Careers in Biomedical Science: Pathways, Challenges and Success

Biomedical Science is an exciting and rapidly developing field which has the fundamental aim of better understanding disease processes in order to diagnose and classify them more accurately, treat them more effectively and/or prevent them from occurring in the first place.

The Biomedical Science undergraduate major provides you with a strong foundation in the pursuit of a career or higher study within the human health and medical fields. Graduates attain knowledge and practical skills across a range of disciplines including physiology, biochemistry, microbiology, immunology and pathology. With this in-depth scientific understanding of normal function and disease in humans you have the necessary grounding for interesting and meaningful careers as diverse as:

• researching cancers such as leukaemia;
• monitoring communicable diseases including bird flu;
• controlling antibiotic resistance in bacteria;
• developing anti-parasite vaccines and;
• improving fertility treatment.

The Biomedical Science degree also provides a useful pathway or stepping-stone into clinical programs such as: Medicine, Veterinary Medicine, Chiropractic, Dentistry, Pharmacy, as well as Secondary Teaching.

Engage in your career before you graduate

To enhance your future employment prospects it is important not only to do well academically, but to also undertake additional curricular and co-curricular activities to demonstrate your commitment to the scientific field, identify research strengths, develop generic employability skills and expand your networks.

This can include:

• Networking with industry, engaging with seminars, workshops or conferences, and attending public Open Days/Information Sessions hosted by medical research institutes such as Harry Perkins Institute of Medical Research, Telethon Kids Institute, Institute for Immunology and Infectious Diseases, Institute for Respiratory Health and the W.A. Neuroscience Research Institute.
• Applying for a laboratory based “Independent Study Contract” negotiated with an academic (as an undergraduate unit for credit).
• Entering Student Competitions that showcase problem solving, team work etc.
• Engaging in opportunities through university e.g. Peer Tutor /Mentor, PASS Leader, Murdoch Student Emerging Leaders (MSEL) program participant etc.
• Joining and becoming an active member of a relevant student club or society (e.g. MABS)
• Gaining Laboratory experience after first year through Scientific Temporary Recruitment Agencies offering Student Programmes or through the University (e.g. Laboratory Demonstrator roles).
• Volunteer in areas involving science (e.g. Museums, Scientific School Education out-reach programs). NOTE: The Murdoch Volunteering Hub (situated next to the Guild Shop on Bush Court) is a useful resource for ideas on where to gain relevant volunteer work. Student can also graduate with a “Community and Career Skills Development Transcript” through volunteering. Further information is available via the Murdoch Volunteering Hub website www.the-guild.com.au/volunteering-hub
• Lastly, undergraduate Biomedical Science students are strongly encouraged to undertake an additional Honours year which can be undertaken on-campus or off-campus at a medical research institution (under the supervision of a Medical Research Scientist with a Murdoch co-supervisor) as a means of obtaining a valuable practical experience/work integrated learning opportunity in industry. Honours is also a prerequisite for a postgraduate research Masters or Ph.D qualification, which open up an even greater range of career possibilities.
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Biomedical Science Graduates are typically employed by:
- Health and Medical Research Institutions, Foundations and Centres
- Private/Public Hospitals and Pathology Laboratories
- Higher Education Institutions
- Biotechnology and Pharmaceutical Companies
- Medical and Biological Scientific Supply Companies
- Government Health Departments
- Blood Collection Centres/Analysis Companies
- International Public Health Organisations
- Food/Cosmetic/Wine Manufacturers

Specific Job Roles include (which may require additional postgraduate research qualifications):
- Laboratory Assistant/Technical Assistant
- Medical Laboratory Scientist
- Medical/Life Science Sales Representative
- Research Assistant/Research Officer (with Honours)
- Clinical Trial Coordinator (with Honours or Ph.D)
- Medical/Life Science Product Manager (with Ph.D)
- Medical/Healthcare Scientist (with Ph.D)
- Research Fellow/Research Scientist/Principal Investigator (with Ph.D)
- University Researcher and Academic (with Ph.D)

A Biomedical Science degree provides the basis for a diverse range of careers. It is best to start with an open mind and look for specialty areas that interest you while you undertake your degree and pave your own journey through networking, co-curricular activities and further study. You have the ability to continuously develop your career by striving for you best, actively engaging in university life and stepping up to opportunity in industry. Choosing a degree in Biomedical Science is just the beginning.

Adaptability of your Biomedical Science degree and Alternative Careers

Your ability to make clear and precise observations, work accurately with attention to detail and analyse problems to develop practical solutions, equips you for a range of alternative science based careers. Graduate employability is further enhanced if you compliment your degree with a second major or minor, and/or undertake additional postgraduate study.

NOTE: The three key second majors for Biomedical Science are Laboratory Medicine (four year degree), Molecular Biology (three year degree) and Forensic Biology and Toxicology (three year degree).

The following list of alternative careers (requiring complimentary or further study/skill sets) have been pursued by graduates with a Biomedical Science undergraduate degree:
- Biostatistician (with Maths/Statistics major/minor)
- Clinical Database Administrator/Bioinformatician (with IT/Computing major/minor)
- Human fertility specialist (with postgraduate qualification in clinical embryology)
- Medical Writer/Journalist (with Arts/journalism major/minor)
- Patent Examiner/Attorney (with Patent Law qualification)
- Recruitment Consultant (Sciences) (with Human Resources qualification)
- Research Grants Coordinator (with prior senior research experience)
- Safety in Research and Teaching Coordinator (with Safety qualifications)
- Scientific Outreach Officer (with Public Relations major/minor)
- Secondary School Teacher (Science) (with postgraduate Masters in Education)
- Vocational Training Lecturer (with Cert IV in Training and Assessment)

Biomedical Science graduates have also been successful in securing multi-discipline Graduate Program roles. Graduate Programs are structured professional development programs specifically designed for new graduates. Final year students apply for these positions from March for the following year. Biomedical Science graduates typically secure Graduate Officer positions with both federal and state Government Departments.

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