

# Bachelor of Biomedical Science



**Help people lead healthier lives.**  
Join an industry that is  
constantly evolving.

# Welcome to Federation University Australia

We're thrilled that you've taken the first step towards completing a degree with Federation University. Whatever your passion or career goals, Federation has everything you need to make your mark in the world.

## Reasons to choose Federation University

<b>TOP 200</b>	Young Universities in the World <sup>1</sup>
<b>TOP 300</b>	Universities worldwide for Sustainable Development Goals <sup>2</sup>
<b>#1</b>	in Victoria for Overall Educational Experience for Science & Mathematics <sup>3</sup>
<b>#1</b>	in Victoria for Graduate Starting Salary <sup>3</sup>
<b>5/5 RATING</b>	<b>Excellence in Research<sup>4</sup></b> Federation was rated <b>at or above world standard</b> in 80% of our submitted Fields of Research
	<b>Affordable tuition</b> fees and <b>great scholarships</b> available
	<b>High quality</b> , personalised teaching and dedicated <b>international student support</b>
	<b>Industry integrated learning</b> with opportunities for <b>real life projects</b> with industry leaders

1 Times Higher Education (THE) Young University Rankings 2023

2 Times Higher Education (THE) World University Impact Rankings 2023

3 The Good Universities Guide 2024 (Undergraduate)

4 Excellence in Research Australia, 2018 National Report



# Welcome to the Institute of Innovation, Science and Sustainability

Scientific knowledge impacts many aspects of modern life – from informing public policy to making decisions on energy, understanding climate change, managing populations, combatting health issues, and ecological preservation.

Scientists make new discoveries every day that provide solutions to these problems and help answer the many mysteries of the world. Whether you're looking to investigate communicable diseases, help protect endangered species or become a food technologist – there has never been a more exciting time to unlock your passion for science.

Federation University's Institute of Innovation, Science and Sustainability (IISS) delivers contemporary science degrees, designed to meet the needs of industry now and long into the future. Incorporating teachings from our expert academics, researchers and industry leaders, you will develop your skills in the classroom and put them into practice through real-world projects and placements. We ensure that every Bachelor of Biomedical Science graduate is equipped with confidence, knowledge, skills and experience to succeed in their career. That's why Federation University is internationally recognised by employers for producing highly desirable graduates.

## Dr Indu S Panicker

Coordinator of Biomedical Science

Dr Indu Panicker is a lecturer in science and coordinator for biomedical sciences at Federation University Australia. After completing her PhD investigating pathogenesis mechanisms in *Mycoplasma*, Indu worked on the epidemiology of mastitis in sheep at the Asia Pacific Centre for Animal Health at the University of Melbourne.

Indu has worked in several academic roles across Australian universities and brings a broad skillset and passion for teaching to Federation University. Students benefit from her extensive knowledge in topics including pathophysiology, histopathology and haematology, pharmacology and toxicology and mammalian genetics. She is passionate about using innovative and interactive digital tools to enhance student engagement and the learning experience. She has developed an innovative digital pathology module for histopathology as part of an Adobe Innovation Champions Pilot project which has received excellent student feedback.

Indu's research interests in the discipline of biomedical and veterinary science include infectious diseases of humans and animals and cover a broad range of research areas such as zoonotic diseases, development of molecular diagnostics, molecular epidemiology of bacterial and parasitic pathogens. She supervises students in research and science communication projects.

Indu's vision is to be inclusive, inspire and motivate students in learning, and provide an outstanding student experience. She is keen to lead her students to excel, be empowered, and offer a positive impact on their success at Federation University.



# What to expect

Our Bachelor of Biomedical Science will see you:

- gain a **deep knowledge in key areas of biomedicine** including anatomy, pathophysiology, molecular biology, food microbiology and applied biochemistry
- **graduate with a competitive advantage**, when searching for employment, by using a wide range of cutting-edge equipment and technology found in campus labs
- tailor the final year of studies to a specific interest in biomedical science by completing industry placements, research projects or internships. Gain **work-ready skills**, while also establishing **professional networks** with Federation's industry partners
- prepare to **pursue a pathway to postgraduate studies** in medicine, physiotherapy, dentistry, pharmacy, research and other allied health programs.

If a career in diagnostic pathology, immunology, laboratory medicine, genetics or allied health excites you then this is the perfect degree for you.

Students in our Bachelor of Biomedical Science course have the flexibility to tailor their degree to suit their chosen career pathway. Many students are also supported with study plans to pursue entry into further study. From medicine and pharmacy to health sciences and research programs – the opportunities are endless.

## What's in the detail?

### CRICOS

062139A

### INTAKES

Semester 1 (February)  
Semester 2 (July)

### CAMPUSES

Mt Helen (Ballarat)  
Berwick (Melbourne)  
Gippsland

### DURATION

3 years full time  
(360 credit points)

### FEES (ANNUAL)

\$30,030

**New international students may be eligible for a tuition fee scholarship.**

[federation.edu.au/current-students/starting-at-federation/scholarships/international-scholarships](https://www.federation.edu.au/current-students/starting-at-federation/scholarships/international-scholarships) ↗

## Bush Medicine Project

The Bush Medicine Project brings together students from a range of Federation courses to collaborate and discover new antimicrobial or anticancer compounds in indigenous Australian plants. During the third year of your Bachelor of Biomedical Science course, you will have the opportunity to undertake microbiology, pharmacology or medicinal chemistry units (SCMIC3003, SCMED3010, SCCHM3001) where you'll get to participate in this project by screening plant extracts for antimicrobial activity and toxicity. This builds on the work conducted by Environmental and Conservation Science students who collected samples from sites on and near Federation campuses. Biomed students may also elect to participate further via a research project in the final year of their degree.



The project is run in collaboration with Federation's Aboriginal Education Centre.

Find out more, visit [federation.edu.au/bush-medicine-project](https://www.federation.edu.au/bush-medicine-project) or scan the QR code to view the plant collection map.



This three-year degree emphasises practical skill development to complement the knowledge and critical thinking skills you'll develop during your studies. Delivered in **small groups** to maximise learning, students will undertake **significant laboratory training** in analytical and biotechnology techniques such as:

- Organ dissection
- Microscopy
- Toxicology analysis of drugs
- Flow cytometry
- PCR
- Cell culture
- Haematology
- Gel electrophoresis and more.

Already picturing yourself in your Federation lab coat and glasses? Just wait until you see the sample course plan.

## Sample course plan

YEAR 1		
SEMESTER 1	Introduction to nutrition (15 credit points)	Chemistry 1 (15 credit points)
	Principles of biology (15 credit points)	Scientific communication (15 credit points)
SEMESTER 2	Professional identity (Science) (15 credit points)	Chemistry 2 (15 credit points)
	Systems biology (15 credit points)	Scientific practice (15 credit points)

YEAR 2		
SEMESTER 1	Biochemistry (15 credit points)	Pathophysiology 1 (15 credit points)
	Analytical techniques (15 credit points)	General microbiology (15 credit points)
SEMESTER 2	Nutrition and metabolism (15 credit points)	Biotechnology laboratory techniques (15 credit points)
	Pathophysiology 2 (15 credit points)	Mammalian genetics (15 credit points)

YEAR 3		
SEMESTER 1	Immunology (15 credit points)	Specialisation elective (15 credit points)
	Specialisation elective (15 credit points)	Specialisation elective (15 credit points)
SEMESTER 2	Laboratory management and quality assurance (15 credit points)	Specialisation elective (15 credit points)
	Specialisation elective (15 credit points)	Specialisation elective (15 credit points)

## Final year specialised electives

In the final year of this course, students will choose a combination of specialisation electives to enhance their knowledge and prepare them for pathways to postgraduate study in medicine and allied health. Students may elect from science internship, workplace experience or research project to gain invaluable experience working with the local industry. Additional electives are available in topics such as pharmacology and toxicology, histopathology and haematology, molecular cell biology, food microbiology and more.

To view all available electives, visit our Course Finder website.

Course details, fees and sample structures are subject to variation. For the most up to date information, visit our Course Finder website, [study.federation.edu.au](http://study.federation.edu.au)

## Put your dream career in reach

Studying biomedical science at Federation University can catapult you into a fulfilling career in the pursuit of new knowledge and helping people lead healthier lives. Upon graduating you will be work-ready, holding a globally recognised qualification and significant lab and industry experience.

Our graduates go on to work in clinical diagnostics, molecular and cellular biology labs, pursue health policy reforms, biotechnology and pharmaceuticals, and universities. With the knowledge, skills and experience gained in this degree, you might find yourself doing just that in one of the following roles:

- Biomedical engineer
- Healthcare scientist
- Geneticist
- Laboratory technician or assistant
- Biochemist
- Cytologist
- Pathologist
- Immunologist
- Forensic scientist
- Medical sales



### Prapti, Nepal

Bachelor of Biomedical Science

“One of the key reasons I chose Fed Uni is its smaller class sizes, which I believe foster a more intimate and engaging learning environment. I have great interactions with professors and fellow students, helping me gain a deeper understanding of course material.”

*This course has given me a comprehensive understanding of the human body at a molecular and cellular level. It's provided a solid foundation in fundamental principles of biology, chemistry, and physiology – essential for anyone aspiring to enter the field of medicine or pursue scientific research like me.*

*One of the most engaging aspects of this course has been taking a deep dive into biotechnology and microbiology. Each lab session, particularly those involving real bacterial samples, has been thrilling. A highlight has been gaining a practical understanding of Polymerase Chain Reaction (PCR) and how this technique played a critical role during the COVID-19 pandemic. This course offers lots of real-world applications like this, making the learning process even more relevant and exciting.*

*With aspirations of pursuing a PhD, choosing to study Biomedical Science with Fed Uni was a strategic decision for me. I saw it as the perfect stepping stone towards achieving my long-term goals.”*

# Entry and application information

## Entry requirements

To be eligible for this course students must have **successfully completed**:

- An Australian **Year 12** with one final year course in Mathematics (any) or one final year course in Chemistry, Biology or Physics (or overseas equivalent); and
- **Academic IELTS overall score of 6.0**, with no bands less than 6.0 (or equivalent)

For more information on satisfying English language requirements, including accepted test courses, please visit [this link](https://www.federation.edu.au/english-language-requirements) ↗ **federation.edu.au/english-language-requirements**

Once you have submitted your application, you will be assessed against the course requirements and for available pathways and scholarships.

## Pathways designed specifically for you

If you have not met the entry requirements for this course, don't worry. With a range of pathways now available, you can be studying at Federation University sooner than you think.

### Foundation Studies

(CRICOS Code 110818J)

This pre-university course is designed for international students to meet the requirements needed to join a higher education diploma or fast-track your way directly into the first year of a Bachelor degree. Develop your English and academic skills in a supportive environment, undertaking a broad selection of courses to gain insight into what we provide.

**Find out more** ↗

[study.federation.edu.au/course/DGFO](https://study.federation.edu.au/course/DGFO)

### English for Academic Purposes

(CRICOS Code 113565A)

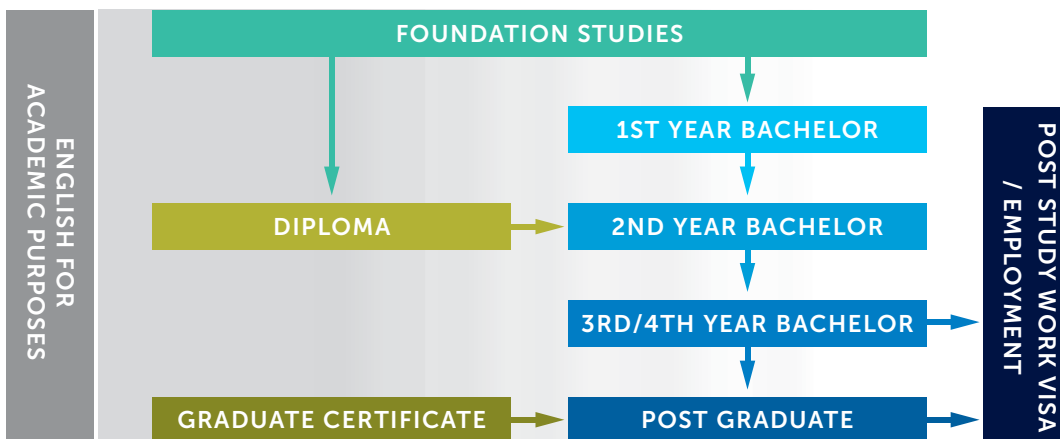
Begin an exciting journey with our English courses offered at Federation University. As the national language of Australia, English is a key asset for unlocking success in your academic, professional, and personal pursuits. In these courses you'll perfect your skills in grammar, writing, reading, speaking and listening as well as study literature and elements of Australia's culture.

This course is suitable for students needing to meet the equivalent of an IELTS 6.0 overall (with no band less than 6.0), IELTS 6.5 overall (with no band less than 6.0) or IELTS 7.0 overall (with no band less than 6.5) to commence study.

**Find out more** ↗

[study.federation.edu.au/course/DEA1](https://study.federation.edu.au/course/DEA1)

## Your pathway journey



# Scholarships

## Studying in Australia just became more affordable

At Federation University Australia, we're committed to attracting curious and driven students from around the world by offering an array of excellence scholarships.

Our scholarships allow awardees to pursue their career dreams and contribute meaningfully to their chosen fields of education. While also giving back to their home and Australian communities. From accommodation support to tuition fee discounts and research grants – visit our website to learn more about available scholarships, terms and conditions, eligibility criteria, and how to apply.

### Find out more ↗

[federation.edu.au/current-students/starting-at-federation/scholarships/international-scholarships](https://federation.edu.au/current-students/starting-at-federation/scholarships/international-scholarships)

# Feel supported to succeed

We understand that choosing to study abroad is both an exciting and challenging time. Help at Federation University is readily available – be it support with your English, understanding your assignments, or finding someone to talk to about personal life concerns. No matter the challenge, our range of student-focused services enables international students to develop skills, knowledge and confidence in a supportive environment that is united in your ambition to succeed.



### Pamudi, Sri Lanka

Bachelor of Biomedical Science

“ I chose to study at Federation University because of its history and reputed degrees. The lectures and course content have been really interesting, with lots of support from academics. They are very accessible and friendly. With small class sizes you can talk to them anytime and solve problems together.

A highlight has been gaining lab experience in many of my units. We would use techniques called carbon and hydrogen NMR, IR and UV spectra to identify organic molecules. These techniques are used when creating new medicines and chemicals. It's fuelled my interest in chemistry and drug research and I'm eager to pursue further education to become a professor that shares knowledge with future generations of students. I'm looking forward to expanding my technical experience and gaining industry experience in coming semester too. ”

Some of our support services include:



English Language Support Service



Libraries and Learning Skills Advisory



Counselling



International Student Employability



International Student Advisory



Spiritual facilities



Support for students with disabilities



Sports and clubs

# Your next steps

Whether you're applying directly or via an agent, just follow these simple steps



## Step 1

### FIND YOUR COURSE

Find the Federation University course you wish to study

- For undergraduate and postgraduate courses visit [study.federation.edu.au](https://study.federation.edu.au)
- Check you meet the academic entry requirements
- Check you meet the English language requirements
- Check for any essential requirements that you need to complete in addition to your application.

Essential requirements may include auditions, tests or interviews.

## Step 2

### APPLY

- International students or their agents must apply through the **StudyLink** online application system  
Visit [federation.edu.au/international/study-at-federation/apply](https://federation.edu.au/international/study-at-federation/apply)
- Follow the instructions and ensure you have attached all relevant supporting documents.
- Details of documentation required is available at [federation.edu.au/international/prepare](https://federation.edu.au/international/prepare)

Note: Be aware of cut off dates.

## Step 3

### ASSESSMENT

Your application will be assessed by our team

- English language requirements
- Academic entry requirements
- Scholarships



## Step 4

### OFFER MADE

#### Congratulations!

You will be sent an International Student Offer and Acceptance Pack that includes:

- Letter of Offer
- Information for accepting your offer
- GS and/or financial assessment forms\*

Refer [federation.edu.au/SSVF](https://federation.edu.au/SSVF) for more information.

\*International students may be required to complete a pre-visa screening process as a condition of their offer under the requirements of the Simplified Student Visa Framework (SSVF). The requirements will depend on a number of factors.

## Step 5

### ACCEPTANCE AND PAYMENT

Once you have provided all documentation and met all conditions, sign the acceptance of your offer letter and pay the required fees.

We will then issue you with an electronic Confirmation of Enrolment (CoE).

Note: Payments to Federation must be made via Convera GlobalPay through your StudyLink application.



## Step 6

### VISA APPLICATION WITH COE

You will need your CoE to apply for your Australian student visa.

More information on the visa application process is available at [immi.homeaffairs.gov.au](https://immi.homeaffairs.gov.au)

Note: Make sure you plan in advance to get your visa in time.



## Step 7

### PREPARE TO ARRIVE

We will send you an International Student Support Guide to help you understand what to expect.

### FLIGHTS

Make sure you arrive in time to attend the compulsory International Student Orientation Program that is held in the weeks before semester commences.

### ACCOMMODATION

Check out the offers from FedLiving – on-campus accommodation in Ballarat, Berwick and Gippsland.



Federation.edu.au  
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#feduni/   
feduniaustralia

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