THE UNIVERSITY OF WESTERN AUSTRALIA | Science

Master of Biotechnology

by coursework or coursework and dissertation

Biotechnology is central to our lives. The use of plants, animals and bacteria, enhanced by areas such as genetics and genomics means new food, fibre and chemical production, new strategies for environmental protection, as well as training the next generation of biomolecular scientists.

About the course

This is a signature program that sets UWA apart from other universities by offering a thorough grounding in state-of-the-art biotechnology combined with training in commercialisation and enterprise and business planning.

You will gain a deep understanding of genetics and molecular biology with training in practical techniques such as:

- genomics
- proteomics
- metabolomics
- recombinant DNA methods
- basic and advanced bioinformatics.

This course draws on the expertise of staff in the UWA Business School, business angels and mentors in biotechnology businesses to provide the skills you need to make a significant contribution to the biotechnology sector.

What you'll learn

You'll gain a knowledge base of current techniques in genomics, genetics and molecular biology in relation to its current applications in green, white and blue biotechnological fields.

Learn to apply DNA sequencing, proteomics, metabolomics and molecular biology manipulations of core cellular components, as well as bioinformatic analyses and how they apply in animal, plant, terrestrial and aquatic biotechnological arenas.

Gain skills in the theoretical and practical aspects of current 'omic analyses (genome, proteome and metabolome), bioinformatic analyses and the practical uses of molecular biology for biotechnological applications.

Learn the core skills needed to identify and deal with issues in plant or animal breeding, environmental biotechnology, genetics and molecular biology as well as aquatic biotechnology.

You'll discover the skills to recognise biotechnological application in a commercial setting and move the idea through to a commercial standpoint, from idea inception, IP protection, business planning and development.

Specialisations

- Biochemistry and Molecular Biology
- Environmental Biotechnology
- Genetics and Genomics

About the course

Duration: 2 years full time
Intake: Semester 1 and 2

Course Structure

Compulsory units

- Enterprise and Innovation
- Technology Commercialisation
- Collecting, Analysing and Interpreting Big Data in Biology

Each specialisation has core units in addition to those listed above, with other units selected as options. Visit handbooks.uwa.edu.au/biotechnology

You may apply to replace the equivalent of half a year's units with a research project. In consultation with a supervisor, you will determine research goals, design and carry out research, interpret results and present the research outcomes as a research paper and oral presentation.

A research project will provide you with the communication, research and project management skills that are highly sought by employers.

Career opportunities

People with an understanding of both biosciences and business are in high demand. Biotechnologists work in a variety of fields including:

- agricultural research industry
- biotechnology entrepreneurship - setting up your own biotech business
- government departments (e.g. CSIRO)
- hospitals
- industrial manufacturing
- medical research laboratories

Future job titles include Bioanalytical Chemist, Business Development Manager, Clinical Researcher, Patent Examiner, Pharmaceutical representative, Policy Officer, Production Technician, Quality Assurance Officer and Research Development Officer.

Admission requirements

To be considered for admission, you must have a Bachelor of Science, or an equivalent qualification, as recognised by UWA; and the equivalent of a UWA weighted average mark of at least 50 per cent; and met the prerequisite for the chosen specialisation, visit handbooks.uwa.edu.au/biotechnology

You must also satisfy the University's English language competence requirement as set out in the University Policy on Admission: Coursework. See study.uwa.edu.au/elc

How to apply

For information about the application process, both domestic and international applicants should refer to the Future Students website at study.uwa.edu.au/how-to-apply

International students should also visit student.uwa.edu.au/international/esos for more information about the study environment, course fees and support services.

Scholarships

International Master's Scholarships are available for high achieving students. See scholarships.uwa.edu.au/futurestudents/international-masters

Course enquiries

ask.uwa.edu.au

GROUP OF EIGHT AUSTRALIA

Faculty of Science

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CRICOS Provider Code: 00126G UWA Course Course Code: 71580