Biotechnology Sciences

About this area of study

Biotechnology applies scientific and engineering principles to living organisms in order to produce an expanding range of products and services across many industries and service sectors. Biotechnology students learn to investigate modern genetics and microbiology and apply them to areas of increasing importance such as the production of medicine, foods and feed stocks, chemicals, diagnosis of disease and management of wastes. Biotechnology is regarded as one of the keys to Victoria's future prosperity with the potential to generate enormous economic, health and environmental benefits. For biomedical graduates, this means the demand for skilled professionals across this sector will continue to grow. Combined with Australia's growing reputation as a world leader in the areas of biology and biomedicine, these factors mean that graduates are in an ideal position for employment.

Advances in the biotechnology field are greatly expanding the demand for biological products and services, and broadening the scope of career opportunities for biotechnology graduates. Graduates can seek employment in industries such as: pharmaceutical (drug design and production); agricultural (plant breeding and engineering, and pest control); mining; environmental (green biotechnology, land and water) and waste management; forestry; food and beverage (production and processing); chemical (nanotechnology and biosensor applications); legal (ethics and patents); business (sales and supply); consulting (business plan analyst); and in medical and veterinary science service industries.

Biotechnology roles are prevalent in public and private diagnostic, research and therapeutic laboratories and some roles in Government agencies (e.g. defence, health and primary industries). Biotechnology graduates can work for biotechnology companies within Australia or they can seek opportunities in the rapidly expanding international biotechnology sector.

Further study is required to advance in research or to attain qualifications in areas of specialisation. For many graduate roles, an Honours Degree is necessary.

Key skills that Biotechnology Sciences graduates demonstrate include

- communication skills
- attention to detail
- analytical
- scientific method
- lateral thinking
- planning/organisation

Courses offered by Deakin University include

- Bachelor of Biomedical Science (with a major in Biotechnology)
- Bachelor of Science (with a major in Biotechnology)

Labour market information

Grads online has information regarding graduate salaries and where graduates go after completing their course www.gradsonline.com.au

Job Outlook has information about the labour market outlook http://joboutlook.gov.au

Related occupations

- Medical scientist
- Chemical scientist
- Life scientist (geneticist, immunologist, physiologist, anatomist, biologist)
- Defence scientist
- Patent consultant
- Forensic scientist
- Academic

An industry career profile, salary and other employment information can be obtained from the My Future website www.myfuture.edu.au

Descriptions of occupations can be found at The Job Guide www.jobguide.thegoodguides.com.au

Employers

Gallay Medical and Scientific Pty Ltd www.gallay.com.au

Southern Health www.southernhealth.org.au

Melbourne Pathology www.mps.com.au

Garvan Institute www.garvan.org.au

IP Australia www.ipaustralia.gov.au

Department of Agriculture, Fisheries and Forestry www.daff.gov.au

Commonwealth Scientific and Industrial Research Organisation (CSIRO) www.csiro.au

CSL www.csl.com.au

Bionomics Limited www.bionomics.com.au

Invitrogen www.invitrogen.com

Ascent Pharmaceuticals www.ascentpharmahealth.com

GlaxoSmithKline www.gsk.com.au

Australian National University Research School of Biology http://biology.anu.edu.au

Forensic Services www.police.tas.gov.au/policing_services/forensic_services

For specific employment opportunities

Deakin University Jobshop www.deakin.edu.au/jobshop

Science Alert www.sciencealert.com.au

Victorian government health jobs www.health.vic.gov.au/jobs

Graduate Opportunities www.graduateopportunities.com

Uni Grad www.unigrad.com.au

Seek www.seek.com.au

My Career www.mycareer.com.au

Career One www.careerone.com.au

Professional associations

The Association of Professional Engineers, Scientists & Managers, Australia www.apesma.asn.au

Australasian Association of Clinical Biochemists www.aacb.asn.au

Australian Society for Biochemistry and Molecular Biology www.asbmb.org.au

AusBiotech Ltd www.ausbiotech.org

BioMelbourne Network (represents the broad Victorian biotechnology and research sector) www.biomelbourne.org