“Corals have many mechanisms by which they can potentially adapt or acclimatise. The problem with climate change is the rate of change, so there’s concern that corals may not be able to respond quickly enough. Nearly half of the coral present was lost from the Great Barrier Reef due to the back-to-back bleaching events of 2016 and 2017. To combat this, we are manipulating corals and their microbial symbionts to accelerate naturally occurring evolutionary processes in the hope that we can create some varieties that are more resilient to predicted future environmental conditions. We call this ‘assisted evolution’.”

Professor Madeleine Van Oppen, Marine Biologist
School of BioSciences and the Australian Institute of Marine Science
WHY SCIENCE?

Look at the world around you. Do you see something that could be better? Maybe it’s the cracked glass on your phone, an incurable disease, lack of renewable energy options, pollution, or the missing ‘theory of everything’.

It’s only when you understand how something works that you can hope to improve it, and science gives you the tools to work out what’s really going on. Be a leader of tomorrow and tackle the world’s greatest challenges with science.

IT’S FUTURE-PROOF

In the next decade, an estimated 75 per cent of jobs in the fastest-growing industries will need skills in science, technology, engineering, mathematics and medicine (STEMM).

Also, STEMM graduates are more likely to be in a high income bracket.

IT’S MEANINGFUL

When you graduate, you’ll be ready to make a difference in society — just like our researchers, who are:

• Growing greener cities with plant-based roofs on buildings that increase human productivity, prevent urban flooding, create energy savings and reduce inner-city temperatures
• Developing iron and zinc biofortified rice that could change the lives of the billions of people who obtain most of their calories from rice
• Building tools that will enable doctors to identify babies at high risk of stillbirth while still in the womb.

When you graduate, you could join one of our research teams through graduate research study, or take your new skills into industry, government or the not-for-profit sector.

PREPARE FOR EVERY FUTURE

The Melbourne Model is designed to help you maximise your strengths, discover new ones and stand out in the workplace.

You’ll start with an undergraduate degree, developing a deep understanding of your chosen area of interest and a breadth of knowledge across multiple disciplines. On graduation you can enter the workforce, or progress to one of over 400 specialised graduate programs.

The Melbourne Model lets you design your own study path while developing the knowledge, skills and interdisciplinary perspectives you need to thrive in every kind of future.
YOUR UNDERGRADUATE DEGREE

You’ll join a group of committed students who are benefiting from the University’s reputation for the highest quality of teaching and research in Australia. From day one you can study towards a career in engineering, climatology, medicine, veterinary medicine, nanoscience, psychology or dozens of other specialty areas – it’s up to you! We give you the flexibility to structure your study program to suit your strengths, interests and career goals. So, if you want to become a civil engineer, the Bachelor of Science with a major in Civil Systems is your first step in your professional engineering qualification. Or, if you’ve always wanted to become a veterinary surgeon, taking the major in Animal Health and Disease is part one to qualifying as a vet. If you’re not sure or have interests in many STEMM areas, you can leave your options open during first year and explore several disciplines before choosing from among our 40 majors.

YOUR MAJOR

Your major is your chosen specialisation that you’ll focus on throughout your degree. In most cases you’ll be able to try a few different study areas before deciding on your major(s) in your third year. There are 40 majors to choose from – turn to page 8 to start exploring your options!

YOUR BREADTH STUDIES

Breadth is a unique feature of the Melbourne Model. It gives you the chance to explore subjects outside of science, developing new perspectives and learning to collaborate with others who have different strengths and interests – just as you will in your future career. Some of our students use breadth to explore creative interests or topics they have always been curious about. Others use breadth to improve their career prospects by complementing their major with a language, communication skills or business expertise. Many discover new passions through breadth, and some even change their career plans!

'Breadth tracks' (groups of breadth subjects taken throughout your degree) may even qualify you for graduate study in a field that’s very different to your major.

YOUR NEXT STEPS

After you finish your Science degree, you can choose to join the workforce, or go on to further study at graduate level.

Choose graduate study at Melbourne and you’ll get the full benefit of the graduate school experience by studying intensively, in small classes led by experts and alongside others who share your deep interests and desire to succeed. Your graduate degree will be internationally recognisable, setting you apart from those who study a traditional Australian single or double degree.

See page 30 to find out where your Science degree could lead you.

MELBOURNE MODEL GRADUATES:

- ARE HIGHLY SATISFIED WITH THEIR TEACHERS
- DEVELOP ANALYTICAL PROBLEM-SOLVING SKILLS
- EARN MORE AND BELIEVE THEY ARE PAID AND RECOGNISED FAIRLY
- ENJOY THE WORK THEY DO
- BELIEVE THEIR JOBS MAKE A POSITIVE CONTRIBUTION
- ARE SATISFIED WITH THEIR LEVEL OF RESPONSIBILITY AT WORK
- VOLUNTEER AND GET INVOLVED

University of Melbourne Career Outcomes Survey 2017

Times Higher Education World University Rankings 2018.

$26,000 difference in annual salary between holders of a graduate vs bachelors degree. Graduate Careers Australia 2015.
BACHELOR OF SCIENCE

Science at Melbourne maintains the highest standards and quality of teaching and research in Australia, attracting the highest calibre of students.

The Bachelor of Science is truly yours to customise. Its flexibility and breadth mean that if you already know what you want to study, you can start shaping your career today. If you’re not sure and have interests in many areas of science, technology, engineering, or mathematics, you can leave your options open during your first year while you explore.

You’ll be able to pick from 40 majors, some you may never have even heard of or had the chance to study before. One thing’s for sure, you’ll definitely find your passion! Whether you already have your dream career in sight or are still searching, we know that planning your course can feel both exciting and a little overwhelming. Fear not; we’ll work with you throughout your studies to make sure you’re on the right track.

MAJORS

Bachelor of Science students must complete a science major – a series of subjects in your area of specialisation. You will develop a study plan made up of first, second and third-year-level subjects that culminate in one of the following majors (usually four subjects in a particular study area taken at third-year level):

- Agricultural Science
- Animal Health and Disease
- Animal Science and Management
- Biochemistry and Molecular Biology
- Bioengineering Systems
- Biotechnology
- Cell and Developmental Biology
- Chemical Systems
- Chemistry
- Civil Systems
- Climate and Weather
- Computational Biology
- Computing and Software Systems
- Data Science
- Ecology and Evolutionary Biology
- Ecosystem Science
- Electrical Systems
- Environmental Engineering Systems
- Environmental Science
- Food Science
- Genetics
- Geography
- Geology
- Human Structure and Function
- Immunology
- Marine Biology
- Mathematical Physics
- Mathematics and Statistics
- Mechanical Systems
- Mechatronics Systems
- Microbiology and Immunology
- Neuroscience
- Pathology
- Pharmacology
- Physics
- Physiology
- Plant Science
- Psychology
- Spatial Systems
- Zoology.

See pages 8–17 for more details.

BACHELOR OF SCIENCE (EXTENDED)

The Bachelor of Science (Extended) is a four-year degree allowing Indigenous Australian students to build careers based on a strong science background. You will have access to the full range of opportunities available in the Bachelor of Science, together with additional support and resources to ensure academic success.

bsc.unimelb.edu.au
BACHELOR OF SCIENCE

Duration
3 years full time
Part time available (domestic students only)

Campus
Parkville

Entry
February (Semester 1) or
July (Semester 2)

Entry requirements
Domestic students
Minimum entry 2019: ATAR 85.00, IB 31
Alternative entry: See Access Melbourne, page 29

International students
International applicants will need to meet the academic admission and English language requirements. Visit: futurestudents.unimelb.edu.au

Prerequisite subject study areas
English, mathematics and science
For full details of entry requirements and information for other qualifications visit: coursesearch.unimelb.edu.au

Contact hours (first year, full time)
Approximately 20 hours per week, plus independent study time of approximately 20 hours per week

CRICOS: 002153M

“After graduation I plan to study a masters in Human Resource Management and work in employment relations. I really enjoy learning about the legal jurisdictions of employees, and I only discovered my love for human resources and project management through the Melbourne Model.”

Yargi Kilinc (Australia)
current Bachelor of Science student

○ Your course plan will be different if you are commencing in Semester 2. Some majors cannot be completed within three years from a mid-year start date due to subject availability. You should pay close attention to prerequisite subjects and when they are offered to avoid any unnecessary delays to your course.
Majors within the Bachelor of Science encompass the full range of scientific disciplines, from the fundamental and biological sciences to engineering systems and IT.

**AGRICULTURAL SCIENCE**

The agricultural industry today is less about sowing seeds and more about science: logistics, engineering, robotics, genetics – modern farming is a cutting-edge, high-tech industry. At the University of Melbourne we even have our own robotic dairy. You could use your biology and chemistry knowledge to develop food and fibre products that will be sustainable in our changing environment, or put your mathematics and statistics skills to use in managing livestock and grazing patterns. Within the major, you can choose to specialise in Agricultural Science, Crop Science or Animal Production.

**ANIMAL HEALTH AND DISEASE**

How do you want to help animals? When your best friend gets hurt, will you be there to stitch Fido up? Or will you rush to the stables for a foaling, or work in the lab, tracking disease outbreaks and developing vaccines? Whatever you choose, start your journey with Animal Health and Disease, where you’ll learn about animals and their health, behaviour and handling. If you’re looking to become a vet, you can specialise in Veterinary Bioscience, a pathway to the Doctor of Veterinary Medicine. Or you could learn about disease surveillance in animal populations through the Animal Disease Biotechnology specialisation, and help prevent another swine or bird flu epidemic.

**ANIMAL SCIENCE AND MANAGEMENT**

What makes a free-range chicken free-range? And is it really the most ethical option? What is the best breeding practice for livestock? And can we finally confirm which are better, cats or dogs? You might never answer that last question, but in this major you will learn all about animal management and biology, from genetics and reproduction through to behaviour and welfare. You’ll understand how we use animals for food, fibre, recreation and companionship. You can choose to specialise in Animal Behaviour and Welfare, Livestock Production or Animal Science.

**SAMPLE COURSE PLAN – BACHELOR OF SCIENCE**

**MAJOR IN ANIMAL SCIENCE AND MANAGEMENT**

This course plan includes breadth subjects in Management.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
<th>Biology of Cells and Organisms</th>
<th>Organisations</th>
<th>Introduction to Life, Earth and Universe</th>
<th>Organisation and Management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Semester 2</td>
<td>Genetics and the Evolution of Life</td>
<td>Chemistry 1</td>
<td>Human Sciences: From Cells to Societies</td>
<td>Principles of Management</td>
</tr>
<tr>
<td>Year 2</td>
<td>Semester 1</td>
<td>Biochemistry in Agricultural Systems</td>
<td>Companion Animal Biology</td>
<td>Animal Structure and Function</td>
<td>Managing Operations</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>Comparative Animal Physiology</td>
<td>Ecology and Grazing Management</td>
<td>Topics in Animal Health</td>
<td>Organisational Behaviour</td>
</tr>
<tr>
<td>Year 3</td>
<td>Semester 1</td>
<td>Animal Disease Biotechnology 1</td>
<td>Applied Animal Reproduction and Genetics</td>
<td>Animal Behaviour</td>
<td>Managing Entrepreneurship and Innovation</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>Animal Disease Biotechnology 2</td>
<td>Animal Systems Analysis</td>
<td>Field Biology of Australian Wildlife</td>
<td>Business Communications</td>
</tr>
</tbody>
</table>

This is a sample course plan only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment. This sample study plan assumes that students have undertaken VCE Chemistry Units 3 and 4 or equivalent.

The breadth subjects featured in this plan are examples only. You can choose breadth subjects according to your interests. You must complete at least four breadth subjects in this degree, plus another two subjects either as breadth or as science electives.
The Bachelor of Science offers such a huge range of subjects that it can often be hard to know which direction to go in. Keeping your subject choice broad, particularly in first year, allows you to find what you enjoy, and can often lead you to discover areas of science that you have a real passion for. Looking ahead to interesting subjects can also help inform your subject choice, to make sure that you have all the prerequisites up your sleeve when it comes to picking your major.”

Ryan Lowe (Australia)
Bachelor of Science (Biochemistry and Molecular Biology), 2015–2017
BIOCHEMISTRY AND MOLECULAR BIOLOGY

It took 13 years and $1 billion to sequence the first human genome. Today, you only need to spend a few thousand dollars and you’ll get the results tomorrow. Build the knowledge and techniques now needed in many rapidly advancing fields of medical research and biotechnology. In this major, you will develop your understanding of basic biological processes as well as more specialised areas of molecular science. And of course, you’ll spend lots of time in the lab developing the skills you need to work in this field. Careers await in fields like pharmaceutical research, the biotechnology industry, or in the development and production of biochemical consumables.

This major is also available in the Bachelor of Biomedicine.

BIOENGINEERING SYSTEMS

If you can’t choose between operating robots and operating theatres, then this major is for you. You’ll study elements of engineering, science and medicine, and learn to use all three to develop new and improved medical treatments, processes and instruments. University of Melbourne bioengineers are working on groundbreaking innovations like the bionic eye, implants that help control epilepsy and improved ways of delivering life-saving drugs to the body. Follow this major through to the Master of Engineering and imagine what you could do next.

This major is also available in the Bachelor of Biomedicine.

CHEMICAL SYSTEMS

In this modern world we take lots of things for granted, but without chemical engineers, we wouldn’t have plastics, pharmaceuticals, toiletries, household cleaners or processed food and drink. Chemical engineers invent, design and implement processes that convert raw materials into valuable products used every day. Follow this major through to the Master of Engineering and join students working on important projects like clean energy biofuels, targeted drug delivery for cancer treatment and new methods of air pollution control.

CHEMISTRY

Wondering what chemistry is all about? The better question is, what isn’t chemistry all about? Whether it’s harnessing renewable energy sources, next-gen nanotechnology or new medical breakthroughs, chemistry is an ever-present and vital tool for shaping the technologies of the future. The future of science is multidisciplinary, and chemistry sits at the intersection of so much that will change our world over the coming century. This major covers the fields of molecular design and synthesis, analysis and spectroscopic identification of chemical species, quantum chemistry, molecular dynamics, chemical kinetics and thermodynamics.

SAMPLE COURSE PLAN – BACHELOR OF SCIENCE MAJOR IN DATA SCIENCE

This course plan includes a sample breadth track in Spanish.

| Year 1 | Semester 1 | Foundations of Computing | Calculus 1 | Biology of Cells and Organisms | Spanish 1 |
| Year 1 | Semester 2 | Foundations of Algorithms | Linear Algebra | Genetics and the Evolution of Life | Spanish 2 |
| Year 2 | Semester 1 | Elements of Data Processing | Probability | Principles of Genetics | Spanish 3 |
| Year 2 | Semester 2 | Statistics | Experiments in Genetics | Genes and Genomes | Spanish 4 |
| Year 3 | Semester 1 | Linear Statistical Models | Machine Learning | Evolutionary Genetics and Genomics | Spanish 5 |
| Year 3 | Semester 2 | Modern Applied Statistics | Applied Data Science | Science and Technology Internship | Spanish 6 |

This is a sample course plan only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment. This sample study plan assumes that students have achieved a score of 29 or above in VCE Specialist Mathematics Units 3 and 4 or equivalent. Students who have not met this requirement will need to take Calculus 1, before Calculus 2.

The breadth subjects featured in this plan are examples only. You can choose breadth subjects according to your interests. You must complete at least four breadth subjects in this degree, plus another two subjects either as breadth or as science electives.
CIVIL SYSTEMS

Take a look around. The building you’re in, the road you drive on, the train you catch, even the drainage system in your street are all the work of civil engineers. Learn about planning, design and construction of the built environment and explore the best ways of interacting with the natural environment. Follow this major through to the Master of Engineering and start creating innovative solutions to urban problems. Build a bridge – literally.

This major is also available in the Bachelor of Design.

CLIMATE AND WEATHER

Ever wondered what causes cyclones, or what’s really happening to the ozone layer? Our climate and weather systems influence a lot more than what you decide to wear each morning. In fact, ongoing and unpredictable changes to our climate and weather will greatly challenge how – and where – we live in the future. Study Earth’s atmosphere, oceans and land surfaces through this major, and discover how they combine to influence temperatures, rainfall and other weather. Learn about climate modelling and prediction, the role of principal wind and ocean current systems, and build your skills in many of the different sciences that play a role in climate and weather.

COMPUTATIONAL BIOLOGY

Did you know that computational biologists helped stop the spread of Ebola in 2014? Or that their models led to more sustainable fishing practices? A University of Melbourne computational biologist was even responsible for identifying the bones of King Richard III, which were found buried under a parking lot. Study biology, mathematics and statistics, and computer science in this truly multidisciplinary major. You’ll learn to interpret biological phenomena using mathematical and statistical models, computational tools and algorithmic design. Get ready for the jobs of tomorrow.

COMPUTING AND SOFTWARE SYSTEMS

You don’t need us to tell you that the software industry is huge, and it’s only going to get bigger. Whether you’re interested in app development, gaming, productivity software, financial products or website development, this major will build the knowledge and skills you need for a career in the software industry. You’ll use programming languages, learn about the systematic processes behind the software development life cycle and gain an appreciation of advanced computing. Then, level up your major in the Master of Engineering or Master of Information Technology.

DATA SCIENCE

Over the past decade there has been an explosion in the amount of data captured from mobile phones, the internet, sensors and instruments. Capturing this data is big business, but how do we make sense of it all? That’s where you come in. Develop a strong foundation in the statistical aspects of data analysis (data collection, data mining, modelling and inference) and the principles of computer science (algorithms, data structures, data management and machine learning). Learn to integrate and apply statistical and computational principles to solve real-world problems with large-scale data science, and set yourself up for the career of the future.
ECOLOGY AND EVOLUTIONARY BIOLOGY

Have you ever wondered about the history of life on Earth? When and where did a species originate? How did it evolve? What controls where a species is found and how abundant it is? Are birds really dinosaurs? This major combines disciplines from genetics through to ecosystem science to give you a deep understanding of the evolutionary basis of ecosystems, habitats and biodiversity, and the relationships between species and their environments. You can specialise in Ecology, Conservation Ecology, or Evolution and Biodiversity.

ECOSYSTEM SCIENCE

We all like to think we’re green but, for the first time ever, more than 50 per cent of people around the world live in cities. Some think this removes us from nature, but we’re now recognising the value of urban ecosystems, green spaces and urban forests in making our cities more liveable for us, and for our plant and animal neighbours. Meanwhile, outside the cities, we see dwindling forests worldwide and an ever-expanding appetite for forest products and ask, what can we do? This major will show you how to care for, use and protect urban and forest ecosystems. The Urban Ecosystems specialisation will teach you how to sustainably manage what goes into, and what comes out of, forests.

ELECTRICAL SYSTEMS

Electrical engineers design and build electronic devices on all scales – from nanoelectronics to nationwide power grids. And at the University of Melbourne, our electrical engineers are improving lives by developing systems and instrumentation for bionic vision, hearing technologies and life-support systems. This major introduces you to the fundamental mathematics of signals, systems and information, and the physical science of electrical phenomena. You can then go on to further study in the Master of Engineering.

ENVIRONMENTAL SCIENCE

Our environment is facing some serious challenges – from changing climates to habitat loss, environmental degradation, species extinction and overpopulation. Environmental science combines knowledge in biology, chemistry, statistics and earth sciences for a multi-disciplinary approach to overcoming these challenges. You’ll also gain important skills in risk assessment and environmental monitoring, which are crucial to careers in consulting, environmental management and laboratory research.

ENVIRONMENTAL ENGINEERING SYSTEMS

As an environmental engineer, your job is to build sustainable solutions to environmental problems. In this major, you’ll learn about the complexities of natural systems and how they interact with the built environment by examining land use and management, salinity, water resources management, water quality and soil rehabilitation. Follow this major through to the Master of Engineering and join our graduates alongside biologists, ecologists and resource managers to create a better, more efficient and more sustainable world.

FOOD SCIENCE

Not even Jamie Oliver will be able to feed the 9.7 billion people we can expect to be sharing the planet with by 2050. Study food science and learn new ways to improve, preserve, process, package, store and deliver food products globally. This major could lead to a career designing new and better ways to feed the world in growing industries like product research and development, food safety and regulation, nutrition assessment and quality assurance.

SAMPLE COURSE PLAN – BACHELOR OF SCIENCE MAJOR IN ENVIRONMENTAL SCIENCE

This sample course plan includes breadth subjects in Creativity, the Arts and Young People.

Year 1

Semester 1
Chemistry 1
Biology of Cells and Organisms
The Global Environment
Creativity, Play and the Arts
Semester 2
Chemistry 2
Genetics and the Evolution of Life
Understanding Planet Earth
Creative Projects - Digital Technologies

Year 2

Semester 1
Environmental Chemistry
Chemistry: Reactions and Synthesis
Analysis of Biological Data
Concepts of Childhood
Semester 2
Ecology
Chemistry: Structure and Properties
Dangerous Earth
Science Communication and Employability

Year 3

Semester 1
Environmental Risk Assessment
Imaging the Environment
Hydrogeology/Environmental Geochemistry
School Experience as Breadth
Semester 2
Problem Solving in Environmental Science
Analytical and Environmental Chemistry
Applied Ecology
Story, Children and the Arts

Subject leading to a major
Major subject
Elective subject
Breadth subject

This is a sample course plan only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.
The breadth subjects featured in this plan are examples only. You can choose breadth subjects according to your interests. You must complete at least four breadth subjects in this degree, plus another two subjects either as breadth or as science electives.
**SAMPLE COURSE PLAN – BACHELOR OF SCIENCE • MAJOR IN MECHANICAL SYSTEMS LEADING TO THE MASTER OF ENGINEERING**

This course plan includes a sample breadth track in Economics and Finance.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
<th>Engineering Systems Design 1</th>
<th>Calculus 1</th>
<th>Physics 1</th>
<th>Principles of Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Semester 2</td>
<td>Engineering Systems Design 2</td>
<td>Calculus 2</td>
<td>Physics 2: Physical Science and Technology</td>
<td>Data Analysis 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 2</th>
<th>Semester 1</th>
<th>Engineering Mechanics</th>
<th>Linear Algebra</th>
<th>Engineering Computation</th>
<th>Engineering Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Semester 2</td>
<td>Engineering Mathematics</td>
<td>Foundations of Electrical Networks</td>
<td></td>
<td>Econometrics 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Semester 1</th>
<th>Mechanics and Materials</th>
<th>Imaging the Environment</th>
<th>Corporate Finance</th>
<th>Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Semester 2</td>
<td>Mechanical Design</td>
<td>Thermodynamics and Fluid Mechanics</td>
<td>Systems Modelling and Analysis</td>
<td>Numerical Programming for Engineers</td>
</tr>
</tbody>
</table>

As an international student I felt very welcomed at Melbourne University, in the company of new friends and experienced staff. Additionally, studying advanced technology, working with gifted teammates from different backgrounds and participating in various social events made my life more colourful. It also increased my confidence for finding a decent job.”

**Guoxin Sun (China)**
Bachelor of Science (Electrical Systems), 2015–2017

---

1. This is a sample course plan only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.
2. Students who have a study score of 25 or higher in VCE Mathematical Methods Units 3 and 4, but did not achieve 29 or higher in Specialist Mathematics Units 3 and 4, take Calculus 1 before proceeding to Calculus 2. Students with 27 or 28 in Specialist Mathematics Units 3 and 4 are eligible for entry to Linear Algebra.
3. Recommended for students intending to proceed to the Master of Engineering (Mechanical).
4. The breadth subjects featured in this plan are examples only. You must complete at least four breadth subjects in this degree.
The breadth subjects featured in this plan are examples only. You can choose breadth subjects according to your interests. You must complete at least four breadth subjects in this degree.

This is a sample course plan only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Bachelor of Arts.

This major is also available in the Bachelor of Biomedicine.

Bachelor of Biomedicine.

This major is also available in the Bachelor of Arts.

GEOGRAPHY

Geographers look at the world around us and ask: What is going on? And then they ask: How can we make it better? This major develops your skills in conservation, environmental practices and social processes though problem-focused and field-based activities. You can study geomorphology, climate change, coastal processes, biodiversity, palaeoecology, sustainable development and globalisation. Optional field subjects will take you to East Timor or China and give you first-hand experience of the landscapes, cultures and politics that define these fascinating countries.

This major is also available in the Bachelor of Biomedicine.

HUMAN STRUCTURE AND FUNCTION

The human body is amazing. If you want to see just how amazing, then you should do this major. You’ll get hands-on, using human cadavers to understand the relationship between human physiology (function) and anatomy (structure), while being introduced to elements of other relevant fields like pathology, pharmacology and zoology. This major is a great pathway to further study in medicine or health sciences.

This major is also available in the Bachelor of Biomedicine.

IMMUNOLOGY

Learn how immunology – the study of the human immune system, which controls infections and provides immunity against micro-organisms – can apply to a range of areas in the biomedical sciences. This major will teach you to acquire, analyse and apply information from multiple sources, both within and beyond the laboratory. It opens up careers in epidemiology, diagnostics, molecular biology, biotechnology, vaccinology, biosafety and regulation.

This major is also available in the Bachelor of Biomedicine.

MARINE BIOLOGY

Marine biology is much more than just swimming with dolphins – it is the key to understanding and responding to important issues facing our planet, like global warming and the impact of tourism and pollution on our oceans. You’ll become an expert in marine biological systems, and in the application of ecological principles and environmental management strategies. You’ll also develop a breadth of knowledge across many disciplines, from biological sciences such as botany and zoology to the physical sciences of chemistry, geography and oceanography. You may then decide to explore careers in commercial aquaculture, environmental monitoring, research or tourism (and yes, that may include swimming with dolphins).

SAMPLE COURSE PLAN – BACHELOR OF SCIENCE

MAJOR IN NEUROSCIENCE

This course plan includes breadth subjects in Anthropology and Linguistics.

| Year 1 | Semester 1 | Biology of Cells and Organisms | Mind, Brain and Behaviour | Fundamentals of Chemistry | Intercultural Communication |
| Year 1 | Semester 2 | Genetics and the Evolution of Life | Mind, Brain and Behaviour | Chemistry 1 | Anthropology: Studying Human Diversity |
| Year 2 | Semester 1 | Biological Psychology | Principles of Genetics | Developmental Psychology | Engaging the World in Theory and Practice |
| Year 2 | Semester 2 | Cognitive Psychology | Personality and Social Psychology | Biotechnology | Language, Society and Culture |
| Year 3 | Semester 1 | Neurophysiology: Neurons and Circuits | Principles of Neuroscience | Research Methods for Human Inquiry | Power, Ideology and Inequality |
| Year 3 | Semester 2 | Sensation Movement and Complex Functions | Developmental Neurobiology | Psychological Science: Theory and Practice | Anthropology of Kinship and Family |

Subject leading to a major | Major subject | Elective subject | Breadth subject

This is a sample course plan only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

The breadth subjects featured in this plan are examples only. You can choose breadth subjects according to your interests. You must complete at least four breadth subjects in this degree, plus another two subjects either as breadth or as science electives.
MATHEMATICAL PHYSICS

From black holes, thermodynamics, electricity and magnetism to acoustics and aerodynamics, mathematical physics has helped answer many of the big questions about our world. This major combines physics and mathematics to provide you with the tools you need to understand the physical world, and will build a strong foundation for careers in logistics management, market research, medical or research analysis, finance, materials science or mining.

MATHEMATICS AND STATISTICS

Every scientist, engineer, medical specialist and economist uses maths and/or statistics. Maths and stats are powerful tools for understanding the physical world, as well as human endeavour and behaviour in fields like psychology, linguistics and the social sciences. By majoring in mathematics you’ll be able to pick an equation apart, understand its component parts and, maybe, put it back together with improvements. And you’ve probably heard the saying: there’s lies, damn lies and statistics. That’s half true – there’s bad statistics, and there’s good statistics. Can you spot the difference? This major gives you deep knowledge in one of four specialisations: Pure Mathematics, Applied Mathematics, Operations Research/Discrete Mathematics and Statistics and Stochastic Processes.

“I loved biology in secondary school, and with no clear direction of where I wanted to go with my career, doing science was a great choice for me. It has opened up my perspective of what fields of study there are, and the flexibility in subject choice has allowed me to explore all my options in different science areas.”

Claire Demeo (Australia)
MECHANICAL SYSTEMS

Mechanical engineers design, construct, operate and maintain machines, robots, energy systems and manufacturing equipment – practically anything with moving parts. With the skills and knowledge you gain in this major, you could help develop new products like mobile phones, gaming consoles, cars and wind turbines, or the robots that make them. Mechanical engineering not only interacts with all other disciplines of engineering but, increasingly, with other disciplines such as medicine, biology and computer technology. This major prepares you to solve practical problems with mechanical systems, and leads to further study in the Master of Engineering.

This major is also available in the Bachelor of Design.

MECHATRONICS SYSTEMS

If the future is self-driving cars, Amazon delivery drones and re-usable rockets, then the career of the future is mechatronics. Do you like mechanical, electrical and software engineering and can’t decide which to specialise in? Why not combine the three and develop the next generation of automated technologies! You’ll develop a fundamental understanding of the mathematical modelling that dictates the behaviour, response and control of mechanical systems. And you’ll learn about electronic sensors, the instrumentation required to support them, and programming skills used for interfacing computers with machines. You can then go deeper into this field with further study in the Master of Engineering.

This major is also available in the Bachelor of Design.

MICROBIOLOGY AND IMMUNOLOGY

Life on Earth began with, and has always depended on, the activities of microorganisms. Most of these activities are helpful to the planet and to us, but occasionally micro-organisms can do bad things, like cause infections, with potentially disastrous outcomes. Our immune system fights infections, and usually wins, but it’s an arms race and we must constantly adapt to battle new infections. Learn about the incredible ability of micro-organisms to evolve and survive, and how our immune system works to control infections and provide immunity against those micro-organisms that are out to harm us.

This major is also available in the Bachelor of Biomedicine.

NEUROSCIENCE

How the brain works is both fascinating and baffling, and there is still so much yet to be discovered about these living computers. This major will give you an understanding of how the nervous system is organised and how it functions, from the biology of nerve cells and neural circuits through to neural systems and complex behaviours. You’ll also find out how modern neuroscience interacts with molecular and cell biology, physiology, psychology, and cognitive and information science. You can then take this knowledge and apply it to fields like drug development, behavioural research, brain imaging or whatever other possibilities your brain can come up with.

This major is also available in the Bachelor of Biomedicine.

SAMPLE COURSE PLAN – BACHELOR OF SCIENCE

MAJOR IN PHYSICS

This course plan includes a sample breadth track in History and Philosophy of Science.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
<th>Physics 1</th>
<th>Calculus 2</th>
<th>Chemistry 1</th>
<th>Science and Pseudoscience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Semester 2</td>
<td>Physics 2: Physical Science and Technology</td>
<td>Linear Algebra</td>
<td>Chemistry 2</td>
<td>From Plato to Einstein</td>
</tr>
<tr>
<td>Year 2</td>
<td>Semester 1</td>
<td>Quantum and Thermal Physics</td>
<td>Laboratory and Computational Physics 2</td>
<td>Vector Calculus</td>
<td>Technology and Contemporary Life</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>Special Relativity and Electromagnetism</td>
<td>Real Analysis</td>
<td>Differential Equations</td>
<td>Science, Reason and Reality</td>
</tr>
<tr>
<td>Year 3</td>
<td>Semester 1</td>
<td>Quantum Physics</td>
<td>Electrodynamics</td>
<td>Complex Analysis</td>
<td>Science and Society</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>Laboratory and Computational Physics 3</td>
<td>Statistical Physics</td>
<td>Methods of Mathematical Physics</td>
<td>Scientific Practice and Human Inquiry</td>
</tr>
</tbody>
</table>

- Subject leading to a major
- Major subject
- Elective subject
- Breadth subject

This is a sample course plan only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment. This sample study plans assume that students have undertaken VCE Physics Units 3 and 4 and VCE Chemistry Units 3 and 4 or equivalent, and obtained a study score of 29 or more in VCE Mathematical Methods Units 3 and 4 or equivalent. Students who have not met this requirement will need to take Calculus 1 before Calculus 2.

The breadth subjects featured in this plan are examples only. You can choose breadth subjects according to your interests. You must complete at least four breadth subjects in this degree, plus another two subjects either as breadth or as science electives.

PATHOLOGY

Diseases are a part of life, and a part of death. It wasn’t that long ago that we didn’t know the root cause of even the most common diseases, and there is still so much to learn. Discover how pathology has made rapid advances by looking at disease from all angles – molecular, cellular, tissue, functional, biochemical and immunological.

PHARMACOLOGY

Some drugs save lives, some destroy lives. Pharmacology is the study of the interaction between drugs and humans (and other animals) – it’s how we find out what works and what doesn’t. In this major you can choose a research project that could contribute to major advances in the treatment of diabetes, heart attack, asthma, cancer, Parkinson’s disease and many other ailments affecting humans. Maybe you’ll be inspired to set off on a research path in this $1 trillion industry. Or maybe your new-found knowledge will take you elsewhere, into business or government.

This major is also available in the Bachelor of Biomedicine.
PHYSICS

Biology, chemistry, engineering, medicine, finance – at their most fundamental levels, everything in nature can be explained by physics. So, if you want to understand how a bumblebee flies, how the human metabolism works, how to design a wind turbine that doesn’t collapse, or how to predict the next global financial collapse, study Physics. You should also study Physics if you are inspired by the beauty of the cosmos and want to reveal its mysteries, or if you want to use the biggest machine ever built to see the smallest particles ever observed.

PHYSIOLOGY

Discoveries in physiology impact on health and medicine, our environment, industry, nutrition, exercise and reproductive biology, and you could set yourself up for a career in any of these areas by understanding how cells, organs and whole-of-body functions work. Our bodies work amazingly most of the time, but what happens when something goes wrong? Learn how disturbances in the endocrine, cardiovascular, musculoskeletal, developmental and neural control systems impact our health, and devise experimental studies that might help us understand what we can do to stop them.

This major is also available in the Bachelor of Biomedicine.

PLANT SCIENCE

Forget solar panels and Tesla batteries, the true solar energy and storage powerhouse of the world are plants. Study the big and the small, from single-celled algae (the solar factories of the oceans), to giant eucalyptus trees, ancient ferns, the crop plants that supply most of the world’s nutritional needs, or the plant toxins that might be the basis for the next life-saving drug. Learn how plants’ solar-powered food and oxygen factories work. Plant science can take you in as many directions as there are plants – from agriculture to horticulture, and from conservation to biotechnology.

PSYCHOLOGY

Admit it. Deep down, we all want to know what everyone else is thinking. Look at the most popular TED talks of all time – nearly all of them are about human psychology. Understanding human behaviour is hard, because how we behave is complex and keeps changing as our environment and technology changes. In this major you’ll learn about every stage of human behaviour, from behavioural neuroscience to cognitive processes, and the practical aspects of developmental, social and clinical psychology. With further study in one of our accredited masters degrees you can gain registration as a professional psychologist.

This major is also available in the Bachelor of Arts.

ZOOLOGY

Did you know that some female lizards can clone themselves, a baby bandicoot is born after only 12 days of pregnancy and that some baby spiders practise ‘matrphagy’ – eating their mothers after birth? The Zoology major gives you the option to study animals at every scale, from the biology of cells to the behaviour of whole populations. You can choose to specialise in Behavioural Ecology, Reproductive Biology or Wildlife and Conservation. We’re not promising you’ll be the next Sir David Attenborough, but he did study zoology at university, so it’s a start!

SAMPLE COURSE PLAN – BACHELOR OF SCIENCE

MAJOR IN ZOOLOGY

This course plan includes a sample breadth track in Politics and International Studies.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
<th>Biology of Cells and Organisms</th>
<th>Chemistry 1</th>
<th>Famine: The Geography of Scarcity</th>
<th>The Developing World</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Semester 2</td>
<td>Genetics and the Evolution of Life</td>
<td>Chemistry 2</td>
<td>Biology of Australian Flora and Fauna</td>
<td>International Politics</td>
</tr>
<tr>
<td>Year 2</td>
<td>Semester 1</td>
<td>Animal Structure and Function</td>
<td>Analysis of Biological Data</td>
<td>Blue Planet: Intro to Marine Environments</td>
<td>Politics and the Media</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>Comparative Animal Physiology</td>
<td>Ecology</td>
<td>Environmental Chemistry</td>
<td>Development in the 21st Century</td>
</tr>
<tr>
<td>Year 3</td>
<td>Semester 1</td>
<td>Ecology in Changing Environments</td>
<td>Marine Ecosystems: Ecology &amp; Management</td>
<td>Animal Behaviour</td>
<td>School Experience as Breadth</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>Field Biology of Australian Wildlife</td>
<td>Applied Ecology</td>
<td>Science Research Project</td>
<td>Science Communication and Employability</td>
</tr>
</tbody>
</table>

This is a sample course plan only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment. This sample study plan assumes that students have achieved a score of 25 or more in VCE Mathematical Methods Units 3 and 4 or equivalent, and VCE Chemistry Units 3 and 4 or equivalent.

The breadth subjects featured in this plan are examples only. You can choose breadth subjects according to your interests. You must complete at least four breadth subjects in this degree, plus another two subjects either as breadth or as science electives.
Concurrent diplomas offer another way to develop your interests and discover new opportunities outside of your chosen degree.

**FLEXIBLE STUDY OPTIONS**

Our diplomas give you many flexible options to enrich and broaden your studies – and if you’re an undergraduate domestic student, you may be eligible to receive the final half of the diploma HECS free. You can study a diploma alongside your undergraduate degree (adding a further year of study), or cross-credit up to 50 points (four subjects) of study in your undergraduate degree and your diploma, enabling you to complete the degree and the diploma within 3.5 years.

High-achieving students may be able to complete their degree and diploma within three years. Conditions apply, and you should discuss your options with a course adviser once you enrol in your undergraduate degree.

**DIPLOMA IN LANGUAGES**

Languages available: Ancient Greek, Arabic, Chinese, French, German, Hebrew, Indonesian, Italian, Japanese, Latin, Russian and Spanish.

Available to:
- Students enrolled in Arts, Biomedicine, Commerce, Design, Music and Science.
- Available in some graduate programs (pending permission from graduate program coordinator).

Prerequisites
- If you are applying for a Diploma in Languages other than in Ancient Greek, Hebrew or Latin and have not studied your chosen language at the University, you are required to take a Language Placement Test.

**BA.UNIMELB.EDU.AU/ENRICH/DIPLOMA-LANGUAGES**

**DIPLOMA IN MATHEMATICAL SCIENCES**

The Diploma in Mathematical Sciences enables you to gain a mathematics qualification while completing an undergraduate degree.

Available to:
- Students enrolled in Arts, Biomedicine, Commerce, Design, Music and Science.

Prerequisites
- A study score of 30 in VCE Specialist Mathematics Units 3 and 4 or equivalent, or successful completion of university-level studies equivalent to VCE Specialist Mathematics Units 3 and 4.
- courses.science.unimelb.edu.au/study/degrees/diploma-in-mathematical-sciences

**DIPLOMA IN MUSIC**

The Diploma in Music provides the opportunity to further your musical training or explore areas of academic and practical interest in music, while gaining a music qualification alongside your undergraduate studies in another field. The program can be tailored depending on your interests, and provides access to the full range of Conservatorium options.

Available to:
- Students enrolled in Arts, Biomedicine, Commerce, Design and Science.

Prerequisites
- There are no additional prerequisites once you are enrolled in your undergraduate degree. Some ensemble subjects require an audition, and entry to the music performance stream – involving individual instrumental or vocal lessons – is by recorded audition, submitted in early February.

**BA.UNIMELB.EDU.AU/STUDY/DEGREES/DIPLOMA-IN-MUSIC**

---

Bachelor of Biomedicine students cannot complete the diploma and the degree within the standard structure and time frame. Consult your course adviser.

Bachelor of Design students majoring in Computing are not permitted to complete the Diploma in Informatics.

Bachelor of Science students who select a major in Computing and Software Systems or Data Science are not permitted to complete a Diploma in Informatics.

Bachelor of Science students who select a major in Mathematics and Statistics or Mathematical Physics or Data Science are not permitted to complete a Diploma in Mathematical Sciences.
YOUR NETWORK

With a reputation as a global research leader, world-renowned scientists on staff, state-of-the-art facilities, 11 research Centres of Excellence and a strong culture of industry collaboration, the Faculty of Science is finding solutions to the issues that matter most.

YOUR FACILITIES
The University of Melbourne’s $140 million Bio21 Molecular Science and Biotechnology Institute is one of the largest biotechnology research centres in Australia, and something you’ll have access to as a Science student here.

YOUR CITY
The Melbourne Museum and Melbourne Zoo are a short walk from the University, and the world-famous Melbourne cafe and arts culture is available right on your doorstep.

YOUR CAMPUS
The Faculty of Science is based at the historic Parkville campus, in the heart of Melbourne. We also have campuses in Creswick and Burnley.

YOUR PEERS
We attract the brightest and most enthusiastic students, so you’ll be mixing with people like you. Together you will be challenged and inspired to achieve your best.

YOUR ALUMNI
The Faculty of Science alumni community is made up of over 50,000 graduates. Meaning you are part of a vast, interconnected global community.

YOUR TEACHERS
Do you want to connect with some of the best researchers in Australia? That’s easy – study science at Melbourne, and they’ll be your lecturers.
Study at Australia’s number one university for engineering and technology® and gain fundamental engineering knowledge for a successful career, not just your first job.

Qualified engineers are in high demand globally. As an engineering graduate you can access a vast range of interesting and well-paid employment opportunities around the world.

ENGINEERING AT MELBOURNE

To become a professionally accredited engineer you’ll complete a three-year undergraduate degree with an engineering major or sequence, followed by a two-year Master of Engineering at the Melbourne School of Engineering.

There are nine engineering systems majors in the Bachelor of Science, providing you with a broad and flexible pathway for studying engineering in a wider scientific context:

- Focus on your chosen field of engineering, explore different types of engineering or complement your course with subjects from outside your core discipline
- Gain a world-class education of greater technical depth and breadth
- Graduate with two degrees, including a higher-level masters qualification.

PROFESSIONAL RECOGNITION

The Master of Engineering is the first degree in Australia to be accredited by both Engineers Australia and EUR-ACE® in Europe.

HOW TO BECOME A PROFESSIONAL (ACCREDITED) ENGINEER THROUGH THE BACHELOR OF SCIENCE

**STEP 1: CHOOSE AN ENGINEERING MAJOR (3 YEARS)**

- BIOENGINEERING SYSTEMS
- CHEMICAL SYSTEMS
- CIVIL SYSTEMS
- COMPUTING AND SOFTWARE SYSTEMS
- ELECTRICAL SYSTEMS
- ENVIRONMENTAL ENGINEERING SYSTEMS
- MECHANICAL SYSTEMS
- MECHATRONICS SYSTEMS
- SPATIAL SYSTEMS

**STEP 2: CHOOSE GRADUATE STUDY IN ENGINEERING (2 YEARS)**

- MASTER OF ENGINEERING
  OR
- MASTER OF ENGINEERING (WITH BUSINESS)

**STEP 3: EMPLOYMENT AS A PROFESSIONAL (ACCREDITED) ENGINEER**
“I took a foundation engineering subject and was fascinated by the fusion of creative design, mathematics and physics that engineering offered. Leaving a positive and long-lasting impact on society through innovative and sustainable infrastructure is the reason I chose to pursue an engineering career.”
Alison Mantegazza (Australia)
The University of Melbourne is Australia’s leading higher education institution for computer science and information systems, and is ranked 14th in the world. Our IT graduates are highly sought after and globally mobile.

**IT AT MELBOURNE**
You’ll have flexible options to incorporate IT into your undergraduate course, with pathways to our professionally accredited graduate programs.

**THROUGH THE BACHELOR OF SCIENCE**
Four IT majors within the Bachelor of Science offer pathways to a career in IT or to professional graduate study:
- Computing and Software Systems
- Data Science
- Mechatronics Systems
- Spatial Systems.

You can undertake the Diploma of Informatics alongside your Bachelor of Science, or study IT as breadth.

**HOW TO BECOME AN INFORMATION TECHNOLOGY PROFESSIONAL THROUGH THE BACHELOR OF SCIENCE**

**STEP 1: COMPLETE AN IT MAJOR (3 YEARS)**
- Computing and Software Systems
- Data Science
- Mechatronics Systems
- Spatial Systems

**STEP 1: COMPLETE THE DIPLOMA OF INFORMATICS (1 YEAR)**
- The Diploma can be completed with the undergraduate degree of your choice.

**STEP 2: COMPLETE GRADUATE STUDY IN IT (2 YEARS, DEPENDING ON PRIOR CREDIT)**
- Master of Data Science
- Master of Engineering
- Master of Information Systems
- Master of Information Technology
- Master of Science

**STEP 3: EMPLOYMENT AS AN IT PROFESSIONAL, A SPATIAL EXPERT OR A PROFESSIONAL (ACCREDITED) ENGINEER**

---

QS World University Rankings by Subject 2018.
Bachelor of Science students who select a major in Computing and Software Systems or Data Science are not permitted to complete a Diploma in Informatics.

The Master of Engineering (Spatial), (Biomedical with Business), (Electrical with Business) and (Software with Business) are provisionally accredited by Engineers Australia until sufficient students graduate from the programs. The Melbourne School of Engineering is seeking provisional accreditation for the Master of Engineering (Materials) by Engineers Australia. The Master of Engineering is accredited by EUR-ACE®, apart from the Master of Engineering (Software) and (Software with Business), which are accredited by Euro-Inf®.

The Master of Engineering (Software), Master of Information Systems and Master of Information Technology are accredited by the Australian Computer Society. More information on accreditation is available at eng.unimelb.edu.au/study/accreditation
“I developed a newfound passion for software after taking a computing subject in my second year. Since then I’ve progressed my software engineering skills, and gained negotiation skills that help me manage clients in a business environment.”

Ryan O’Kane (Australia)
Psychology is the study of the human mind and behaviour. If working with people and exploring how they think, feel and behave appeals to you, a career in psychology is for you.

**PSYCHOLOGY AT MELBOURNE**

At Melbourne, psychology is studied as a professionally accredited major sequence within select courses, as a minor sequence, or as individual breadth subjects in most degrees. No additional prerequisites are required in first year.

**MAJOR IN PSYCHOLOGY**

To complete an Australian Psychology Accreditation Council (APAC) accredited major sequence, you need 125 credit points of study. You can do this through the Bachelor of Science.

**FOURTH YEAR PSYCHOLOGY**

The fourth-year program is focused on research and can be undertaken through:

- A Bachelor of Science (Honours) degree with an APAC-accredited three-year sequence in psychology (or equivalent); or
- The Graduate Diploma in Psychology (Advanced) – open to graduates with an undergraduate degree (or equivalent) that includes an APAC-accredited three-year sequence in psychology (or equivalent).

Both options are accredited by APAC.

**PSYCHOLOGY AT GRADUATE LEVEL**

To register as a psychologist in Australia, you must complete the four-year accredited undergraduate honours sequence followed by at least two years of professionally accredited training at masters level, or by two years of supervised practice with a registered psychologist.

If you hold an undergraduate degree in another area of study, you can complete the undergraduate psychology sequence through the Graduate Diploma in Psychology, available full time (one year) or part time (up to three years). This qualification can lead to the Graduate Diploma in Psychology (Advanced) and then to the professionally accredited Master of Psychology (Clinical Neuropsychology) or Master of Psychology (Clinical Psychology).

**MASTER OF PSYCHOLOGY (CLINICAL PSYCHOLOGY)**

This two-year program equips graduates with the skills to work as professional clinical psychologists, and provides a thorough grounding in the discipline of clinical psychology, particularly in the area of mental illness. The program provides sound training in the nature, assessment and treatment of mental illness.

We also offer a combined four-year Master of Psychology (Clinical Psychology) / Doctor of Philosophy program.

**MASTER OF APPLIED PSYCHOLOGY**

This 1.5-year course is designed for psychology graduates who want to develop practical skills in the applications of psychology and to employ them in the world of business, government, the non-profit sector, marketing, consumer and social research, and health. The program includes subjects from the School of Psychological Sciences along with the Faculty of Business and Economics and the Graduate School of Education. Subjects will cover social psychology, influence and persuasion, the psychology of advertising and communications, judgement and decision-making, attitude and behaviour change, consumer psychology, positive psychology, research methods and data analysis.

The Master of Applied Psychology does not carry professional accreditation and is not a pathway to professional registration as a psychologist.

We also offer a combined four-year Master of Psychology (Clinical Neuropsychology) / Doctor of Philosophy program.
PROFESSIONAL RECOGNITION

The undergraduate 125 point sequence, honours, graduate diplomas and graduate degrees are all accredited by APAC and globally recognised.

CAREER OUTCOMES

Graduates who pursue in-depth training in psychology (an honours year followed by a professional or graduate research degree) find employment in a number of specialised areas, such as clinical psychology, forensic psychology or sports psychology.

Skills gained through the study of psychology can also be combined with further professional training and lead to careers in other areas, such as marketing, human resources or politics.

HOW TO BECOME A REGISTERED PSYCHOLOGIST IN AUSTRALIA THROUGH THE BACHELOR OF SCIENCE

STEP 1: COMPLETE THE ACCREDITED PSYCHOLOGY MAJOR (3 YEARS)

SELECT THE 125 POINT APAC-ACCREDITED MAJOR SEQUENCE THROUGH THE BACHELOR OF SCIENCE.

STEP 2: COMPLETE THE BACHELOR OF SCIENCE (HONOURS) (1 YEAR)

STEP 3: COMPLETE GRADUATE STUDY (2 YEARS)

MASTER OF PSYCHOLOGY (CLINICAL PSYCHOLOGY) OR MASTER OF PSYCHOLOGY (NEUROPSYCHOLOGY) OR MASTER OF PSYCHOLOGY/PHD (4 YEARS)

STEP 4: REGISTER AS AN ACCREDITED PSYCHOLOGIST IN AUSTRALIA

Find out more

psychologicalsciences.unimelb.edu.au
University life is not just about going to class and studying for exams. The best way to make the most of your time on campus is by taking advantage of all that the University of Melbourne has to offer, be it through complementary academic study, exchange and study abroad opportunities, or student clubs and societies.

STUDY ABROAD AND EXCHANGE
We encourage all Bachelor of Science students to undertake part of your degree overseas. By doing so, you can immerse yourself in a different social, cultural and intellectual scene, with the chance to add an international perspective to your studies. You can study overseas either as an exchange student or a study abroad student.

mobility.unimelb.edu.au

INTERNSHIPS
Local and international internships provide you with the opportunity to integrate the knowledge and skills you have developed in your course with genuine work experience. In addition to developing employability skills, you will improve your knowledge of how science and technology can be applied in different organisations and explore potential career paths. We encourage our students to consider placements or internships throughout their degree to gain important experience in industry and we will let you know about these opportunities when they are available. You will also be able to enrol in a research or internship subject during your third year.

science.unimelb.edu.au/students/internship-subjects

INDUSTRY SEMINARS AND EVENTS
There are many opportunities to network and build connections while you’re at university, and it’s never too early to start thinking about your career. The Faculty of Science’s Industry and Career Seminar Series brings together guests from a range of public and private enterprises to talk about their experiences and share insights into the industry. Past panelists include representatives from Arup, IBM, PWC, EPA, the Department of Environment, Land, Water and Planning, CSL, and the Burnet Institute.

MAP YOUR FUTURE
Map Your Future is an opportunity to consider your future at any stage of your degree, whether you’re course planning and choosing your major, seeking employment or moving on to further study (coursework and research). Take the time to hear from staff across the University who can help you understand all of your options.

science.unimelb.edu.au/students/map-your-future

SCIENCE FESTIVAL
While there are plenty of academic and professional opportunities for you to take advantage of during your time at university, there is also plenty of fun to be had! Science Festival runs during National Science Week each year and features guest speakers, science displays, workshops, activities and much more. You can take it all in as an attendee or you can get involved right from the start and help to organise and host an event, building contacts and making friends.

festival.science.unimelb.edu.au

STARTUP SUPPORT
The Melbourne Accelerator Program is the University’s startup incubator, offering mentorship, seed funding and support to nurture our student and graduate entrepreneurs.

themap.co

VOLUNTEERING OPPORTUNITIES
There are many volunteering opportunities available for Science students, including In2Science, a classroom-based mentoring program for Year 8 and 9 maths and science students, and orientation events, such as group leading and peer mentoring. There are many other events throughout the year that also require students – all of them a great way to work on your communication and leadership skills.

STUDENT CLUBS AND SOCIETIES
Joining a club or society allows you to continue some of the extracurricular activities you already love, find a new interest or meet like-minded friends from within or outside of your degree. The University has over 200 clubs and societies, so find those that fit your interests, join up and get involved! For instance, Pre-ENG is a club for students undertaking one of our Engineering Systems majors. Also look out for the Science Students’ Society’s events and activities that are run throughout the year, including free fortnightly barbecues for our students!

unimelb.edu.au/jump-in/clubs
SCIENCE DAY 1

We want to make sure you feel prepared for your degree from day one. Science Day 1 is your academic orientation day, introducing you to the structure of the Bachelor of Science. You'll get information on what's available in the degree, subject planning ideas and the opportunity to meet staff and other Science students.

MENTORING

Connect with an industry mentor who will share their experience of transitioning to work, advise you on career options and help you build your professional network.

JOB READY

Job Ready is an optional, free, eight-week program that will develop your communication skills and enhance your employability so you'll stand out from the crowd when applying for jobs. For an hour each week, you will learn and practise communication in multiple modes to a variety of audiences. Not only will this help you in your studies, you will come away with the skills you need to effectively communicate your achievements and talents to employers.

science.unimelb.edu.au/students/jobready

“The Melbourne Model really gave me the flexibility to choose the subjects I find interesting. I discovered the whole area of finance at Melbourne. I found the societies at Melbourne to be very alive and they taught me a lot of stuff that you just can’t get from coursework.”

Hans Calvin Alexander (Indonesia)
Bachelor of Science (Mechanical Systems) 2016–2018
The Melbourne Scholarships Program is one of the most comprehensive and generous in Australia. With over 1200 scholarships available for new and current students – including domestic and international students – there’s likely to be at least one that you are eligible for.

For many of our undergraduate scholarships we’ll assess your eligibility when you apply for your course, so you don’t need to put in a separate application.

As well as starting out with a University scholarship behind you, there are several prizes for academic achievement on offer for Science students through the Faculty of Science.

We’ve highlighted one of our most prestigious scholarships for school leavers below, but you can check out what we have to offer and find the right scholarship for you at:
scholarships.unimelb.edu.au

MELBOURNE CHANCELLOR’S SCHOLARSHIP

The Melbourne Chancellor’s Scholarship is awarded to talented undergraduate students in recognition of their outstanding academic achievement during their Australian Year 12 or International Baccalaureate (IB).

You deserve the rewards
Would you like to begin your Bachelor of Science degree at the University with the security of knowing a graduate place is reserved for you when you finish?

If you’re studying Year 12 in Australia or are an Australian citizen studying an Australian Year 12 or IB overseas, you could be eligible for our Melbourne Chancellor’s Scholarship.

Benefits

For domestic students:
- HECS student contribution exemption for the full duration of a Commonwealth Supported Place in an undergraduate degree and a concurrent diploma
- Living allowance for the standard full-time duration of the undergraduate degree and concurrent diploma with a value of:
  - $5000 per year if you completed high school in Victoria
  - $10 000 per year if you completed high school outside Victoria.
- Melbourne Global Scholars Award for an approved period of overseas study as an exchange or study abroad student
- Guaranteed Commonwealth Supported Place in a professional masters degree if you meet the prerequisite and entry requirements for the masters.

For international students:
- A 50 per cent tuition fee remission for the standard full-time duration of an undergraduate degree
- Melbourne Global Scholars Award for an approved period of overseas study as an exchange or study abroad student
- Guaranteed international full fee place in a professional masters degree if you meet the prerequisite and entry requirements for the masters.

Eligibility

To be considered for this scholarship, you must:
- Have applied for a University of Melbourne undergraduate course via VTAC for commencement in the year following completion of an Australian Year 12 or IB.
- Not have previously undertaken any tertiary studies (excluding extension studies completed as part of a Year 12 program).

Selection

The Melbourne Chancellor’s Scholarship is awarded on the basis of merit and guaranteed to all students who satisfy the undergraduate course prerequisites and:
- Achieve an ATAR of at least 99.90, or
- Intend to undertake the Bachelor of Music and achieve an ATAR of at least 99.85 and achieve an audition score of A+, or
- Are of Indigenous Australian descent and achieve an ATAR of at least 90.00.

Application

Eligible students who have applied for admission to the University via VTAC will be automatically considered.

Outcome

The first offers are made a few days after the Victorian Year 12 ATAR results are released in December. Further offers are made in January and February to students who have completed the IB or Year 12 outside Victoria.

Scholarship offers do not represent an offer for admission to a University of Melbourne undergraduate degree. Course offers are made separately through VTAC.

chancellorscholars.unimelb.edu.au

Some exclusions apply. For a list of applicable courses, go to: chancellorscholars.unimelb.edu.au
ACCESS MELBOURNE

Access Melbourne can help you gain a place in the Bachelor of Science, or one of our other undergraduate degrees, even if your ATAR is below the selection rank normally required for an offer (subject to course prerequisites being met). You may also be eligible for guaranteed entry or an Access Scholarship.

We also have scholarships and grants that can ease the financial load, and a housing program to get you securely settled close to campus.

In 2018, 30 per cent of our domestic undergraduate students were eligible for Access Melbourne, and demonstrated that, because of personal circumstances, their ATAR was not fully reflective of their real potential.

ACCESS SCHOLARSHIPS

Approximately 200 Access Melbourne students every year also receive an allowance of $5000 per year (paid in half-yearly instalments) for the normal, full-time duration of the course. Every Indigenous student who enrols in Semester 1 2019 is guaranteed one of these scholarships.

We also offer a tuition waiver of up to $30,500 for 10 high-achieving Access Melbourne students per year. Plus, if you live in regional Victoria or interstate, the University will reserve a place in a residential facility close to our Parkville campus for the first year of your studies.

HOW TO APPLY

Lodge a Special Entry Access Scheme (SEAS) application via VTAC at: vtac.edu.au for one or more of the following Access Melbourne categories:

- Disadvantaged financial background
- Applicants from rural or isolated areas
- Under-represented school
- Difficult circumstances
- Disability or medical condition
- Non-English speaking background
- Recognition as an Indigenous Australian
- Mature-age consideration (non-school leaver entry pathway).

GET A GUARANTEED PLACE

If you’re from a rural or isolated area, have a disadvantaged financial background or are an Indigenous Australian, you could be eligible for a guaranteed place.

For 2018, the guaranteed ATAR for Science via Access Melbourne was 78.00 (75.00 for Indigenous students). Guaranteed ATARs for entry in 2019 will be published in June 2018 at: access.unimelb.edu.au

PATHWAY TO SCIENCE

If you’re a domestic student, you could be eligible for a guaranteed place in the Bachelor of Science if you complete the one-year Diploma in General Studies with an average score of 75. The program, based at Dookie campus, gives you the opportunity to get a taste of tertiary studies in a range of areas, including agriculture, commerce, design and science. To be eligible for the guarantee you must also be eligible for Access Melbourne at the time you apply for the diploma.

fvas.unimelb.edu.au/digs
The Bachelor of Science is a great first step towards your dream career. Whether you have specific career goals in mind or you’re exploring your options, we are here to support you. During your three years in the Bachelor of Science, you will have multiple opportunities to engage with industry and explore career paths that suit your skills and interests. We encourage our students to make the most of these opportunities and study in areas of complementary science which add to your knowledge and skills.

WHERE CAN A BACHELOR OF SCIENCE TAKE YOU?

A Bachelor of Science will prepare you with all the skills and expertise you need to work across all sectors. Many of our graduates work, study and collaborate with professionals on a global level. Melbourne researchers work with research laboratories in the US, Germany, Japan, the UK and China, to name just a few locations.

Our students go on to work in areas including science, medicine and health, veterinary medicine, commerce, engineering, law and education, alongside colleagues from a wide range of industries. Some of our recent graduates are employed at:

- Accenture Australia
- Amazon
- Apple
- Arup
- Baker Heart and Diabetes Institute
- BHP Billiton
- Bureau of Meteorology
- Burnet Institute
- Commonwealth Bank
- Deloitte
- Golder Associates
- Google
- IBM
- IMC Pacific
- Melbourne Water
- Murdoch Children’s Research Institute
- Optiver
- Palantir
- PwC
- Teach for Australia
- Walter and Eliza Hall Institute (WEHI)
- Zoos Victoria.

CAREER SUPPORT WHILE YOU STUDY

We know that you’re dreaming of a great career at the end. That’s why we are constantly reviewing and updating our course and subject offerings to future-proof your studies and give you an edge in the jobs market. The skills you need are built into the course, and that’s why recruiters for big companies across Australia choose to employ our students year after year. See pages 26–27 for details of our internships, our free Job Ready course and our popular Industry and Career Seminar Series.

HAVE YOU THOUGHT ABOUT THESE CAREERS?

Conservation biologists

There’s still hope to save Australia’s critically endangered species like the orange-bellied parrot, Leadbeater’s possum and the corroboree frog if people join the fight.

Renewables

We’re fast heading into the age of renewable energy. Your chemistry know-how will set you up to make major contributions to a field that is already worth more than $1 trillion, and still growing at an exponential rate.

International aid

Aid organisations need a thorough understanding of the people, culture and landscape of disaster-affected communities to be able to provide effective aid in a timely manner. And with climate change exacerbating the occurrence of natural disasters such as famines, droughts, hurricanes and flooding, research into the risks to vulnerable communities and the importance of cultural connection will assist them in becoming more resilient and resistant to threat.

Cyber security

The US Presidential election, Sony, iCloud, Yahoo! – it seems not a day goes by when we’re not talking about the latest hacking scandal. How vulnerable are the online systems we use to buy groceries or movie tickets, or those that store our health or financial information? It seems in many cases, the answer is: very. If this interests you, think about becoming a ‘white hat’ hacker, and help organisations find and repair vulnerabilities in their online systems.

Banking

What is the optimal credit card limit for any particular person? If it’s too high, it costs the bank to hold the extra money in reserve. Too little, and it costs the bank in lost interest charges (and don’t forget these costs are always passed on to the consumer). There’s a mathematical solution – a model that analyses a person’s purchasing and payment behaviour to tailor the optimal credit limit.

Space exploration

Physicists and engineers at the University of Melbourne are designing and building the SkyHopper, a small, agile satellite that will look for evidence of undiscovered planets and the earliest galaxies in the universe. As a physics student, you could intern on this project on your way to a career in astrophysics or mechatronics.
“The Melbourne Model has been instrumental in my career pathway from science to digital marketing. Flexible study options made it possible to explore other disciplines through breadth subjects, and opportunities to gain real-world experience through study abroad programs and internships at the University helped me discover my true passions.”

Daphane Ng (Australia)
YOUR NEXT STEPS

HONOURS
The Bachelor of Science (Honours) is a one-year program which is a pathway to further studies in research higher degrees such as a PhD. It provides a challenging and rewarding year of additional study to your undergraduate degree. This course will equip you with an opportunity to integrate previous knowledge acquired through your undergraduate degree with advanced studies in a specialised field while working on an exciting piece of original research.

bsc.unimelb.edu.au/overview/bachelor-of-science-honours

“Having an undergraduate degree in science and a graduate degree in business gives me a complementary skillset and a deep knowledge in both areas. In my heart I’m still a scientist. I get really excited by new breakthroughs and new ways of doing things. But there’s certainly a big part of me that has a foot in the entrepreneurial world. I’m equally excited to see opportunities where science can take us commercially.”

Sarah Last (Australia)
Bachelor of Science, 2013–2015;
Master of Entrepreneurship, 2017;
Co-founder of Mimictec
GRADUATE STUDY
Graduate study is an investment in your future. Choose Melbourne, and join the best and brightest students to pursue your passion and develop your career.

We believe that personal satisfaction and career success are inextricably linked. That’s why we encourage you to pursue your passion and become a master of your chosen field through specialist graduate study following your undergraduate degree.

In the competitive global employment market, a graduate qualification sets you apart as someone who is looking to advance and lead, backed by the skills and knowledge to succeed.

coursesearch.unimelb.edu.au/grad

SPOTLIGHT ON SCIENCE GRADUATE DEGREES

Master of Data Science
Develop the technological and analytical skills needed to manage large and complex collections of data.

Master of Biotechnology
Develop an understanding of the commercial, financial and regulatory context in which the biotechnology sector operates.

Master of Computational Biology
Demand for this expertise is growing rapidly and sits at the intersection of biology, mathematics and computer science.

GUARANTEED ENTRY

Pathways based on your secondary school and university performance

In addition to making you an undergraduate course offer, the University can also guarantee you a place in the graduate course of your choice, so you’ll have the added security of knowing a place is reserved for you. If you completed secondary school in Australia, guaranteed entry is available for most graduate degrees, depending on the ATAR/notional ATAR you achieve. See below for details.

Pathways based on university performance only
Guaranteed pathways to graduate study are available to students who complete their undergraduate degree at the University of Melbourne. Eligibility is based on your performance in your undergraduate degree, and completion of prerequisite subjects (if any). See below for details.

Domestic students applying for the Master of Engineering, Information Systems or Information Technology who complete a University undergraduate degree and meet course entry requirements with a weighted average mark of at least 65% are guaranteed a CSP regardless of their ATAR.

MORE GRADUATE OPTIONS
The University also offers a range of other graduate STEMM degrees, including, but not limited to:

• Doctor of Dental Surgery
• Doctor of Optometry
• Master of Energy Systems
• Master of Environment
• Master of Environmental Science
• Master of Food Science
• Master of Forest Ecosystem Science
• Master of Geoscience
• Master of Information Technology
• Master of Nursing Science
• Master of Psychology
• Master of Urban Horticulture

Graduate degrees outside of the sciences and health sciences fields include:

• Executive Master of Arts
• Juris Doctor
• Master of Architecture
• Master of Journalism
• Master of Teaching
• Master of Urban Planning.

See pages 34–35 for some of the most popular career pathways from Science.

For a full list of our graduate degrees visit:
coursesearch.unimelb.edu.au

ATAR OF 99.90+
A guaranteed place in the graduate degree of your choice, subject to meeting the prerequisites. The guarantee applies to our professional entry masters degrees, including the University’s flagship graduate degrees such as the Juris Doctor (Law), Doctor of Medicine, Master of Engineering and Master of Architecture.

No minimum grade is required in your undergraduate degree.

You may also be eligible for the Melbourne Chancellor’s Scholarship for your undergraduate degree. See page 28.

ATAR OF 94.00–99.85
You may be eligible for a range of other guarantees, including for the Master of Teaching, Master of International Relations and Master of Food Science. To see all your options, go to:
futurestudents.unimelb.edu.au/guaranteed-entry

The guaranteed entry pathways above are available to domestic and international students who complete an Australian Year 12 or the International Baccalaureate (IB) in Australia in 2018. Eligible students must enrol in a University of Melbourne undergraduate degree immediately following Year 12, or be granted a deferral by the University.

Some exclusions apply. For the list of applicable courses, see: futurestudents.unimelb.edu.au/guaranteed-entry
## Pathways to Professional Careers

Did you know that, on average, Australians with a graduate degree earn $26,000 more than those with an undergraduate degree? And many employers prefer to promote those with a graduate qualification.

The Melbourne Model offers a true graduate school experience, with over 400 courses to choose from including law, engineering, medicine, architecture, psychology and teaching – just to name a few!

A professional graduate degree can be a life-changing option, equipping you with specialised cognitive and technical skills – and an internationally recognised qualification.

Flexibility and choice are at the heart of the Melbourne Model. We’ve provided you with some examples of popular pathways here, but these are just a small sample of the hundreds of undergraduate and graduate study combinations you can follow. Which means you can ensure your pathway will set you up to be the specialist that employers need.

To view our full suite of graduate courses, visit:

coursesearch.unimelb.edu.au/grad

### Law

**Undergraduate Degree**
- Any undergraduate degree
  - 3 years

**Graduate Degree**
- Juris Doctor
  - 3 years

**Your Career**
- Lawyer

**Entry Requirements**
- An undergraduate degree in any discipline other than law, or a degree in law from a different legal system.
- Law School Admission Test (LSAT) score and essay.

[law.unimelb.edu.au/study/jd](http://law.unimelb.edu.au/study/jd)

### Engineering

**Undergraduate Degree**
- Biomedicine, Design or Science with an Engineering major
  - 3 years

**Graduate Degree**
- Master of Engineering
- Master of Engineering (with Business)
  - 2-3 years

**Your Career**
- Engineer

**Entry Requirements**
- A University of Melbourne undergraduate degree in Biomedicine, Design or Science with a relevant engineering systems major or sequence and a weighted average mark of at least 65%, or equivalent, or
- An undergraduate degree in any discipline with a weighted average mark of at least 65%, or equivalent, plus successful completion of relevant science or mathematical subjects.

[eng.unimelb.edu.au/study/degrees](http://eng.unimelb.edu.au/study/degrees)

### Master of Science

**Undergraduate Degree**
- Science
  - 3 years

**Graduate Degree**
- Master of Science
  - 2 years

**Your Career**
- Scientist

**Entry Requirements**
- An undergraduate degree in a relevant discipline with a weighted average mark of at least 65% in the best 50 points in appropriate discipline studies at third year.
- The Master of Science is available in nine streams: BioSciences, Bioinformatics, Chemistry, Computer Science, Earth Sciences, Ecosystem Science, Epidemiology, Mathematics and Statistics, and Physics. Each stream has specific prerequisites.

[science-courses.unimelb.edu.au](http://science-courses.unimelb.edu.au)

---

Postgraduate Destinations 2015, Graduate Careers Australia
Entry requirements
• An undergraduate degree including prerequisite studies in anatomy, physiology and biochemistry at second-year level (or equivalent) within 10 years of commencing the Doctor of Medicine.
• Completion of the Graduate Australian Medical School Admissions Test (GAMSAT). International students residing outside Australia at the time of application may choose to take the Medical College Admissions Test (MCAT) instead of the GAMSAT.
• Shortlisted candidates will be invited for a multi-mini interview.

mdhs-study.unimelb.edu.au/degrees/doctor-of-medicine

Your Career
Doctor

Entry requirements
• An undergraduate degree including approved prerequisite studies in human anatomy and human physiology at second-year level, or equivalent (one subject of each), within the 10 years prior to commencing the Doctor of Physiotherapy.
• Shortlisted candidates will be invited for a multi-mini interview.

mdhs-study.unimelb.edu.au/degrees/doctor-of-physiotherapy

Your Career
Physiotherapist

Entry requirements
• Students aspiring to graduate research can complete either an honours year or a masters degree with a substantial research component equivalent to at least 25 per cent of one year’s full-time study following their undergraduate degree.
• In the Faculty of Medicine, Dentistry and Health Sciences, the minimum entry standard for the Doctor of Philosophy and Master of Philosophy is H1 (80%), or equivalent.

futurestudents.unimelb.edu.au/info/research

Your Career
Researcher

Entry requirements
• An undergraduate Agriculture, Biomedicine or Science degree, including at least one semester of study in both general/cellular biology and biochemistry.
• A personal statement including details of relevant work experience (up to 500 words).
• Contact details of two to three referees.

fvas.unimelb.edu.au/dvm

Your Career
Veterinarian

Students complete a one-year internship following the Doctor of Medicine in order to obtain full registration as a doctor. Doctors can choose to subsequently undertake specialist training.
HOW TO APPLY

Domestic students
Domestic students applying for an undergraduate course must submit an application through the Victorian Tertiary Admissions Centre (VTAC). Domestic students studying overseas must also apply through VTAC. Full details about the VTAC application process can be found at:
vtac.edu.au

Non-school leaver entry pathway
All applicants to the University must demonstrate academic merit and meet other requirements as part of the application process. As a non-school leaver, you may not have a recent study history and therefore may not meet the standard entry requirements for the course of your choice. The non-school leaver entry pathway provides mature-age applicants and those who are not entering direct from Year 12 an alternative way to demonstrate their eligibility for entry and their likelihood to succeed in their chosen course.
access.unimelb.edu.au/nsl

International students
International students studying the VCE, an Australian Year 12 or IB in Australia must apply through VTAC for Semester 1 entry. All other international students, including those undertaking foundation studies in Australia, must apply directly to the University or through one of our overseas representatives.

For a step-by-step guide on how to apply, visit:
futurestudents.unimelb.edu.au/admissions/applications

FEES

Domestic students
All domestic undergraduate students are enrolled in a Commonwealth Supported Place (CSP), subsidised by the Australian Government. Payment of the student contribution amount can be deferred through HECS-HELP for eligible students.

International students
Tuition fees are charged for each year that you are enrolled. You will pay tuition fees according to your specific enrolment in any given semester. Detailed fee information, including the fee policy covering your enrolment, will be provided when you are offered a place at the University. For full details about tuition fees, visit:
futurestudents.unimelb.edu.au/admissions/fees

STILL NEED TO MEET THE MATHEMATICS PREREQUISITE STUDY?
The School of Mathematics and Statistics offers an online subject to help you meet the required mathematics prerequisite for entry to the Bachelor of Science. You’ll cover material similar to VCE Mathematical Methods Units 3 and 4. To find out more and enrol, visit:
commercial.unimelb.edu.au/custom-education/courses/calcprob

To be eligible for the guarantee you must be eligible for Access Melbourne at the time you apply for the Diploma in General Studies, and achieve certain grades in the diploma. See the website for more information.
## ENTRY REQUIREMENTS

### Qualification

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Bachelor of Science</th>
<th>Science (Melbourne Chancellor’s Scholarship)</th>
<th>Bachelor of Science (Extended)</th>
<th>Diploma in General Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Australian Year 12</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic students: 2019 minimum ATAR</td>
<td>85.00</td>
<td>99.90</td>
<td>50.00</td>
<td>50.00</td>
</tr>
<tr>
<td>Domestic students: 2018 lowest selection rank to which an offer was made</td>
<td>85.00</td>
<td>99.90</td>
<td>NA</td>
<td>50.80</td>
</tr>
<tr>
<td>International students: 2019 guaranteed ATAR</td>
<td>85.00</td>
<td>99.90</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>VCE (Units 3 and 4) prerequisite subjects</strong></td>
<td></td>
<td>Prerequisite subjects apply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A study score of at least 25 in English/English Language/Literature or at least 30 in EAL, and at least 25 in Mathematical Methods or Specialist Mathematics, and in one of Biology, Chemistry or Physics; OR A study score of at least 25 in English/English Language/Literature or at least 30 in EAL, and at least 25 in both Mathematical Methods and Specialist Mathematics.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>International Baccalaureate (IB) Diploma</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International students: 2019 guaranteed IB score</td>
<td>31</td>
<td>99.90 (notional ATAR)</td>
<td>Prerequisite subjects apply</td>
<td>NA</td>
</tr>
<tr>
<td>IB prerequisite subjects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English, Mathematics (or Further Mathematics), and one of Biology, Chemistry or Physics; OR English, Mathematics and Further Mathematics.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GCE A Levels/Singapore A Levels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International students: 2019 guaranteed score</td>
<td>BCC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Level prerequisite subjects</td>
<td></td>
<td>Not available to A Levels students</td>
<td>NA</td>
<td>Not available to A Level students</td>
</tr>
<tr>
<td>A grade of at least C in Mathematics, one of Biology, Chemistry or Physics and an accepted AS Level English subject.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trinity College Foundation Studies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International students: 2019 guaranteed score</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCFS prerequisite subjects</td>
<td></td>
<td>Not available to TCFS students</td>
<td>NA</td>
<td>Not available to TCFS students</td>
</tr>
<tr>
<td>EAP, English, Mathematics 1, and one of Biology, Chemistry or Physics; OR EAP, English and both Mathematics 1 and Mathematics 2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Domestic students: Applicants who achieve the minimum ATAR for a course will be eligible for a place, provided prerequisite studies and any other specific course requirements are met.
- The lowest selection rank to which an offer was made may be higher, depending on demand for the course and the number of places available. Only applicants eligible for special entry schemes will be admitted below the minimum ATAR.
- Students who achieve an ATAR or notional ATAR of 99.90 or above and satisfy course prerequisites will be guaranteed a place in the Bachelor of Science (Melbourne Chancellor’s Scholarship).
- Students must have completed an Australian Year 12 qualification or the International Baccalaureate (IB) in Australia or be Australian citizens studying an Australian Year 12 or the IB overseas in the year prior to entry. (Students must either enrol immediately or be granted a deferral in the year following Year 12.)
- International students: The University guarantees admission to a course when an international student achieves the required score, meets prerequisite studies, satisfies the English language requirements and there are still places available in the course at the time of acceptance. If you do not meet the guaranteed score your application will not be considered for entry. Guaranteed scores apply only if no further study has been undertaken after completion of one of these programs.
- Domestic students completing an international qualification: The score listed should be considered a minimum score to be eligible for a place in that course. The actual standard required may be higher depending on the demand for the course and the number of Commonwealth Supported Places (CSP) available.
- Accepted GCE AS and A Level English subjects are: General Paper, General Studies, English Language and Literature, English Literature, English Language. Singapore A Level subject Knowledge and Enquiry (K2) is also accepted.
- The 2019 study scores for the Diploma in General Studies are subject to review. For current details see: coursesearch.unimelb.edu.au
- Applicants intending to progress to the Doctor of Veterinary Medicine are encouraged to complete VCE Units 3 and 4 in Chemistry or equivalent.
- For students with English as their second language a pass in English B at the required level will be accepted as satisfying the English prerequisite. Except where specified, IB subjects must be passed to at least Grade 4 Standard or Higher Level. Mathematical Studies is not deemed equivalent to VCE Mathematical Methods.
- To be eligible for the Bachelor of Science (Extended), you must be of Aboriginal or Torres Strait Islander descent. For more information, visit: bsc.unimelb.edu.au
- Satisfactory completion of one of Biology, Chemistry, Physics or Mathematics to at least Year 11 level, and English at Year 12 level. Demonstrate the ability to succeed in science study. Non-school leavers, mature-age students and alternative pathway applications will be considered. All eligible applicants will be required to attend an interview.
GET STARTED NOW

There are lots of ways to get involved and find out more about studying Science at Melbourne. To be notified of these events, register for updates here: futurestudents.unimelb.edu.au/connect

PLAN YOUR BACHELOR OF SCIENCE

The My.Science app is an interactive tool that helps you make your subject choices. You can explore majors and keep up to date with essential news and events right in the palm of your hand. The Course Guide on the app helps you to plan your first-year subjects as well as the possible pathways that follow.

The Career Selector works in the same way as the Course Guide, but in reverse. It allows you to select a career and will show you all the majors that can lead you there.

Download from the App Store or Google Play.

AMAZING SPAGHETTI MACHINE

Year 10 students from across Victoria are invited to participate in our annual Amazing Spaghetti Machine Contest. Students work in teams and put their maths, science, engineering and project management skills to the test in the creation of a ‘spaghetti machine’ – an overly complex device that is used to perform a relatively simple task.

RESIDENTIAL INDIGENOUS SCIENCE EXPERIENCE (RISE)

The Residential Indigenous Science Experience aims to inspire students about the exciting and rewarding careers that can lead from studying maths and science. Developed by the University of Melbourne and the Gene Technology Access Centre (GTAC), the program is carefully crafted for Year 9 and 10 students to experience the tangible and hands-on nature of science, including workshops and special presentations on chemistry, geology, genetics, physics and maths, as well as visits to industry.

ENGINEERING AND IT

Our broad program of engineering and IT events includes DesignMasters and CodeMasters, Programming Challenge for Girls, Hands on Engineering and IT, and the Victorian Indigenous Engineering Winter School – programs that challenge students to solve problems through design and computer programming. Girl Power in STEM encourages girls to learn through camps, work experience and mentoring opportunities.

THE SCIENCE EXPERIENCE

Every January the faculty hosts Year 9 and 10 students for a three-day science summer program. Students get to meet other students from all around Victoria and work through a fun, interactive program of activities. Our program is designed to provide an experience of university life with lectures, laboratory experiments and hands-on interactive experiences run by our top-ranking academics, all while being able to explore Parkville’s world-class facilities.

YEAR 10 WORK EXPERIENCE

The Faculty of Science offers work experience to Year 10 students in June each year. We provide students with a sample of activities that are part of a career in science including conducting experiments, attending seminars of new work, collaborating with others on research projects and presenting your own findings. Students will discover what it’s like to be a scientist by participating in interactive workshops and activities in a discipline of their choice. Participants enjoy meeting like-minded new friends and scientific role models as well as getting a taste of university life.
“As part of my Biomedical Science Research Project subject, I completed a semester of research at the Murdoch Children’s Research Institute. It was amazing to be a part of such a fantastic team and to learn first-hand about scientific research, all while gaining university credits along the way!”

Elicia Pettirrosso (Australia)
Bachelor of Science (Genetics), 2013–2016, current Doctor of Medicine student
If you're considering studies at the University of Melbourne, we'd love to hear from you online or meet you on campus.

Sign up at:
futurestudents.unimelb.edu.au/connect

OPEN DAY

Sunday 19 August 2018
10am–4pm
Parkville and Southbank campuses

openday.unimelb.edu.au