BACHELOR OF

BIOMEDICAL SCIENCE

Antibiotic resistance, global disease, gene-editing technology, and drug design are some of the biggest challenges—and opportunities—facing our world.

The Tohu Paetahi Mātai Rongoā Koiora—Bachelor of Biomedical Science (BBmedSc) is a three-year degree that will help you develop the skills to embark on a range of scientific research careers and to be engaged in the discovery of vital medical developments. You'll study the relationship between health, humans, and disease, and gain a broad foundation in biochemistry, genetics, neuroscience, and reproduction, as well as the cellular and physiological principles that underlie health and disease.

You'll learn from enthusiastic, passionate lecturers who are experts in their fields and are at the forefront of biomedical research and development. Our lecturers are both researchers and teachers, with active research in the fields of cancer, developmental biology, drug development, immunology, neurology, reproduction, and viral diseases. This research is reflected in their teaching and will give you insight into ground-breaking biomedical and clinical research.

So whether your interest is in biological and medicinal chemistry, environmental health, human genetics, immunology, or physiology, the BBmedSc could be your perfect first step towards an innovative research career into human health, or an excellent base to study postgraduate medical and clinical training programmes at medical school.

FIND OUT MORE

info@vuw.ac.nz
www.wgtn.ac.nz/bbmedsc
www.wgtn.ac.nz/science

CAREER OPPORTUNITIES

As a BBmedSc graduate, you'll have the knowledge base to move into a variety of biomedical-related fields including clinical biochemistry, the development of new pharmaceuticals, genetic counselling or management, human fertility and ageing, human genetics research, immunology, or molecular pathology. Some careers may require further qualifications or accreditation after completion of your undergraduate degree.

www.wgtn.ac.nz/careers

POSTGRADUATE STUDY

Further study can be undertaken through a Bachelor of Biomedical Science with Honours, Master of Biomedical Science, Master of Clinical Immunology, and Master of Drug Discovery and Development, or PhD study.

www.wgtn.ac.nz/sbs/postgraduate

SCHOOL SUBJECTS

NCEA Level 3 Chemistry is strongly recommended. For those without a sufficient chemistry background, there are alternative pathways available—our student success advisers can give you more information.

MAJORS

In your first year, you'll study five core 100-level courses that cover the basics of cell biology (how the body is put together), and animal and human physiology (how the body functions). You'll look at the biology of disease, and study related areas such as Chemistry, Computer Programming, Psychological Science*, and Statistics. In your second and third years, you'll study from a range of specialist courses that are more specific to your chosen major.

Human Genetics covers all aspects of the science of human genetics, including the study of the human genome and the treatment of disease and illness of a genetic origin. A qualification in human genetics can lead to career paths in fertility treatment, genetic counselling, or health research.

Molecular Pathology provides an introduction to the molecular basis of disease. The emphasis is on metabolic and other changes that occur when humans become ill. This major will suit students interested in clinical biochemistry, forensics, immunology, microbiology neuroscience, and the relationship between health and disease.

Molecular Pharmacology and Medicinal Chemistry focuses on all aspects of chemistry in relation to our bodies, including modern chemical methods for the synthesis of drugs and how they are used to treat disease. This major is appropriate if you're interested in both chemistry and biology, and is an important first step towards pursuing a career in drug discovery or pharmaceuticals.

*Subject to regulatory approval.

DEGREE REQUIREMENTS

Three years of full-time study.

A total of 360 points is required, of which at least 180 points must be at 200 and 300 level.

You can major in one or two subjects. Your first major must be one of the three BBmedSc subjects, and your second major can be from the BBmedSc or another undergraduate degree, such as the Bachelor of Science (BSc).

Elective courses to make up 360 points may be chosen from any other first degree at the University.

First-year students need to take the 100-level core courses, plus any additional 100-level courses required for their chosen major. For entry-level requirements for 100-level Science courses, see the subjects and courses pages (from page 137).

ℹ www.wgtn.ac.nz/courses

MINORS

You can choose to minor in a subject from the BBmedSc, or another undergraduate degree; however, you can't minor in Biology, Biotechnology, or Cell and Molecular Science if you are doing a BBmedSc.

For more information, go to www.wgtn.ac.nz/bbmedsc-minors

Major in Human Genetics (HGEN)

First year

Trimester 1	Trimester 2
BIOL 114	BIOL 111
CHEM 121	BMSC 117
STAT 193	COMP 132*
Elective	Elective

Second year: BIOL 241, BIOL 243, BIOL 244, BIOL 252.

Third year: BIOL 340, BMSC 339, BMSC 343, two further 300-level courses from BIOL, BMSC, BTEC, COMP, DATA, PSYC, or STAT (one course may be at 200 level).

Major in Molecular Pathology (MOLP)

First year

Trimester 1	Trimester 2
BIOL 114	BIOL 111
CHEM 121	BMSC 117
STAT 193	COMP 132* or PSYC 122
Elective	Elective

Second year: BIOL 241, BIOL 243, BIOL 244, BIOL 252.

Third year: BIOL 340, BMSC 301, BMSC 334, BMSC 335.

Major in Molecular Pharmacology and Medicinal Chemistry (MPMC)

First year

Trimester 1	Trimester 2
BIOL 114	BIOL 111
CHEM 121	BMSC 117
STAT 193	COMP 132* or PSYC 122
Elective	Elective

Second year: BIOL 241, BIOL 243, BIOL 244, CHEM 201, CHEM 205.

Third year: BMSC 335, BMSC 354, CHEM 301, CHEM 305, one course from BIOL, BMSC, BTEC, CHEM, COMP, DATA, PSYC, or STAT.

*Or COMP 102 or COMP 112.

DEGREE EXAMPLES

BBmedSc majoring in Human Genetics

YEAR 1		YEAR 2		YEAR 3	
1/3	2/3	1/3	2/3	1/3	2/3
BIOL 114 15 points	BIOL 111 15 points	BIOL 244 20 points	BIOL 241 20 points	BIOL 340 20 points	BMSC 339 20 points
CHEM 121* 15 points	BMSC 117 15 points	BIOL 252 20 points	BIOL 243 20 points	BMSC 343 20 points	BMSC 300 level 20 points
STAT 193 15 points	COMP 132 15 points	Elective 20 points	200-level major 20 points	Elective 20 points	Elective 20 points
Elective 15 points	Elective 15 points				
60 points	60 points	60 points	60 points	60 points	60 points
120 points		120 points		120 points	

Total points required: 360
Total points completed: 360

BBmedSc majoring in Molecular Pathology

YEAR 1		YEAR 2		YEAR 3	
1/3	2/3	1/3	2/3	1/3	2/3
BIOL 114 15 points	BIOL 111 15 points	BIOL 244 20 points	BIOL 241 20 points	BIOL 340 20 points	BMSC 334 20 points
CHEM 121* 15 points	BMSC 117 15 points	BIOL 252 20 points	BIOL 243 20 points	BMSC 301 20 points	Elective 20 points
STAT 193 15 points	COMP 132 15 points	Elective 20 points	Elective 20 points	BMSC 335 20 points	Elective 20 points
Elective 15 points	Elective 15 points				
60 points	60 points	60 points	60 points	60 points	60 points
120 points		120 points		120 points	

Total points required: 360
Total points completed: 360

BBmedSc majoring in Molecular Pharmacology and Medicinal Chemistry

YEAR 1		YEAR 2		YEAR 3	
1/3	2/3	1/3	2/3	1/3	2/3
BIOL 114 15 points	BIOL 111 15 points	BIOL 244 20 points	BIOL 241 20 points	BMSC 335 20 points	BMSC 300 level 20 points
CHEM 121* 15 points	BMSC 117 15 points	Elective 15 points	BIOL 243 20 points	CHEM 301 15 points	BMSC 354 20 points
STAT 193 15 points	PSYC 122 15 points	Elective 15 points	CHEM 201 15 points	CHEM 305 15 points	Elective 15 points
Elective 15 points	Elective 15 points		CHEM 205 15 points	Elective 15 points	
60 points	60 points	50 points	70 points	65 points	55 points
120 points		120 points		120 points	

Total points required: 360
Total points completed: 360

Key: Core | Major | Elective

*If you do not meet the prerequisites for CHEM 121, you can take CHEM 113 in (1/3) and CHEM 121 in (2/3).

“The University has offered me plenty of opportunities—not only to help me pursue my dream career but also to build long-lasting friendships, give back to my community through volunteer work, attend events, and much more.”

ULA EARLE

Student, Bachelor of Biomedical Science in Molecular Pharmacology and Medicinal Chemistry