



THE UNIVERSITY OF
MELBOURNE

Melbourne School
of Engineering



BIOCHEMICAL ENGINEERING CAREER PATHWAYS

➤ For more information, visit
eng.unimelb.edu.au

BIOCHEMICAL ENGINEERING AT MELBOURNE

Biochemical engineering offers you diverse career options in areas like bioprocessing, biotechnology and bioremediation, with the possibility of also working in core chemical engineering fields such as petrochemical engineering, minerals processing and energy production.

The Melbourne School of Engineering is the leading provider of engineering and IT education in Australia*.

Our professional Master of Engineering program is the first graduate program in Australia to offer accreditation from Engineers Australia and EUR-ACE®, enabling graduates to practice as engineers in Australia, Europe, the US, Singapore, Japan, and more.

The Master of Engineering (Biochemical) provides depth, breadth and flexibility to a curriculum taught by world-class educators, access to industry based learning opportunities, and a generous program of scholarships.

Our biochemical engineering programs include:

- » [Master of Engineering \(Biochemical\)](#)
- » [Master of Philosophy \(Engineering\)](#)
- » [Doctor of Philosophy \(Engineering\)](#)

Open a pathway to niche industries

In his first year of the Master of Engineering (Biochemical) Nicholas Buttigieg has already had the opportunity to explore biochemical engineering beyond the lecture theatre. He has been on site tours to Siemens, CSIRO and GSK, and has done vacation work in the dairy industry for Dairy Innovation Australia Ltd (DIAL).

“Biochemical engineering excites me, because it can provide pathways to niche industries, such as food, water and pharmaceuticals – all vital elements of everyday life.”

Nicholas Buttigieg
Master of Engineering (Biochemical)

Specialisations

Biochemical engineers explore the development of large-scale processes using microbial, plant or animal cells.

You could work in bioprocessing industries including food, beverage and pharmaceutical production, in traditional industries such as the petrochemical, minerals and energy industries and in new fields arising through advances in biotechnology. You could also be employed as an environmental chemical engineer, working in biological waste treatment and bioremediation.

Job Outlook

Engineering professionals are in demand, not only in Australia, but across the globe. With a rapidly growing population, the need for engineers will become more critical than ever to ensure our cities have adequate transport, power, water, telecommunications and healthcare.

Students are advised to begin building their employability skills whilst at University, to give themselves the best start to their careers. Visit the University Careers Service to find out more: careers.unimelb.edu.au

For more information about the job outlook for this sector, please visit the Australian Government’s Employment Projections and Job Outlook website: joboutlook.gov.au

For information about salaries, see: graduateopportunities.com

*No.1 in Australia; No.28 in the world. QS World University Rankings by Subject 2017.



Sectors & Employers

BIOCHEMICAL ENGINEERING SECTORS AND INDUSTRIES	EXAMPLES OF EMPLOYERS	
Biological Waste Treatment	Beca	Orica Limited
Bioremediation	CSL Limited	TATURA
Chemicals	ExxonMobil	
Cosmetics	Fonterra	
Food and Beverage Production	GlaxoSmithKline	
Government Departments and Agencies	Mondelez International	
Minerals and Energy	Melbourne Water	
Pharmaceutical	Nyrstar	
Research and Development		

Career Progression

GRADUATE	3-5 YEARS EXPERIENCE	10 YEARS	
Biochemical Research Engineer	Biochemical Engineer	Line Manager	Principal Process Engineer
Graduate Biochemical Engineer	Biochemical Engineer – Biofuels	Metallurgical Engineer	Project Manager
Graduate Environmental Chemical Engineer	Biochemical Engineer – Food Technology	Metallurgist	Senior Biochemical Engineer
Graduate Biochemical Engineer	Biochemical Engineer – Mining Industry	Minerals Engineer	Senior Biochemical Engineer
Graduate Metallurgist	Biochemical Engineer – Petroleum/ Petrochemicals	Petroleum Engineer	Senior Environmental Chemical Engineer
Graduate Process Engineer	Biochemical Engineer – Biopharmaceuticals	Plant Metallurgist	Senior Process Engineer
	Biochemical Engineer – Bionanotechnology	Process Engineer	Senior Metallurgist
	Biochemical Engineer – Waste/Water Management	Process Supervisor	
	Biochemical Engineer	Project and Process Engineer	
	Biomaterials Engineer	Wastewater Engineer	
	Environmental Engineer		



Alternative Careers

An engineering degree at the University of Melbourne gives you a solid technical and design foundation combined with strong analytical, problem solving and communication skills valued across a range of industries. Other areas our graduates have moved into include:

- » Management consulting
- » Finance, economics and banking
- » Business analysis
- » Project management
- » Technical sales, marketing and communications
- » Intellectual property management
- » Technical writing
- » Government and policy

Careers in Research

If you are passionate about a field of electrical engineering and would like to advance your research skills, enrolling in a graduate research degree could be a great option for you. Graduate research enhances your ability to problem solve, think autonomously and creatively, and analyse. Careers in research are diverse and may include:

- » academic positions at universities;
- » policy-making or research positions at public sector organisations;
- » private sector research and development projects;
- » self-employed consulting positions on technical or policy issues in your area of expertise.

Employability Services and Industry Links

Students undertaking our programs have access to a range of employability services, and benefit from a curriculum that offers excellent opportunities to connect with industry through:

- » an elective internship subject
- » student projects partnered with industry
- » guest lectures led by industry leaders and experts
- » site visits hosted by key organisations
- » industry networking events
- » career panels featuring industry representatives
- » career question drop-in service
- » an online jobs and internships portal



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