The Master of Biotechnology is a general postgraduate degree with the option to follow one of two specialty streams in Clinical Microbiology or Food Science.

This program emphasises the application of new knowledge and technologies to solving practical problems.

You will develop advanced skills in gene and protein technologies, bioinformatics, and in various microbiology and food science disciplines.

The theoretical elements of the program are complemented by a large component of hands-on laboratory practicals. There is also the option to complete one semester of work experience or a research project which will include a minor thesis.

You can choose to complete the general biotechnology program or specialise in either clinical microbiology or food science.

The Master of Biotechnology (Clinical Microbiology) program focuses on microbes that cause infectious disease and how to identify, diagnose and treat the microbes and the diseases they cause. Graduates find employment in hospital and private diagnostic labs, research labs, or biotechnology companies.

The Master of Biotechnology (Food Science) covers many aspects of food science, including food composition, food safety and product development. A wide range of employment opportunities in the food industry are available for graduates.

Learning and teaching
You will experience a wide range of learning environments – lectures, tutorials, online delivery and individual and group work. There is a large proportion of time spent in the laboratory and undertaking project and field work. This gives practical emphasis, develops teamwork and time management skills and provides context for your learning. You will be assessed by a combination of web tests, quizzes, lab practical write ups, assignments, presentations, reflective journals and/or exams.

Industry connections
RMIT University is committed to providing you with an education that strongly links formal learning with professional or vocational practice.

High achieving students may undertake Work Integrated Learning (WIL), which is incorporated through an industry-based research project and optional work experience.

Projects and work experience can be undertaken at companies including the Murdoch Childrens Research Institute, CSIRO or Burnet Institute, among others.

All students will undertake a bioinformatics research project in which real-world data is analysed.

All specialisations within this program are validated and advised by an industry panel comprising practising professionals who meet regularly to review the contents of each discipline.

Career outlook
Graduates will be able to move into advanced areas of the biotechnology industry such as medical research institutes, universities, government bodies and hospitals as research staff or senior scientists, equipped with advanced skills in gene and protein technologies, bioinformatics, and in various microbiology and food science disciplines.

The combination of theoretical knowledge, research capabilities and hands-on skills are in high demand in the diverse biotechnology sector.

Professional recognition
Depending on their studies, graduates can apply for membership of one or more of the following professional societies:

- Australian Society for Microbiology
- Australian Society for Biochemistry and Molecular Biology
- American Society for Microbiology
- British Mycological Society
- Australian Institute of Biology
- International Society for Human and Animal Mycology
- Society of Environmental Toxicology and Chemistry
- Asian Fisheries Society
- World Aquaculture Society
- Zoological Society of London
- Australasian Society for Ecotoxicology
- Australian Society for Limnology.
The Master of Biotechnology consists of 192 credit points. After completing 96 credit points of study approved by the Program Manager, you may exit with a graduate diploma.

**Specialised streams:**

**Master of Biotechnology (Clinical Microbiology)**
This program focuses on microbes that cause infectious disease and how to identify, diagnose and treat the microbes and the diseases they cause.

**Master of Biotechnology (Food Science)**
Many aspects of food science are covered in this degree, including food composition, food safety, product development and many others.

**Master of Biotechnology**

**Year 1**
Complete the following core courses:
- Bioinformatics
- Research Methods
- Scientific Skills and Tools
- Gene Technologies 1
- Protein Technologies.

And courses totalling 36 credit points from the following:
- Biostatistics
- Applied Biochemical Methods
- Bacterial Infections
- Clinical Biochemistry 1
- Ecotoxicology
- Environmental Biotechnology
- Biomolecules and Cellular Regulation
- Food Chemistry
- Food Microbiology
- Immunology
- Industrial Microbiology
- Molecular Genetics and Diagnostics
- Medical Microbiology 1
- Medical Microbiology 2
- Microbial Evaluation of Food
- Molecular Approaches to Plant Breeding
- Rheology and Food Biophysics
- Viruses and Infections
- Parasites.

**Year 2**
Complete the following core course:
- Bioinformatics Research Project

And complete 48-72 credit points from the following course list:
- Biostatistics
- Applied Biochemical Methods
- Bacterial Infections
- Clinical Biochemistry 1
- Ecotoxicology
- Environmental Biotechnology
- Biomolecules and Cellular Regulation
- Food Chemistry
- Food Microbiology
- Immunology
- Industrial Microbiology
- Molecular Genetics and Diagnostics
- Medical Microbiology 1
- Medical Microbiology 2
- Microbial Evaluation of Food
- Molecular Approaches to Plant Breeding
- Research Project 1
- Applied Science Research Project
- Work Experience Practicum
- Parasites
- Viruses and Infections.

And select and complete 0-24 credit points from the following:
- Advanced Food Processing Technologies
- Confectionery and Lipid Technology
- Dairy Science and Technology
- Environmental Legal Contexts
- Water Policy and Management
- Food Processing Technologies
- Food Quality Assurance
- Food Safety Plans
- Grain Technology
- Meat Fish and Poultry Technology
- Product Development
- Sensory Evaluation of Food

**Note:** Students may only choose Research Project 1 and 2 or Work Experience Practicum after consultation with the Program Manager.

**Master of Biotechnology (Clinical Microbiology)**

**Year 1**
Complete the following core courses:
- Bioinformatics
- Research Methods
- Gene Technologies 1
- Immunology

And courses totalling 24 credit points from the following:
- Biostatistics
- Applied Biochemical Methods
- Bacterial Infections
- Clinical Biochemistry 1
- Ecotoxicology
- Environmental Biotechnology
- Biomolecules and Cellular Regulation
- Food Chemistry
- Food Microbiology
- Immunology
- Industrial Microbiology
- Molecular Genetics and Diagnostics
- Medical Microbiology 1
- Medical Microbiology 2
- Microbial Evaluation of Food
- Molecular Approaches to Plant Breeding
- Research Project 1
- Applied Science Research Project
- Work Experience Practicum
- Parasites
- Viruses and Infections.

And select and complete 0-24 credit points from the following:
- Advanced Food Processing Technologies
- Confectionery and Lipid Technology
- Dairy Science and Technology
- Environmental Legal Contexts
- Water Policy and Management
- Food Processing Technologies
- Food Quality Assurance
- Food Safety Plans
- Grain Technology
- Meat Fish and Poultry Technology
- Product Development
- Sensory Evaluation of Food

**Note:** Students may only choose Research Project 1 and 2 or Work Experience Practicum after consultation with the Program Manager.
Year 2
Complete the following core courses:
- Bacterial Infections
- Medical Microbiology 2
- Bioinformatics Research Project.

And 36 credit points from the following:
- Biostatistics
- Applied Biochemical Methods
- Clinical Biochemistry 1
- Ecotoxicology
- Environmental Biotechnology
- Biomolecules and Cellular Regulation
- Food Chemistry
- Food Microbiology
- Industrial Microbiology
- Molecular Genetics and Diagnostics
- Microbial Evaluation of Food
- Molecular Approaches to Plant Breeding
- Research Project 1
- Research Project 2
- Work Experience Practicum
- Parasites
- Viruses and Infections.

Note: students may only choose Research Project 1 and 2 or Work Experience Practicum after consultation with the Program Leader.

Master of Biotechnology (Food Science)

Year 1
Complete the following core courses:
- Scientific Skills and Tools
- Bioinformatics
- Gene Technologies 1
- Food Microbiology
- Research Methods
- Food Chemistry.

And complete one of the following courses:
- Applied Biochemical Methods
- Sensory Evaluation of Food
- Industrial Microbiology
- Immunology
- Protein Technologies.

Year 2
Complete the following core course:
- Food Safety Plans.

Bioinformatics Research Project
And complete 60 credit points from the following (not completed previously)
- Applied Biochemical Methods
- Industrial Microbiology
- Immunology
- Protein Technologies
- Parasites
- Bacterial Infections
- Research Project 1
- Applied Science Research Project
- Work Experience Practicum
- Rheology and Food Biophysics
- Product Development
- Dairy Science and Technology
- Fruit, Vegetable and Beverage Technology
- Confectionery and Lipid Technology
- Grain Technology
- Food Quality Assurance
- Sensory Evaluation of Food.
Master of Biotechnology

Entry requirements

An Australian bachelor degree with a GPA of at least 2.0 out of 4.0 in biological sciences, food science/technology, biotechnology, medicine, veterinary science, dentistry, agricultural science or chemical engineering, or equivalent.

Successful completion of a chemistry biochemistry or microbiology course in a bachelor degree.

How to apply

Direct to RMIT University:
rmit.edu.au/programs/apply/direct

Application dates Semester 1, 2017
– Applications open 14 August 2016
– Timely applications close 10 November 2016

Semester 2, 2017
– Applications open 1 May 2017
– Timely applications close 31 May 2017

Late applications will continue to be accepted after this date if places are still available.

Credit and exemptions

Relevant work experience at an appropriate level and duration may be recognised as an equivalent to 1 full-time semester or 1 part-time year.

You may be eligible for exemptions for previous study in a qualification at AQF level 8 or above, at other institutions or overseas. These include a graduate certificate, graduate diploma, or bachelor honours degree.

Applications for recognition of work experience are assessed on an individual basis.

Please contact the Program Manager for advice.

Fees (indicative)

2017 indicative fees
A limited number of Commonwealth supported places (CSP) are available and range from AU$6,349 to AU$10,596.

Full-fee: AU$28,800 per annum

How much you’ll pay will depend on whether you’re offered a Commonwealth supported place or a full-fee place.

Government financial assistance is available to eligible students regardless of the type of place you enrol in.

Fees shown above apply to 2017 only and are based on an annual full-time study load of 96 credit points unless otherwise noted. A proportionate fee applies for more or less than the full-time study load. Tuition fees are adjusted on an annual basis and these fees should only be used as a guide.

For more information and to learn how to calculate your exact tuition fees see:
rmit.edu.au/programs/fees/postgraduate