Bachelor of Science (Biotechnology)

This program gives you expertise in a broad range of the modern molecular technologies used in research and industry.

Biotechnologists use gene manipulation of plants, animals and micro-organisms to create new biological products for pharmaceutical, agricultural, diagnostic and environmental use.

They also develop diagnostic tools to detect diseases rapidly and conduct human stem cell research with the aim of treating or preventing illnesses.

In this program you’ll study the applied aspects of the major biological sciences, such as genetics, biochemistry, microbiology, animal and plant science, as well as specialising in bioinformatics, gene technologies and proteomics.

You can choose to major in either molecular biology or microbiology.

You’ll learn from leading researchers and have the chance to gain plenty of hands-on experience in research laboratories. Practical classes simulate the type of work performed in the workplace and ensure you’re job-ready when you graduate.

As a graduate you could be involved in applying the latest technologies and techniques in molecular biology and genetics to solve a range of problems such as diagnosing genes that cause cancer, making crops and livestock less vulnerable to disease and making food safer.

Industry connections

You will have the opportunity to work on research projects and practical activities, often undertaken in collaboration with industry.

The final year Science Project course will also provide you with the opportunity to develop an independent research project, which can involve an industry partner.

Industry experts also guest lecture during the final year of the program.

Career outlook

There are a wide range of graduate opportunities because of the broad training and flexibility of the program.

Graduates are employed in research, diagnosis and technique development in public institutions such as the CSIRO, AQIS, police forensics, research institutes, biosecurity, universities and hospitals and in private industry (areas such as fermentation, food, biotechnology, cell products and vaccines).

With experience graduates have gone on to become state and national leaders and involved in exciting projects such as the sequencing of the human genome.

Professional recognition

Depending on the major area of study chosen, graduates can apply for professional membership of:

- The Australian Society for Microbiology
  www.theasm.org.au
- The Australian Society for Biochemistry and Molecular Biology
  www.asmbb.org.au

International opportunities

RMIT partners with over 150 organisations around the world to provide you with with global work and study opportunities. You could spend a semester studying abroad, take part in a study tour or complete an international internship.

Pathways

Graduates of the RMIT Associate Degree in Applied Sciences biosciences stream with a grade point average (GPA) of at least 2.0 out of 4.0 may be able to receive credit of up to 1.5 years (equivalent to 144 credit points).

Graduates of the following programs with a GPA of at least 2.0 out of 4.0 may be able to receive credit of up to one year (equivalent to 96 credit points):

- Diploma of Laboratory Technology (Biotechnology)
- Diploma of Laboratory Technology (Pathology Testing).

www.rmit.edu.au/programs/bp226
Program structure

The biotechnology program includes genetics, molecular biology, bioinformatics, genomics and proteomics.

As part of the program you will learn about:
- gene technologies – shifting genes from one thing to another
- functional genomics – relating how a plant or animal reacts to what is going on
- molecular agriculture – developing new crops
- bioinformatics – accessing the world’s databases of genetic codes
- immunology – serological diagnostic tests.

You’ll also learn about the legal and ethical issues involved in biotechnology.

During your final year of study, you’ll have the opportunity to major in either molecular biology or microbiology.

The final year Science Project also gives you the opportunity to work on a small research project under the supervision of an academic staff member. You may have the opportunity to collaborate with an external organisation on this project.

### Year 1

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<td>Cell Structure and Function</td>
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<td>Chemistry for Life Sciences</td>
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<td>Microbiology</td>
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<td>Biological Chemistry</td>
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<td>Science Project</td>
<td>Industrial Microbiology</td>
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**Molecular Biology major courses:**
- Gene Technologies
- Functional Genomics and Proteomics
- Molecular Agriculture
- Protein Technologies

**Microbiology major courses:**
- Medical Microbiology 1
- Medical Microbiology 2
- Environmental Biotechnology
- Immunology

Entrance requirements

Successful completion of an Australian Year 12 senior secondary certificate of education or equivalent.

**Prerequisites**

Current Year 12 prerequisites units 3 and 4 – a study score of at least 20 in Mathematics (any); and a study score of at least 25 in any English (except EAL) or at least 30 in English (EAL).

Additional information

Non-Year 12 applicants may submit additional information if they would like it to be considered. For semester 1 intake, this can be completed through the VTAC Personal Statement online. For semester 2 intake, this can be completed through the personal statement in the Apply Direct application.

This information is designed for Australian and New Zealand citizens and permanent residents of Australia.

Disclaimer: Every effort has been made to ensure the information contained in this publication is accurate and current at the date of printing. For the most up-to-date information, please refer to the RMIT University website before lodging your application. Visit www.rmit.edu.au.