Careers in Biomedical Science

Biomedical science has made transformative contributions over the past decade, stimulating growth in a wide range of industries including agriculture, pharmaceuticals, veterinary science and medical research.

You may find employment in the following areas or

Biotechnology and pharmaceutical companies

University and academia Private research laboratories

Crown Research Institutes

Government agencies

Environmental Risk Management Authority,

Ministry of Agriculture and Forestry

Ministry of Business, Innovation and Employment a

- Analysts

- Laboratory technicians

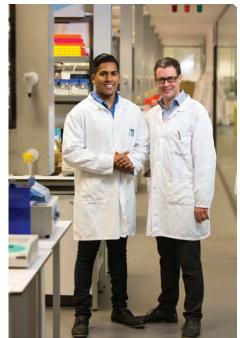
- Scientific officers - Teachers

- Researchers

Employment in biotechnology and pharmaceutical companies is especially buoyant in the United States and Europe, with significant growth expected in New Zealand.



Although every reasonable effort is made to ensure accuracy, the information in this document is provided as a general guide only for students and is subject to alteration. All students enrolling at the University of Auckland must consult its official document, the University of Auckland Calendar, to ensure that they are aware of and comply with all regulations, requirements and policies.



"Diabetes is fast becoming a major health concern world-wide. Strategies are needed urgently for early detection of people who are at risk."

Brenan's PhD research investigates why women of Chinese descent appear to be at high risk of developing diabetes. Using state-of-the-art metabolomics technologies, Brenan's work will see him travel to collaborate with researchers at the Singaporean Clinical Nutrition Research Centre.

"With the skills I gain, I believe I will be in a position to pursue a career either in academia or in the commercial sector. While I am motivated by the idea of continuing research and learning, I am also interested in the commercial application of this research. Through my PhD, I hope to find a position that encompasses both of these areas."

Brenan Durainayagam, Doctor of Philosophy candidate in Biomedical Science at the University's Liggins Institute, is pictured with his supervisor Professor David Cameron-Smith.



Helpful information

| Academic dates | www.auckland.ac.nz/dates |
|--|--|
| Academic Integrity Course | www.auckland.ac.nz/academic-integrity |
| Accommodation | www.accommodation.auckland.ac.nz |
| Buy coursebooks | www.science.auckland.ac.nz/resource-centre |
| Career Development and Employment Services | www.auckland.ac.nz/careers |
| Course advice and degree planning in Science | www.science.auckland.ac.nz/student-centre |
| General education | www.auckland.ac.nz/generaleducation |
| How to apply | www.apply.auckland.ac.nz |
| How to enrol | www.auckland.ac.nz/enrolment |
| International students | www.international.auckland.ac.nz |
| Māori and Pacific students | www.science.auckland.ac.nz/tuakana |
| Need help? | www.askauckland.ac.nz |
| Rainbow Science Network for LGBTI students | www.science.auckland.ac.nz/rainbowscience |
| Science Scholars Programme | www.science.auckland.ac.nz/sciencescholars |
| Scholarships and awards | www.scholarships.auckland.ac.nz |
| Support for students | www.science.auckland.ac.nz/support |
| | |

Applications close on December 8.

Questions about Biomedical Science major? scifac@auckland.ac.nz



Connect with us

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Phone: 0800 61 62 63 | Email: scifac@auckland.ac.nz Web: www.science.auckland.ac.nz/biomed











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THE UNIVERSITY OF

AUCKLAND

NEW ZEALAND

Welcome to Biomedical Science

Biomedical Science is jointly taught by the Faculties of Science and Medical and Health Sciences, with the programme spread over City and Grafton campuses.



This major within the Bachelor of Science is designed for very academically able students with an interest in emerging areas of biomedical science. The Biomedical Science programme provides an understanding of the scientific basis of health and disease in humans and animals. During the first three years, the programme will deliver rigorous scientific training in a range of disciplines and students will gain a unique insight into this important area of modern biological research.

This research-led field which is currently the most rapidly developing area in basic biological science attracts a high level of public interest. The University of Auckland is acknowledged as a centre of excellence in biomedical research and the options within the programme at Year Three reflect our particular strengths.



PROFESSOR LARRY CHAMLEY Chair, Board of Studies for Biomedical Science

The University of Auckland is the highest ranked university in New Zealand by both Times Higher Education and QS rankings.





Date: Thursday, November 05, 2015 3:09:14 PM JOB: 266766 UOA Biomedical - Lay: 1 - Outer Screen: None-None DotGain: NONE

Undergraduate study options in Biomedical Science

Bachelor of Science (BSc) in Biomedical Science

This challenging and immensely rewarding major provides courses in Year 1 and 2 which deliver a strong foundation for a number of majors and professional careers (including Medicine), and a unique insight into the principles underlying this important area of modern biological research. Students may then follow options to specialise in areas such as cancer biology and therapeutics, molecular biology, cardiovascular biology, genetics and development, microbiology, immunology, neurobiology, nutrition, pharmacology, physiology or reproduction.

Bachelor of Science degree

For course planning and enrolment contact the Science Student Centre (scifac@auckland.ac.nz).

Bachelor of Science (Honours) in **Biomedical Science**

Students who achieve a GPA of 6.5 in Year 2, will be offered a provisional place in the Honours class subject to maintaining at least a B average in Year 3.

The average years it takes Bachelor of Science (Hons) degree

Students are strongly encouraged to consider postgraduate study. www.science.auckland.ac.nz/biomed

Entry into other programmes from Biomedical Science

The Biomedical Common Year 1 serves as a gateway in part or whole to many other BSc majors: Biological Sciences, Medicinal Chemistry, Chemistry, Food Science and Nutrition, Pharmacology, Physiology, Psychology, and Sport and Exercise Science.

It is also the path to selection for several professional

- MBChB (Medicine) www.fmhs.auckland.ac.nz/medicine
- Bachelor of Optometry www.optometry.auckland.ac.nz
- Bachelor of Pharmacy www.fmhs.auckland.ac.nz/pharmacy

Students should apply at the end of BSc (Biomedical Science) Part 1.

Note: There is no selection advantage between the BHSc and BSc (Biomedical Science) as a pathway into Medicine. Selection is based on overall GPA and performance in common core courses.

Students should choose their programme according to their ability, interest and preference.

Preparation for school leavers

Students will be selected on the basis of their rank score. The Faculty strongly recommends the school subjects Chemistry and Biology. English-rich subjects and a knowledge of Physics and Statistics is also recommended.

Guaranteed entry scores for school leavers for BSc(Biomedical Science)

- NCEA (Level 3) rank score 280
- CIE (taken in New Zealand) rank score 310
- IB rank score 33

Students who do not meet these scores may take preparatory studies on Chemistry, Physics, Biological Sciences and other subjects before gaining entry.

Planning your major



Undergraduate Biomedical Science Courses

Introduction to Neuroscience

Microbiology and Immunology

Principles of Microbiology

Biopsychology

Essential Biology: From Genomes to Organisms

Year 1

BIOSCI 101

MEDSCI 206

BIOSCI 204

PSYCH 202

MEDSCI 202

| BIOSCI 107 | Biology for Biomedical Science: Cellular Processes and Development | S1 |
|--------------------------|---|----------|
| CHEM 110 | Chemistry of the Living World | S1 |
| POPLHLTH111 | Population Health | S1 |
| BIOSCI 106 | Foundations of Biochemistry | S2 |
| PHYSICS 160 | Physics for the Life Sciences | S2 |
| MEDSCI 142 | Biology for Biomedical Science: Organ Systems | S2 |
| Year 2 BIOSCI 201 | Cellular and Molecular Biology | S1 |
| BIOSCI 202 | Genetics | S2 |
| | | |
| BIOSCI 203 | Biochemistry | S2 |
| MEDSCI 203 | Biochemistry The Physiology of Human Organ Systems | S2 S1 |
| | | |
| MEDSCI 205 | The Physiology of Human Organ Systems | S1 |
| MEDSCI 205 MEDSCI 201 | The Physiology of Human Organ Systems Human Structure and Function | S1 S1 |

S1

S2

For course descriptions and prerequisite information, go to www.science.auckland.ac.nz/biomed

Third year Biomedical Science options

At least 30 points from BIOSCI 347-358

At least 30 points from MEDSCI 301-317

At least 15 points at Stage III from BIOSCI, MEDSCI, CHEM 390, 392 or PSYCH 305

| Research area | Part 3 courses |
|-------------------------------------|---|
| Cancer Biology and Therapeutics | MEDSCI 301-303 |
| | BIOSCI 351, 353, 354, 356, 358, CHEM 390, 392, MEDSCI 306, 314 |
| Cardiovascular Biology | MEDSCI 309, 311, 316 |
| | BIOSCI 350, 351, 353, 354, MEDSCI 301, 305, 317 |
| Cellular and Molecular Biomedicine | BIOSCI 350, 351, 353 |
| | MEDSCI 301, 303-305, 309, 316 |
| Genetics and Development | BIOSCI 351, 354, 356 |
| | BIOSCI 350, 353, MEDSCI 301, 312 |
| Microbiology and Immunology | BIOSCI 349 MEDSCI 301, 314 |
| | BIOSCI 347, 348, 350-353 |
| Neurobiology | MEDSCI 304, 307, 316, 317 |
| | BIOSCI 350, 351, 353, 354, MEDSCI 309, 312, PSYCH 305 |
| Nutrition | BIOSCI 358, MEDSCI 312, 315 |
| | BIOSCI 348, 351, 353, FOODSCI 301, MEDSCI 301, 306, 307, 314, 316 |
| Reproduction, Growth and Metabolism | BIOSCI 351, MEDSCI 312, 313 |
| | BIOSCI 350, 353, 354, 356, 358, MEDSCI 301, 314 |

For recommended Year 3 study topics, go to www.science.auckland.ac.nz/biomedyear3