



THE UNIVERSITY OF  
**WESTERN  
AUSTRALIA**

Your catalyst to a rewarding career

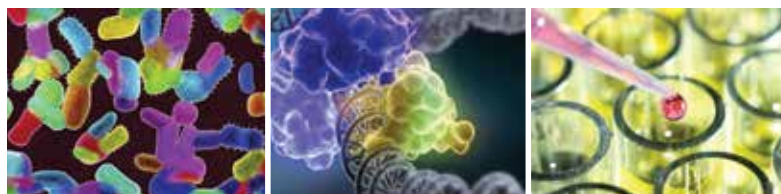
## Health Science majors at UWA



# Change lives for the better with the power of science

Our undergraduate degrees offer you a broad range of options, allowing you to combine subjects in a way that matches your career goals and personal interests. You can choose from one of the following majors and also have the option to take a second major within any of our bachelor's degrees.

- Aboriginal Health and Wellbeing
- Anatomy and Human Biology
- Biochemistry and Molecular Biology
- Exercise and Health
- Genetics
- Medical Sciences
- Microbiology and Immunology
- Neuroscience
- Pathology and Laboratory Medicine
- Pharmacology
- Physiology
- Population Health
- Psychology



The University of Western Australia (UWA) is internationally renowned for excellence in teaching and research. It is ranked first in Australia for Agricultural Sciences, Biological Sciences and Environmental Science.\*

As a UWA student you will learn within an inspiring environment. You'll be taught by experts and develop the required communication, practical and critical thinking skills to ensure you are career ready and highly competitive in the international workplace.

From our achievements in groundbreaking research to the calibre of our academic staff and state-of-the-art facilities, you will receive a quality education that will help you achieve your future goals.

UWA's extensive range of student services will help you settle into university life by supporting you both academically and personally. Student Services aim to help you succeed in your studies and make the most of your university experience.



## Aboriginal Health and Wellbeing

Gain a broad introduction to Aboriginal health and wellbeing from an Aboriginal perspective. This major will cover the underlying issues that influence health and wellbeing from historical, cultural, environmental, political and spiritual perspectives; an understanding of particular health problems within Aboriginal communities and their impacts; knowledge of the strategies, policies and practices that have been implemented to improve health and wellbeing with a particular focus on Aboriginal community-led initiatives; and practical experience in Aboriginal health settings.

## Anatomy and Human Biology

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Explore what it means to be human in an integrative way, combining studies of the biology and behaviour of human beings with current social and ethical issues. Topics covered are as diverse as human functional anatomy; genetics, reproduction, embryology and growth; microscopic structures of cells and tissues; structure and function of the nervous system; and ecology, behaviour and biosocial interactions. These are explored from the molecular to the population level and beyond.

## Biochemistry and Molecular Biology

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Interested in proteins? Finding out how hormones work or what goes wrong in a cancer cell? Biochemists and molecular biologists are interested in the molecular functions of all living organisms, from the smallest bacterium to the largest whale. You will study the way molecules are organised and how they interact to achieve the functions of the living cell and that of the organism. Your investigations will cover three main areas: the information stored in DNA; molecular interactions; and how organisms gain and use energy.

## Exercise and Health

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Do you want to educate others about keeping fit and being healthy? Develop your knowledge and skills in the exercise and health domain with relevant training for careers in the health education, exercise rehabilitation, health service delivery, and fitness industries. When taken together with the Sport Science major, you will be eligible to receive accreditation as an exercise scientist through the national professional body – Exercise and Sport Science Australia (ESSA), with greater opportunity and scope for employment within the industry.



Further health careers are open if you study the one-year Graduate Diploma in Exercise Rehabilitation. Successful completion allows accreditation as an exercise physiologist by ESSA, enabling you to register with Medicare Australia and provide support for clients with conditions such as cardiovascular disease, diabetes, osteoporosis, cancer, arthritis, pulmonary disease and more.

A Graduate Diploma in Work Health and Safety provides opportunities for students to participate in work health and safety teams through practicum placement and, on successful completion, allows for professional membership in a number of organisations.

## Genetics

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Are you interested in genes and epigenetics? Geneticists study inherited traits as diverse as those that cause human disease, allow a plant to live in a single, isolated location, or result in a desirable characteristic found in an animal used in agriculture. Groundbreaking advances in genetics now allow the genes and epigenetic effects responsible for these traits to be identified. Your studies will involve the manipulation of DNA and analyses of gene expression and provide you with the essential skills of a geneticist.



“One of the best things about studying at UWA has been its flexibility in allowing me to explore different fields by taking elective units before deciding what path to pursue.”

**Bianca Michelbach**  
Student

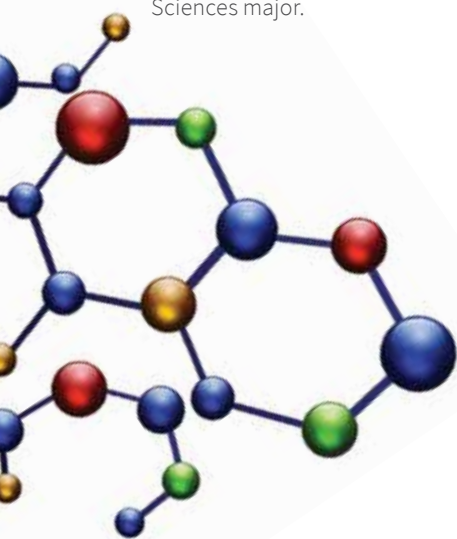


## Medical Sciences

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Do you want a solid foundation in medical science? The Medical Sciences major covers body structure and function, as well as the mechanisms of health and disease from the pre-clinical scientific disciplines including: anatomy, biochemistry, microbiology, physiology, pathology, pharmacology and public health. This major will provide a strong basis from which you can direct your future studies in your chosen field in the health sciences, including any graduate places available in the Faculty of Health and Medical Sciences. Successful completion of the Medical Sciences major will provide you with prior learning and will allow you to apply for up to one year of credit\* ('advanced standing') towards Medicine and Dentistry. (\*subject to accreditation)

Many of the majors listed in this brochure would be an excellent complementary major to the Medical Sciences major.



## Microbiology and Immunology

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Microbes are organisms too small to be seen without a microscope. The study of these organisms and the role they play in health, disease and the environment is known as microbiology. You will cover a range of fields from immunology, the study of how the body's immune system protects itself from infectious disease, to microbial genetics and genetic engineering and the environment. You will learn how microbiology can be applied in areas as diverse as medicine, food spoilage, control of environmental pollution and space science.

## Neuroscience

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How do we process the sensory stimuli we receive? How does the nervous system grow, develop and learn? How do medical conditions such as Alzheimer's disease, deafness, dementia and depression afflict the brain and nervous system? Neuroscientists are interested in the answers to these questions and how nervous system function can be restored after disease and injury to the brain. You will learn about neuroscience at all levels – from the molecules that make up individual nerve cells and the transfer of information from one nerve cell to another, to the complexities of how behaviour, thought and emotions are produced.

## Pathology and Laboratory Medicine

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Are you interested in understanding the causes and mechanisms of human disease, as well as how they are investigated in the laboratory? As a diagnostic specialty, Pathology and Laboratory Medicine plays a critical role in evidence-based medicine and provides the basis of modern scientific medical knowledge. You will gain an appreciation of how medical research forms new insights into disease every day and learn about the fundamentals of disease mechanisms, the range of human diseases and their investigation, treatment and prevention.

## Pharmacology

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How do medicines produce their beneficial effects on human diseases? How can drugs target particular organs, cells, proteins and genes? You will learn about the effects of drugs on the human body, combined with an appreciation of how these effects are used to treat human diseases. Topics covered include drug receptor interactions, dose-response relationships, intracellular signalling, drug metabolism and elimination, clinical pharmacology and toxicology, respiratory pharmacology, immunopharmacology, psychopharmacology, oxidative stress, drug discovery and development, as well as the role of genetics in dictating individual responses to drugs.

The importance of science in determining the wellbeing of our society is recognised by business, industry and government.

## Physiology

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How does your body cope with stresses such as intense exercise, blood loss, and dehydration? How does your nervous system respond to the world around you? What controls movement within the body and locomotion of the body itself? Physiology examines life processes, from the molecular and cellular level, to tissues and organs, and explains how these interact together, with the environment, to produce beneficial results for the organism. You will examine how disease affects bodily function and how understanding physiology can lead to the development of new diagnostic and therapeutic strategies to combat the mechanisms of disease.

## Population Health

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Do you want to prevent disease and promote health? The Population Health major is focused on health with an emphasis on current and emerging Australian and global health issues. Population health (public health) initiatives have led to improved health across the community, increasing life expectancy and reducing or eliminating many diseases. This major covers the primary health issues and determinants of health, the prevention of acute and chronic ill health and the promotion of good health through community programs and the provision of effective health services and research.

## Psychology (double major)

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The Psychology double major will help you develop a scientific understanding of human thoughts and behaviours, the psychological processes underlying these and the relationship of these processes to brain function. There is an emphasis on the measurement of psychological abilities, how these develop through the lifespan and on the processes that govern the relationships between groups in society. You will also develop an understanding of how psychological processes are affected by ageing, brain damage and disease.

Note: The Psychology double major is accredited by the Australian Psychology Accreditation Council (APAC) and can lead to further study and professional qualifications in psychology.

Students wanting to study Psychology and a major in another area can choose one of UWA's single psychology majors:

## Psychological Science

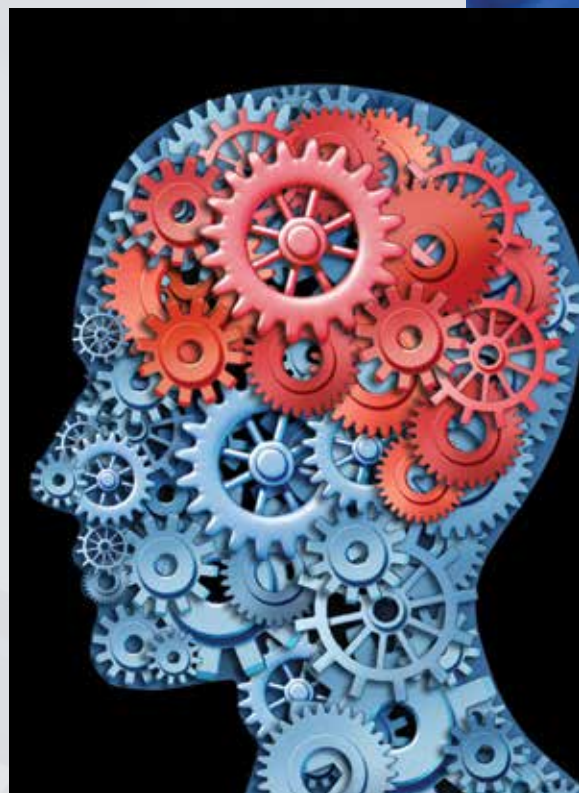
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This is the scientific study of mental processes and behaviour, and is a challenging and wide-ranging discipline. This major will provide you with a scientific understanding of our psychological processes and the relationship of these processes to brain function. You will also develop an understanding of how psychological processes are affected by ageing, brain damage and disease.

## Psychology in Society

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This major asks questions about how and why people behave the way they do (e.g. how do groups communicate? Can panic be controlled? How do attitudes to alcohol consumption develop?). You will build a scientific understanding of human behaviour and its underlying psychological processes. You will find an emphasis on the measurement of psychological abilities such as intelligence, how these abilities develop through the life span and on the processes that govern the relationships between people and groups in society.





# Science sets you up for the careers of the future

“The theory we learn in lectures is complemented by stimulating, hands-on laboratory sessions, all conducted by internationally recognised academics and experts in the field. Their work continues to inspire critical thinking skills in students and open minds to a world of current and future research opportunities.”

**Yasmita Haripersad**

*Student*



1st in Australia  
for graduate  
starting salary

*(Good Universities Guide 2017)*



Well-established  
industry  
partnerships

It is never too early to start thinking about and planning for your future career. Our Careers Centre can assist you to develop your long-term career plan, find part-time employment while you are studying, improve your resumé and interview skills, and meet future employers at career expos.

For further information on all our courses check our Undergraduate Course Guide or the Future Students site [study.uwa.edu.au](http://study.uwa.edu.au)

Limited Direct Pathway places for Medicine and Dentistry are also available for eligible applicants. These have different entry requirements. See [study.uwa.edu.au/courses-and-careers/professional-pathways](http://study.uwa.edu.au/courses-and-careers/professional-pathways)





# Opportunities to specialise even further

**It is possible to complete some master's degrees within 1.5 years, instead of the standard two years if you have completed an undergraduate degree in a related area.**

Postgraduate qualifications open doors to new and exciting career opportunities. Postgraduate coursework trains candidates in high-level analysis, while research promotes adaptability – skills which are invaluable to employers.

Our postgraduate courses are progressive, benchmarked against the world's best and created in collaboration with industry leaders to ensure our graduates are in demand.

**[study.uwa.edu.au/courses-and-careers/postgraduate](https://study.uwa.edu.au/courses-and-careers/postgraduate)**

**Discovered something you are really interested in or passionate about? We have a wide range of exciting postgraduate courses in the areas of:**

- Audiology
- Autism
- Biomedical Science
- Biotechnology
- Business Psychology
- Clinical Exercise Physiology
- Dentistry
- Exercise Rehabilitation
- Clinical Pathology
- Clinical Psychology
- Clinical Neuropsychology
- Health Science (with an industry placement)
- Forensic Anthropology
- Industrial and Organisational Psychology
- Infectious Diseases
- Medicine
- Neuropsychology
- Pharmacy
- Podiatry
- Public Health
- Sleep Science
- Social Work
- Work Health and Safety

(Check **[study.uwa.edu.au](https://study.uwa.edu.au)** for entrance requirements.)

Our commitment to teaching excellence and world-class research will help you reach your true potential.



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**WESTERN  
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