.

Deakin College is located at Deakin’s Melbourne Burwood Campus, Geelong Waterfront Campus and Geelong Waurn Ponds Campus, giving you access to Deakin’s facilities and services and allowing you to get involved in uni life while at Deakin College.

For international students
Once you have chosen a degree and checked all entry requirements, applying to study at Deakin is simple.

When can I apply?
Applications for international students are open all year. There are three trimester intakes for which you can apply – March, July and November – depending on your chosen course.

How do I apply?
Once you have organised all the necessary documentation, you can submit your application using one of the following methods:

Applying online
To apply online, visit the applicant portal at deakin.edu.au/apply.

Applying by email
After completing the relevant application forms you can email your application to deakin-int-admissions@deakin.edu.au.

GETTING TO GEELONG

Travel to the Geelong campuses is easy, whether by train, bus, car or bike. If you’re based in Melbourne, the commute to Geelong with the new regional rail link is incredibly fast, with travel from Southern Cross Station to Geelong Waterfront less than an hour and to Waurn Ponds just over an hour. If you live in Melbourne’s west, you may find your commute is as short as 30 minutes by car.

We also offer accommodation at each of our campuses, providing an affordable and secure living and learning community, ideal for personal growth and academic success.

Pathways through TAFE
If you undertake an eligible TAFE course in a field similar to the Deakin course of your choice, you may be able to gain a guaranteed place at Deakin and credit for prior learning towards your Deakin degree.

Complete a guaranteed entry pathway
Guaranteed entry pathways enable you to progress seamlessly from selected TAFE courses to Deakin degrees. Deakin offers guaranteed entry pathways from a number of TAFE partners to university in a growing range of disciplines.

If you are taking a guaranteed entry pathway, as long as your study performance meets the required standard, you will be guaranteed a place at Deakin following successful completion of your TAFE course and benefit from up to 18 months’ credit towards your Deakin degree.

Currently, guaranteed entry pathways are available at Bendigo TAFE, Box Hill Institute, Chisholm, The Gordon, Kangan Institute, Melbourne Polytechnic, South West Institute of TAFE and TAFE NSW – Riverina Institute. For the most up-to-date list of guaranteed pathways, visit deakin.edu.au/pathways.

Complete a relevant TAFE course
If you undertake an eligible TAFE or Registered Training Organisation (RTO) course in a field similar to the Deakin course of your choice, you may gain credit towards your Deakin degree. A wide range of courses lead to credit transfer and recognition, and all TAFE qualifications are considered for application to Deakin.

Pathways through other educational institutions
If you’re currently studying at another university and wish to transfer to Deakin to finish your degree, you can apply for credit for prior learning. All university and private education provider qualifications are considered for application, even if the qualification is unrelated to what you want to study at Deakin.

Pathways through the workforce
You may be able to gain entry to Deakin, or credit towards a Deakin course, based on your work experience or prior industry training.

For more information on getting into Deakin, visit deakin.edu.au/pathways.

FIND OUT WHAT CREDIT YOU’RE ELIGIBLE FOR
Your previous studies and experience can lead to credit towards your chosen course. This not only saves you time and money, but also increases your educational options. To find out what credit you may be eligible for, search our Credit for Prior Learning database at deakin.edu.au/courses/credit/search.php.
## COURSES

### Bachelor of...

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<th>Duration</th>
<th>Fees*</th>
<th>IELTS*</th>
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### Related courses

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### Combined courses

For information on the benefits of studying a combined course at Deakin, and what's available in science, see page 20–22.

* 2016 indicative Commonwealth Supported Place (CSP) fee. Fees quoted are for Australian domestic students and are based on a typical enrolment in one year of full-time study. They should be used as a guide only and are subject to change. International students: refer to deakin.edu.au/study-at-deakin/fees for more information on fees.

* IELTS is the International English Language Testing System (for international students only). The IELTS scores in the table above reflect the minimum overall score required as well as the lowest score allowed for any band (overall score/lowest band score).

* Campus offering subject to review for 2017.

* Available for high-achieving students with a minimum ATAR of 80.00. Applicants must also meet the published prerequisites for their specific course preference within the Faculty of Science, Engineering and Built Environment.

* Refer to specific course entry.

† Deakin learning centres course offerings are not available to international students.

¥ Intake only available at Melbourne Burwood Campus and Geelong Waurn Ponds Campus.

Please refer to deakin.edu.au/courses for the most up-to-date information on courses.

### WORK-INTEGRATED LEARNING

A professional practice unit gives you the opportunity to complete a placement for a minimum of two weeks within a relevant, course-related organisation. You also have the opportunity to undertake an industry-based learning experience as part of the Faculty of Science, Engineering and Built Environment’s work-integrated learning program.

deakin.edu.au/sebe/students/wil
I’ve really enjoyed studying Medical Microbiology and Immunology, allowing me to build on my microbiology and immunology knowledge learnt from different subjects and giving me a greater understanding of different diseases and the consequences for the body.’

**LETITIA ROBERTS**
Biomedical science graduate, currently studying medicine at Deakin

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**BACHELOR OF BIOLOGICAL SCIENCE**

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**YEAR 12 PREREQUISITES**
VCE units 3 and 4 – a study score of at least 25 in English (EAL) or 20 in English other than EAL.

**NON-YEAR 12 REQUIREMENTS**
Educational history including GPA. Applicants who wish for experience to be considered must include this information on their VTAC Personal Statement.

International students entry requirements can be found at: deakin.edu.au/study-at-deakin/international-students.

Broad-ranging studies of biology lead to a focus on experimental design and the Australian biota. Offering stimulating classes and practical experience in the laboratory and the field, you graduate with theoretical knowledge and hands-on skills enabling employment in one of the many areas of biology or a related science, or equipping you for further study.

**Career opportunities**
Diverse career opportunities are available in the general health and medical industry (hospital scientists, analytical and diagnostic laboratory scientists and research scientists), food and agriculture-based industries, animal health, quarantine, wildlife biology, environmental consulting, museums, herbaria and the emerging biotechnology industries.

**Work-integrated learning**
See work-integrated learning opportunity opposite.

**Course structure**
24 credit points – 18 credit points of core units and six elective units.
An honours year is available for high-achieving students upon completion of this degree.

deakin.edu.au/study-at-deakin/find-a-course/biological-science

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**BACHELOR OF BIOMEDICAL SCIENCE**

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**YEAR 12 PREREQUISITES**
VCE units 3 and 4 – a study score of at least 25 in English (EAL) or 20 in English other than EAL.

**NON-YEAR 12 REQUIREMENTS**
Educational history including GPA. Applicants who wish for experience to be considered must include this information on their VTAC Personal Statement.

International students entry requirements can be found at: deakin.edu.au/study-at-deakin/international-students.

Biomedical science is a vibrant, relevant and topical program that provides a flexible and innovative course. Our multidisciplinary approach, as well as a number of elective units at all levels, enables you to learn about your chosen fields of study from both scientific and health perspectives.

**Career opportunities**
Biomedical science provides opportunities in a range of health-related industries, including medical research, genetic engineering, the pharmaceutical industry, pharmaceutical/medical sales and laboratory technology. You could also advance to honours or postgraduate studies, enhancing your professional development as a scientist, or to graduate-entry medicine, or other disciplines, which will complement your scientific training and broaden your career opportunities.

**Work-integrated learning**
See work-integrated learning opportunity opposite.

**Course structure**
24 credit points – 15 credit points of core units (which includes a compulsory professional practice unit at level 3) and at least one 6-credit-point major sequence. An honours year is available for high-achieving students upon completion of this degree.

**Major sequences**
Students must complete one of the following major sequences:
- Environmental health
- Infection and immunity
- Medical biotechnology
- Molecular life sciences
- Pharmaceutical science

deakin.edu.au/study-at-deakin/find-a-course/biomedical-science
BACHELOR OF FORENSIC SCIENCE

DEAKIN CODE: 3324
DURATION: 2016 CLEARLY-IN ATAR 59.75

YEAR 12 PREREQUISITES:
VCE units 3 and 4 – a study score of at least 25 in English (EAL) or 20 in English other than EAL.

NON-YEAR 12 REQUIREMENTS:
Educational history including GPA. Applicants who wish for experience to be considered must include this information on their VTAC Personal Statement.

International students entry requirements can be found at: deakin.edu.au/study-at-deakin/international-students.

Combining studies in biology, chemistry, biochemical and chemical analysis, statistical analysis and molecular biology, you also undertake studies in criminology, including the examination and interpretation of evidence and courtroom skills. You gain the full crime scene to court experience by spending time in our unique crime scene training facility.

The course has extensive industry links with local and Australian forensic organisations, and features guest speakers and site visits in collaboration with leading forensic organisations.

Professional recognition
The Bachelor of Forensic Science is professionally accredited by the Chartered Society of Forensic Sciences. Deakin is the first university in Australia, and the only university in the Asia-Pacific region, to offer a professionally accredited forensic science course.

Career opportunities
Graduates are in demand and find work in areas such as forensics, insurance investigation, risk analysis, research science, in government institutions and within chemical, food and pharmaceutical industries.

Work-integrated learning
An industry-based learning experience is available as part of the Faculty of Science, Engineering and Built Environment’s work-integrated learning program. deakin.edu.au/sebe/students/wil

Course structure
24 credit points – 11 core units and a major sequence in either forensic chemistry or forensic biology. With careful planning, students may use up to eight of their remaining electives on units offered outside the faculty, such as units in criminology. An honours year is available for high-achieving students upon completion of this degree.

Major sequences
- Forensic biology
- Forensic chemistry

For forensic science students, the crime scene house is an amazing resource. The interactive aspect of the course makes the work and assignments interesting and engaging. This is also the first forensic science course outside of the UK to be professionally accredited, which I hope will open up some international doors after graduation.

KRISTY MCMILLAN
Forensic science student
‘Forensic science is about good, solid science. We teach our students excellent science and lab skills so they’re equipped for work anywhere good lab skills are needed. Our course takes them all the way from the crime scene through to the court room.’

MICHELLE HARVEY
Forensic science course director
Career opportunities
Diverse career opportunities are available in government institutions, in roles such as quality assurance, occupational health and safety, research, planning, management or marketing; science-related industries, working in pharmaceutical production or pharmaceutical sales; biomedical science areas, such as research or hospital and laboratory science; quality assurance in analytical and diagnostic laboratories; the food industry in quality control; environment and natural resources; teaching; information technology; mathematics; or science journalism to name a few.

Practical industry experience
As a Deakin science student, you gain experience through innovative practical programs, including professional practice units, giving you the opportunity to apply and consolidate knowledge gained in your course, experience workplace culture and workplace practices, explore career options, develop a professional network and prepare you for real-life settings in which today’s science graduates work.

You also have the opportunity to undertake an industry-based learning experience as part of the work-integrated learning program.

deaquin.edu.au/sebe/students/wil

Science at Deakin is a flexible degree that allows you to explore a diverse range of science-related study areas and specialise in at least one area of interest as you progress through the course.

The course is available as a single degree or as a combined course with arts, commerce, law and teaching.
Course structure
24 credit points of study – eight core units and at least one 6-credit-point science major sequence selected from the list below. At least 16 credit points must be science course-grouped units (which include all core units and units within the approved science major sequences). An honours year is available for high-achieving students upon completion of this degree.

Major sequences
- Animal biology
- Cell biology
- Chemistry
- Chemistry and materials science
- Environmental science
- Fisheries and aquaculture
- Freshwater biology
- Human biology
- Mathematical modelling
- Natural history
- Plant biology

# The major sequences in fisheries and aquaculture and freshwater biology are only available at the Warrnambool Campus. Warrnambool Campus students may also complete the mathematical modelling major which is offered via the Cloud Campus. Students who wish to complete the freshwater biology or fisheries and aquaculture major may commence their study at Melbourne Burwood Campus or Geelong Waurn Ponds Campus and then relocate to the Warrnambool Campus to complete the requirements of these majors.

* No intake at the Warrnambool Campus in 2016, offering subject to review for 2017.

‘Insects may be small but they play a vital role in Earth’s ecosystems – if they disappear, so do many of our large animals. In Australia many of them don’t even have a name. Naming insect species new to science is the part of my research I enjoy most.’

ANNEKE VEESTRA
Animal biology lecturer
BACHELOR OF ZOOLOGY AND ANIMAL SCIENCE

DEAKIN CODE  DURATION  2016 CLEARLY IN ATAR
5369           3          63.25

YEAR 12 PREREQUISITES
VCE units 3 and 4 – a study score of at least 25 in English (EAL) or 20 in English other than EAL.

NON-YEAR 12 REQUIREMENTS
Educational history including GPA. Applicants who wish for experience to be considered must include this information on their VTAC Personal Statement.

International students entry requirements can be found at: deakin.edu.au/study-at-deakin/international-students.

Zoology and animal science studies at Deakin provides a broad understanding of the current field of zoology, developing a range of practical and evidence-based decision-making skills.

The course examines the potential effects environmental change may have on the evolution, disease and physiology of animals and how they adapt to a changing environment. The social and economic impact that human activity has on animals and their ecosystems and vice versa is also highlighted.

Career opportunities
Diverse career opportunities include government environmental monitoring, private and environmental consulting, museums, school and university education, primary industries, quarantine and wildlife biology. Successful completion of the course may also lead to opportunities for further study, including postgraduate research training both in Australia and overseas. The course may also be a potential pathway to veterinary science courses (subject to specific entry requirements).

Work-integrated learning
A professional practice unit gives you the opportunity to complete a placement in a course-related organisation. You also have the opportunity to undertake an industry-based learning experience as part of the Faculty of Science, Engineering and Built Environment’s work-integrated learning program.

Course structure
24 credit points – 17 core units and seven elective units. An honours year is available for high-achieving students upon completion of this degree.

‘The excursions foster our thirst for knowledge, motivate us and let us experience zoology outside the laboratory and lecture theatre.’

BRIDIE WHITE
Zoology and animal science student
‘The Global Science and Technology Program allowed me to finance travelling overseas as part of my degree, without adding any extra time. I’ve travelled for study to Borneo, Costa Rica and South Africa – all incredible experiences.’

CARA PENTON
Environmental science (wildlife and conservation biology) student and Global Science and Technology Program participant

GLOBAL SCIENCE AND TECHNOLOGY PROGRAM

DEAKIN CODE DURATION 2016 CLEARLY-IN ATAR
Refer to specific course entry. 80.00*
WB 80.00*
WB 80.00*

YEAR 12 PREREQUISITES EXTRA REQUIREMENTS
Applicants must meet the prerequisites for their specific science preference. Minimum ATAR of 80.00. All applicants must complete and submit the Global Science and Technology Program Supplementary Information Form (deakin.edu.au/sebe/global).

The Global Science and Technology Program at Deakin is designed to add an international experience to your science degree.

Successful applicants are offered a scholarship of $3000 to assist with travel costs and participate in the Deakin Global Citizenship Program. Scholarships will be awarded to students undertaking any course offered by the Faculty of Science, Engineering and Built Environment, admitted to the program through VTAC.

Course structure
You are able to select any one of the undergraduate degrees offered by the Faculty of Science, Engineering and Built Environment through a single VTAC preference for the Global Science and Technology Program. It is recommended that applicants also apply separately to their preferred Deakin science-based course as a lower preference. Refer to specific course entries and campus offerings in this booklet for the list of science courses available.

* Minimum clearly-in ATAR. Applicants must also meet the published prerequisites for their specific course preference within the Faculty of Science, Engineering and Built Environment.
Some courses at Deakin allow you to undertake two degrees concurrently. Adding just one extra year of study allows you to complete two degrees, which saves you time and money.

### Increase your career options
Studies have shown that employers prefer graduates of combined courses. Deakin offers powerful combinations that will help you stand out as a graduate and increase your career options.

### Broaden your knowledge
When you graduate you’ll have up-to-date knowledge of two disciplines. Later on, you may choose to undertake a graduate program in another area of special interest.

### Graduate sooner
Combined courses are designed to allow students to complete two courses at the same time, in as little as four or five years, which is quicker than completing one degree followed by the other.

### It doesn’t double the work
Combined courses are structured in such a way that you will normally study four units (subjects) per trimester, just the same as you would if you were completing a single degree.

### Work-integrated learning
Deakin graduates hit the ground running thanks to work-integrated learning programs embedded in our combined courses. We offer a wide range of programs that help give you a taste of the real world, from internships to community-based volunteering and more.

### Study interesting and complementary areas
A combined course allows you to undertake complementary studies in both degrees while exploring particular areas of interest to you. Through careful planning you could structure your course to undertake studies in science together with studies in arts, commerce, criminology, law or teaching.

### Professional recognition
Accreditation provides industry recognition of the quality of qualifications received at Deakin, with many of our courses professionally accredited. For example, graduates of the Bachelor of Forensic Science/Bachelor of Criminology are eligible to apply for membership of the Australian and New Zealand Forensic Science Society (ANZFSS).

### Combined courses

#### Combined courses table

<table>
<thead>
<tr>
<th>Campus</th>
<th>Trimester intake options</th>
<th>Duration</th>
<th>Fees†</th>
<th>IELTS**</th>
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<tr>
<td>Arts/Science</td>
<td>D311</td>
<td>T1, T2, T3*</td>
<td>4</td>
<td>$7683</td>
<td>6/6</td>
</tr>
<tr>
<td>Commerce/Science</td>
<td>D321</td>
<td>T1, T2</td>
<td>4</td>
<td>$9447</td>
<td>6/6</td>
</tr>
<tr>
<td>Forensic Science/Criminology</td>
<td>D329</td>
<td>T1, T2</td>
<td>4</td>
<td>$7946</td>
<td>6/6</td>
</tr>
<tr>
<td>Science/Laws</td>
<td>D331</td>
<td>T1, T2</td>
<td>5</td>
<td>$9639</td>
<td>7/6.5</td>
</tr>
<tr>
<td>Bachelor of Science/Master of Teaching (Secondary)*</td>
<td>D304</td>
<td>T1</td>
<td>4</td>
<td>$8807</td>
<td>7/6.5</td>
</tr>
</tbody>
</table>

# 2016 indicative Commonwealth Supported Place (CSP) fee. Fees quoted are for Australian domestic students and are based on a typical enrolment in one year of full-time study. They should be used as a guide only and are subject to change. International students: refer to deakin.edu.au/study-at-deakin/fees for more information on fees.

~ IELTS is the International English Language Testing System (for international students only). The IELTS scores in the table above reflect the minimum overall score required as well as the lowest score allowed for any band (overall score/lowest band score).

* Trimester 3 intake only available at the Melbourne Burwood Campus.

† Speaking and listening 7.5.

* Deakin has applied to have this course registered on CRICOS but is not currently able to offer this course to international students. For up-to-date information please visit: deakin.edu.au/study-at-deakin/find-a-course/education-and-teaching.
BACHELOR OF ARTS/ BACHELOR OF SCIENCE

DEAKIN CODE
D311

DURATION
2016 CLEARLY-IN ATAR
E 60.45
WP 60.00

YEAR 12 PREREQUISITES
VCE units 3 and 4 – a study score of at least 25 in English (EAL) or 20 in English other than EAL.

NON-YEAR 12 REQUIREMENTS
Educational history including GPA.

INTERNATIONAL STUDENTS ENTRY REQUIREMENTS
International students entry requirements can be found at: deakin.edu.au/study-at-deakin/international-students.

Pursue studies in a variety of contemporary themes such as the body, the environment, science policy and practice, and others. You may combine major sequences such as public relations/chemistry, philosophy/mathematical modelling, sociology/human biology or environmental science/journalism.

Course structure
32 credit points – 16 credit points (Bachelor of Arts) and 16 credit points (Bachelor of Science), including a major sequence from each degree.

BACHELOR OF COMMERCE/ BACHELOR OF SCIENCE

DEAKIN CODE
D321

DURATION
2016 CLEARLY-IN ATAR
E 78.45

YEAR 12 PREREQUISITES
VCE units 3 and 4 – a study score of at least 25 in English (EAL) or 20 in English other than EAL.

NON-YEAR 12 REQUIREMENTS
Educational history including GPA and VTAC Personal Statement.

INTERNATIONAL STUDENTS ENTRY REQUIREMENTS
International students entry requirements can be found at: deakin.edu.au/study-at-deakin/international-students.

Deakin’s combined course in commerce and science gives you specialised training in a scientific field, such as biology, biological science, chemistry, environmental science or mathematical modelling, while also developing your understanding of the commercial world, with specialisations including economics, accounting, management or information systems, for example.

Professional recognition
Deakin’s Bachelor of Commerce is internationally recognised and EPAS accredited by the European Foundation for Management Development (EFMD). The Bachelor of Commerce component of this course can lead to accreditation with a wide range of professional bodies, dependent on major sequences selected.

Course structure
32 credit points – 16 credit points (Bachelor of Commerce) and 16 credit points (Bachelor of Science), including a major sequence from each degree.
BACHELOR OF FORENSIC SCIENCE/BACHELOR OF CRIMINOLOGY

DEAKIN CODE: D329
DURATION: 5
YEAR 12 PREREQUISITES: VCE units 3 and 4 – a study score of at least 25 in English (EAL) or 20 in English other than EAL.
NON-YEAR 12 REQUIREMENTS: Educational history including GPA. Applicants who wish for experience to be considered must include this information on their VTAC Personal Statement.

International students entry requirements can be found at: deakin.edu.au/study-at-deakin/international-students.

Develop the skills and techniques essential to modern forensic science, including the examination and presentation of scientific evidence. The course also gives you practical, professional training and enables you to study critical analysis in the fields of policing, security, corrections, crime prevention and community safety, as well as various paralegal fields.

Professional recognition
Graduates of this combined course are eligible to apply for membership of the Australian and New Zealand Forensic Science Society (ANZFSS). The Bachelor of Forensic Science component of the combined course is professionally accredited by the Chartered Society of Forensic Sciences.

Course structure
32 credit points – 16 credit points (Bachelor of Criminology) and 16 credit points (Bachelor of Forensic Science), including a major sequence in forensic biology or forensic chemistry.

BACHELOR OF SCIENCE/BACHELOR OF LAWS

DEAKIN CODE: D313
DURATION: 5
YEAR 12 PREREQUISITES: VCE units 3 and 4 – a study score of at least 35 in English (EAL) or 25 in English other than EAL.
NON-YEAR 12 REQUIREMENTS: Educational history including GPA, VTAC Personal Statement and ALSET. For more information on the ALSET, including exemption criteria, please visit deakin.edu.au/buslaw/law/students/alset.

International students entry requirements can be found at: deakin.edu.au/study-at-deakin/international-students.

Combining a science degree with a Bachelor of Laws is an excellent way to enhance your understanding of the context in which the law operates. In the Bachelor of Science/Bachelor of Laws combined course, you can combine studies in law with studies in science, such as animal biology, cell biology, chemistry and materials science, environmental science, human biology, mathematical modelling, natural history and plant biology.

Professional recognition
Deakin’s law studies satisfy the academic requirements for admission to practise law in Victoria.

Course structure
36 credit points, with discipline studies available in the following areas:

Major/minor sequences
- Animal biology
- Cell biology
- Chemistry and materials science
- Environmental science
- Human biology
- Mathematical modelling
- Natural history
- Plant biology

Do you want to combine your passion in science with your desire to inspire others to learn?

The Bachelor of Science/Master of Teaching (Secondary) prepares graduates with the attributes, discipline-specific knowledge, professional behaviours and standards required to practise as a secondary school teacher in Australia, teaching from junior secondary to VCE levels.

The course combines a postgraduate teaching qualification with undergraduate discipline studies in science relevant for teaching. The fast-tracked postgraduate level of study means that graduates are ready to teach after just four years of study. This postgraduate level initial teacher education degree gives you the edge to get ahead in the employment market.

Professional recognition
The postgraduate component of this combined course is accredited by the Victorian Institute of Teaching (VIT) as an initial teacher education program against the Australian professional standards for teachers. Graduates of this course who are intending to apply for registration with the VIT may be required to provide further information. You are advised to check the VIT registration requirements carefully.

Career opportunities
Teaching and education courses at Deakin lead to a career that can make a profound and lasting contribution to the future by positively educating and influencing the lives of students. Teaching is the largest profession in Australia, with more than 200 000 teachers working across 10 000 schools, teaching more than three million students. It is a rewarding career that offers creativity, flexibility and opportunity.

Course structure
36 credit points, with discipline studies available in the following areas:

Major/minor sequences
- Animal biology
- Cell biology
- Chemistry and materials science
- Environmental science
- Human biology
- Mathematical modelling
- Natural history
- Plant biology

# New course, pending national accreditation.
RELATED COURSES

BACHELOR OF FOOD AND NUTRITION SCIENCES

Deakin's Bachelor of Food and Nutrition Sciences gives you an understanding of the nature of food and the importance of nutrition for health. Throughout the course, you gain an understanding of human nutrition and the complexity of current issues relating to food and human health, including cardiovascular disease, nutrition and ageing, children’s food habits, social and physiological aspects of food and nutrition, and bone health.

BACHELOR OF HEALTH SCIENCES

This flexible degree is an excellent option for those looking to discover their passion in the health and community sector. It equips you with the specialist knowledge and transferable skills that will make you highly sought-after for employment in a variety of valuable settings within the health sector.

Bachelor of Health Sciences major sequences that are related to science are environmental health and medical biotechnology.

For more information about these courses, please refer to the 2017 Undergraduate Food and Nutrition booklet or visit deakin.edu.au/study-at-deakin/find-a-course/health.

JOIN THE PEER SUPPORT NETWORK PROGRAM

The Faculty of Science, Engineering and Built Environment offers a Peer Support Network Program as part of its commitment to provide new students with the best possible transition into university life. By joining the program, first-year students receive support and guidance from more senior students in their course, helping them become familiar with the support services and facilities available, while gaining useful tips about making the most of your time while studying at Deakin.

deaquin.edu.au/sebe/students/peer-support-network
COURSES TO CAREERS

At Deakin, we’re about careers and experience, not just courses. Here are just a few of your future career opportunities.

### COURSE

- Bachelor of Science
- Bachelor of Biological Science
- Bachelor of Biomedical Science
- Bachelor of Forensic Science
- Bachelor of Zoology and Animal Science

### POSSIBLE CAREERS

- Clinical trial leader
- Environmental scientist
- Scientific editor
- Evolutionary biologist
- Food technologist
- Laboratory scientist
- Geneticist
- Immunologist
- Stem cell biologist
- DNA-based forensic scientist
- Laboratory scientist
- Toxicologist
- Entomologist
- Mammalogist
- Wildlife biologist

### AREAS YOU COULD WORK IN

- Allied health services
- Biological and life sciences
- Biomedical and behavioural sciences
- Chemical, pharmaceutical and food processing industries
- Computer systems design and technology
- Earth and environmental sciences
- Education
- Environmental protection
- Genetics
- Manufacturing
- Natural resources and energy
- Pharmaceutical and medicinal product manufacturing
- Physical, chemical, mathematical and computational sciences
- Resource management

### WHAT EMPLOYERS WANT IN THEIR EMPLOYEES

- Interpersonal communication skills
- Passion
- Logic and technical skills
- Good academic results
- Work experience
- A good cultural fit
- Emotional intelligence
- Teamwork skills
- Leadership skills

Source: Graduate Outlook Survey, Graduate Careers Australia

### FEATURE CAREER

**Biomedical pharmaceutical scientist**

Develop new medicines to treat disease and keep people healthy. Discover new treatments by researching how diseases interact with the human body, and designing compounds to combat them.

**Attributes**

Critical and inquiring mind; a high level of numerical literacy; attention to detail; an interest in current scientific issues.

**Indicative average salary**

$70,000

### FEATURE INDUSTRY

**Agricultural biotechnology**

Agricultural biotechnology is the application of biotechnology to improve plant and animal production and to create new, high-value products. Plant biotechnology has been widely adopted in Australia.

**Attributes**

Critical and inquiring mind; attention to detail; an interest in current scientific issues; teamwork skills.

**Indicative average salary**

$57,000
FIND OUT MORE

GO ONLINE
Visit us online at deakin.edu.au for detailed information on everything at Deakin.
See also ...

deakin.edu.au/study-at-deakin/find-a-course/science
deaquin.edu.au/life-environmental-sciences
deaquin.edu.au/study-at-deakin/find-a-course/new-courses for up-to-date information on new courses and unit offerings.
deaquin.edu.au/courses for more information about course structures, major sequences and unit descriptions.

TALK TO US
For more information and all general enquiries, please phone 1800 MYFUTURE (1800 693 888). You can also contact us via email at myfuture@deakin.edu.au.

VISIT US
There are many opportunities throughout the year to visit Deakin, experience a campus tour and talk with representatives in person.
To organise a campus tour and presentation for an individual or group, please phone 1800 MYFUTURE (1800 693 888), email myfuture@deakin.edu.au or visit deakin.edu.au.

For our 2016 Open Day dates, see the back cover of this booklet.
For more information on event dates, visit deakin.edu.au or phone 1800 MYFUTURE (1800 693 888).

Social media at Deakin
Connect with Deakin University on Facebook, Twitter, Instagram and LinkedIn. Gain an insight into life and study at Deakin and talk with other future and current students.

facebook.com/DeakinUniversity
twitter.com/Deakin
twitter.com/DeakinSEBE
instagram.com/DeakinUniversity

Search Deakin University

Further reading
Deakin University produces a range of booklets to help you choose the right course.
You can download copies of these brochures at deakin.edu.au/course-guides, or to request copies email myfuture@deakin.edu.au or phone 1800 MYFUTURE (1800 693 888).

Deakin University also produces course guides specifically for international students. To request a copy, phone Deakin International on +61 3 9627 4877 or email deakin-international@deakin.edu.au.

Other useful websites
Victorian Tertiary Admissions Centre.
vtac.edu.au

Australian Government site detailing higher-education options in Australia.
studyassist.gov.au

Online career exploration and information service.
www.myfuture.edu.au

Australian Government site providing advice for young people thinking about their future and looking for work.
www.youth.gov.au

Victorian Government site with information about jobs and careers.
www.youthcentral.vic.gov.au

Search Deakin University
2016 DEAKIN UNIVERSITY OPEN DAYS

07.08.16
9 AM–3 PM
WARRNAMBOOL
CAMPUS
Princes Highway
Warrnambool Victoria

21.08.16
9 AM–3 PM
GEELONG
WAURN PONDS CAMPUS
75 Piddons Road
Waurn Ponds Victoria

GEELONG
WATERFRONT CAMPUS
1 Cherringhap Street
Geelong Victoria

28.08.16
9 AM–4 PM
MELBOURNE
BURWOOD CAMPUS
221 Burwood Highway
Burwood Victoria

1800 MYFUTURE (1800 693 888)
deakin.edu.au

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Deakin University CRICOS Provider Code: 00113B 3601