

Bachelor of Science (Technology) BSc(Tech) Overview*



Waikato's Bachelor of Science (Technology) (BSc(Tech)) was the first degree of its kind in New Zealand, and offers a unique, job-oriented approach to scientific study.

The BSc(Tech) is a flexible degree, designed to provide students with the necessary practical experience to stand out among other science graduates. It's an internationally recognised degree, meaning they can find work anywhere in the world. A high percentage of graduates actively seeking employment find it within six months of graduating. This degree includes 10 weeks of relevant work experience. The Cooperative Education Unit assists in matching students

with placement opportunities, and offering reflective learning and skill development after the placements are completed. Students are regularly offered permanent roles following their placements. Heading into the workplace with a BSc(Tech) from Waikato means they'll have spent the summer between their second and third years gaining work experience and, in most cases, being paid for their efforts. To prepare students for the workplace and gain an understanding of how the business

world works, the BSc(Tech) includes a work preparation paper in addition to a wide variety of science papers. The first year of the degree is similar to the BSc, enabling them to explore a range of scientific disciplines, broaden their opportunities and lay a foundation for them to build on, even if they haven't studied science before. From second year their major will form the core of their degree and give them a much deeper understanding of a particular discipline.

Minor subjects enable students to design a tailored programme that helps them differentiate themselves and ensure they have a unique skill set. Our science minors will give students a taste of a complementary discipline to broaden their knowledge and demonstrate the breadth of their scientific skills. Alternatively, they can select a minor from a supporting non-science discipline to show employers they can apply themselves in a range of fields.

Y1	100 Level Major	100 Level Major	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	Elective	Elective
Y2	200 Level Major	200 Level Major	200 Level Major	200 Level Major	SCIEN279 Prep for the Professional Workplace	Elective	Elective	Elective
Y3	300 Level Major	300 Level Major	300 Level Major	SCIEN305 Science and Mātauranga Māori (or Approved Alternative)	SCIEN371 Science Work Placement	Elective	Elective	Elective

The BSc(Tech) contains distinct elements designed to increase employability and support progress through the degree.

Science electives: A range of STEM papers to broaden scientific skill set.

Quantitative skills: Across their degree students should take two papers which increase their confidence in quantitative science. In many cases this will be met through papers ordinarily selected.

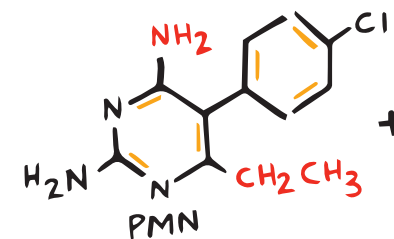
* Note: Subject to approval

Bsc(Tech) in Chemistry

Y1	CHEMY101 Structure and Spectroscopy	CHEMY102 Chemical Reactivity	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	Elective	Elective
Y2	CHEMY201 Organic Chemistry	CHEMY202 Physical Chemistry	CHEMY203 Inorganic Chemistry	CHEMY204 Analytical Chemistry	SCIEN279 Prep for the Professional Workplace	Elective	Elective	Elective
Y3	Any CHEMY3 Paper	Any CHEMY3 Paper	Any CHEMY3 Paper	SCIEN305 Science and Mātauranga Māori (or Approved Alternative)	SCIEN371 Science Work Placement	Elective	Elective	Elective

CHEMY3 Papers

- CHEMY301 Advanced Organic Chemistry
- CHEMY302 Advanced Physical Chemistry
- CHEMY303 Advanced Inorganic Chemistry
- CHEMY304 Advanced Analytical Chemistry



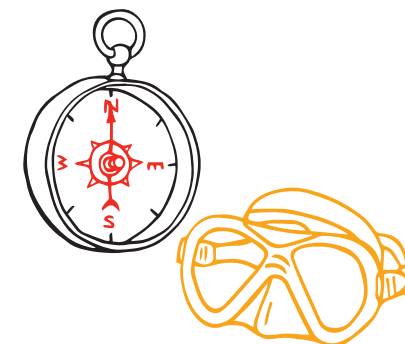
BSc(Tech) in Earth Sciences



Y1	EARTH101 Intro to Earth System Sciences	EARTH102 Discovering Planet Earth	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	Elective	Elective
Y2	EARTH211 Earth Resources and Materials	EARTH221 Soil Science	EARTH231 Water Resources, Weather and Climate	EARTH241 Oceanography	SCIEN279 Prep for the Professional Workplace	Elective	Elective	Elective
Y3	Any EARTH3 Paper	Any EARTH3 Paper	Any EARTH3 Paper	SCIEN305 Science and Mātauranga Māori (or Approved Alternative)	SCIEN371 Science Work Placement	Elective	Elective	Elective

EARTH3 Papers

- EARTH311 Volcanology
- EARTH312 Sedimentary and Petroleum Geology
- EARTH313 Engineering Geology
- EARTH321 Pedology and Land Evaluation
- EARTH322 Soil and Water Management
- EARTH331 Water Resources and Hazards
- EARTH341 Coastal Oceanography
- EARTH342 Coastal Geomorphology and Management



BSc(Tech) in Ecology and Biodiversity

Y1	BIOEB101 Concepts of Biology	BIOEB102 Intro to Ecology and Biodiversity	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	Elective	Elective
Y2	BIOEB201 Principles of Evolution	BIOEB202 Principles of Ecology	BIOEB203 Animal Structure and Function	BIOEB204 Plant Structure and Function	SCIEN279 Prep for the Professional Workplace	Elective	Elective	Elective
Y3	Any BIOEB3 Paper	Any BIOEB3 Paper	Any BIOEB3 Paper	SCIEN305 Science and Mātauranga Māori (or Approved Alternative)	SCIEN371 Science Work Placement	Elective	Elective	Elective

BIOEB3 Papers

- BIOEB301 Advanced Animal Behaviour
- BIOEB302 Advanced Zoology
- BIOEB303 Forest Ecology and Restoration
- BIOEB304 Freshwater Ecology
- BIOEB305 Marine Ecology
- BIOEB306 Molecular Ecology and Biodiversity
- BIOEB307 Plant Physiological Ecology



BSc(Tech) in Environmental Sciences



Y1	ENVSC101 Environmental Science	EARTH102 Discovering Planet Earth	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	Elective	Elective
Y2	ENVSC201 Environmental Monitoring	EARTH221 EARTH231 or EARTH241	ENVSC202 or CHEMY204	BIOEB202 or BIOMO203	SCIEN279 Prep for the Professional Workplace	Elective	Elective	Elective
Y3	ENVPL303 Environmental Assessment and Policy	Any 300 Level Environmental Science Paper	Any 300 Level Environmental Science Paper	SCIEN305 Science and Mātauranga Māori (or Approved Alternative)	SCIEN371 Science Work Placement	Elective	Elective	Elective

Environmental Science Papers

Papers chosen from the list must encompass at least two different subject areas.

BIOEB202 Principles of Ecology

BIOMO203 Microbiology

CHEMY204 Analytical Chemistry

EARTH221 Soil Science

EARTH231 Water Resources

EARTH241 Oceanography

ENVSC202 Environmental Chemistry and Geochemistry

BIOEB303 Forest Ecology and Restoration

BIOEB304 Freshwater Ecology

BIOEB305 Marine Ecology

CHEMY304 Advanced Analytical Chemistry

EARTH313 Engineering Geology

EARTH321 Pedology and Land Evolution

EARTH322 Soil and Water Management

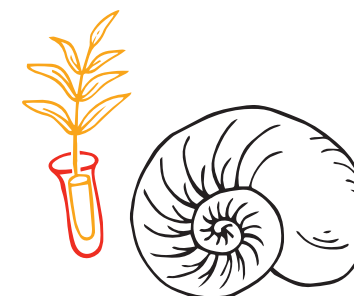
EARTH331 Water Resources and Hazards

EARTH341 Coastal Oceanography

EARTH342 Coastal Geomorphology and Management

ENVPL303 Environmental Assessment and Policy

ENVSC302 Applied Environmental Geochemistry

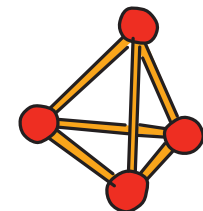


BSc (Tech) in Materials Science*

Y1	ENGEN112 Materials Science and Engineering	CHEMY101 Structure and Spectroscopy	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	Elective	Elective
Y2	ENGMP211 Materials 1	ENGME280 Design and Manufacture	CHEMY201 or CHEMY203	ENGEN241 Environmental Technology	SCIEN279 Prep for the Professional Workplace	Elective	Elective	Elective
Y3	ENGMP311 Materials 2	ENGMP312 Advanced Materials Engineering	CHEMY301 CHEMY303 or CHEMY304	SCIEN305 Science and Mātauranga Māori (or approved alternative)	SCIEN371 Science Work Placement	Elective	Elective	Elective

Papers

- CHEMY201 Organic Chemistry
- CHEMY203 Inorganic Chemistry
- CHEMY301 Advanced Organic Chemistry
- CHEMY303 Advanced Inorganic Chemistry
- CHEMY304 Advanced Analytical Chemistry



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BSc(Tech) in Molecular and Cellular Biology



Y1	BIOEB101 Concepts of Biology	BIOMO101 Intro to Molecular and Cellular Biology	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	100 Level Science Elective	Elective	Elective
Y2	BIOMO201 Biochemistry	BIOMO202 Genetics	BIOMO203 Microbiology	BIOMO204 Cell and Organ Physiology	SCIEN279 Prep for the Professional Workplace	Elective	Elective	Elective
Y3	Any BIOMO3 Paper	Any BIOMO3 Paper	Any BIOMO3 Paper	SCIEN305 Science and Mātauranga Māori (or Approved Alternative)	SCIEN371 Science Work Placement	Elective	Elective	Elective

BIOMO3 Papers

- BIOMO301 Advanced Biochemistry
- BIOMO302 Advanced Genetics
- BIOMO303 Advanced Microbiology
- BIOMO304 Applied Animal Physiology
- BIOMO305 Molecular Biology and Biotechniques
- BIOMO306 Molecular Biology and Health

