

Food Science and Nutrition

Undergraduate Handbook 2018



THE UNIVERSITY OF
AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

SCIENCE
SCHOOL OF CHEMICAL SCIENCES

Welcome to Food Science and Nutrition

The food and beverage industry and food research institutes need well-trained Food Science and Nutrition graduates who can help to ensure safe, innovative and high quality food production. At the same time, informed consumers are looking for foods that are not only safe but healthy, sustainable, natural, convenient and have good sensory properties to maintain well-being.



At the University of Auckland, the top ranked University in New Zealand*, we encourage innovation and provide our students with fundamental knowledge and skills valued by employers.

Our Bachelor of Science (BSc) in Food Science and Nutrition major offers distinct pathways in both Food Science and in Nutrition, drawing on expertise from across the University.

You can decide to follow the Food Science or Nutrition pathway, or choose to change between the pathways, provided the major requirements are fulfilled. This booklet gives you some useful information on the degree. We look forward to you joining our programme.

ASSOCIATE PROFESSOR SIEW-YOUNG QUEK
Director, Food Science Programme

**See www.science.auckland.ac.nz/excellence*



Food Science pathway

The Food Science pathway covers all aspects of manufacturing, processing and production in food and food-related industries. You will learn about food components, their properties and how they interact in food products. You will do courses in food processing, sensory evaluation and product development, from benchtop to market. Internships may be available for selected students.



Postgraduate study options from the Food Science pathway

- Bachelor of Science (Honours) in Food Science
- Postgraduate Diploma in Science in Food Science
- Master of Science in Food Science
- Master of Professional Studies in Food Safety
- Master of Engineering Studies in Food Process Engineering
- Doctor of Philosophy (PhD)

Career opportunities

Food Scientists may find work in:

Food industry

Research institutes and government departments

Food safety

Food analysis

Sensory evaluation

Product development and waste management

www.science.auckland.ac.nz/degree-planners



Zoe Xie is studying for a Bachelor of Science majoring in Food Science and Nutrition, following the Food Science pathway.

"I am really curious about food composition and structure. I've always wondered why most of the healthy food is not that delicious while the junk food tastes so good. I hope to one day produce one kind of food that is healthy and has perfect taste as well."

"The University of Auckland is one of the world's highly ranked universities, and the Faculty of Science has plenty of knowledgeable professional staff, the study environment is really good, and my fellow food science students are all passionate about what we do."

"The study of Food Science is amazing and interesting, I've learned so much in my studies. I hope to find employment where I can produce food."

Nutrition pathway

The Nutrition pathway focuses on human nutrition, the maintenance of good health and the well-being of populations. This requires consideration of the environmental, social, economic and cultural determinants of eating behaviours and how they impact on health.

Postgraduate study options from the Nutrition pathway

- Bachelor of Science (Honours) in Biomedical Science
- Postgraduate Diploma in Science
- Postgraduate Diploma in Science in Biomedical Science
- Postgraduate Diploma in Health Sciences
- Master of Science in Biomedical Science
- Master of Science in Food Science
- Master of Health Sciences
- Master of Health Sciences in Nutrition and Dietetics
- Doctor of Philosophy (PhD)

www.science.auckland.ac.nz/degree-planners

Entry to the Master of Health Sciences in Nutrition and Dietetics

The Nutrition pathway fulfils the undergraduate requirements for entry to the Master of Health Sciences in Nutrition and Dietetics. Please note that entry is competitive, applicants are ranked on GPA and places are limited. Selection will normally take place during the second year of the Bachelor of Science in Food Science and Nutrition with limited additional offers made at the end of the third year.

www.fmhs.auckland.ac.nz/nutrition-dietetics



Career opportunities

Nutrition graduates may find work in:

Private practices

Food industry

Research institutes

Non-governmental organisations and government departments

Nutrition information services

Health promotion

Health programme planning and health policy

Registration as a nutritionist or a dietitian can be available after specialised training and work experience.

BSc degree planner – Food Science and Nutrition

Nutrition Pathway

BSc

Year 1	BIOSCI 101	BIOSCI 106	BIOSCI 107	CHEM 110	MEDSCI 142	POPLHLTH 111	LIST A	GEN ED	<p>LIST A: CHEM 120, HLTHPSYCH 122, MEDSCI 142, PHYSICS 160, POPLHLTH 101, 102, 111</p> <p>MEDSCI 142 and POPLHLTH 111 are compulsory prerequisite courses for Nutrition Pathway students</p>
Year 2	BIOSCI 204	MEDSCI 203	POPLHLTH 206	MEDSCI 205	BIOSCI 202	BIOSCI 203	FOODSCI 201	STATS 101 or 108	
Year 3	MEDSCI 315	BIOSCI 358	POPLHLTH 305	LIST B	LIST B	LIST C	LIST C	GEN ED	<p>LIST B: 30 points from MEDSCI 301, 312, FOODSCI 301, 303. Students applying for the MHSc in Nutrition and Dietetics must take MEDSCI 301 and 302</p> <p>LIST C: 30 points from BIOSCI 201, CHEM 240, FOODSCI 301-304, MEDSCI 301, POPLHLTH 202, 301, SCIGEN 201, EXERSCI 206</p> <p>30 points from LIST B</p> <p>30 points from LIST C</p>

1. At least 180 points (12 courses) must be above Stage I
2. 30 points (two courses) must be taken from the appropriate General Education Schedules for BSc students
3. This planner describes the recommended order for completing courses to assist with satisfying prerequisites or core requisites
4. Students must take at least 75 points (five courses) at Stage III

It is the student's responsibility to check that the final programme complies with University Regulations. The Faculty of Science is the final authority on all BSc regulations.

NOTE: BSc (Food Science & Nutrition) is a single major which offers two distinct pathways; Food Science and Nutrition, and a limited opportunity to mix the two. Students should follow the suggested pathways, particularly at Stage I to meet prerequisites for future courses. This applies particularly to students following the Nutrition pathway with the intention of entering dietetics training, and students who fail to meet prerequisites and GPA requirements will not gain access to year 2 and 3 courses. Similarly Food Science students can consider adding extra nutrition skills. Please note the recommended pathways as outlined in the Planner are aligned with the skills & competencies we know employers prefer, and you must meet the full requirements of the regulations to graduate: www.calendar.auckland.ac.nz/en/progprog/regulations-science/bsc.html

BSc degree planner – Food Science and Nutrition

Food Science Pathway

BSc

Year 1

BIOSCI 101	BIOSCI 106	BIOSCI 107	CHEM 110	MATHS 110	LIST A	LIST A	GEN ED
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MATHS 110 is a compulsory prerequisite for the Food Science Pathway, and CHEM 120 will be required if a B- is not achieved in CHEM 110

LIST A: CHEM 120, ENGSCI 111 or MATHS 110, HLTHPSYCH 122, MEDSCI 142, PHYSICS 160, POPLHLTH 101, 102, 111

Year 2

BIOSCI 204	CHEMMAT 211	BIOSCI 203	CHEM 230	FOODSCI 201	STATS 101 or 108	BSc Elective (Stage II or III)	GEN ED
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Any Stage

Year 3

CHEMMAT 756	FOODSCI 301	FOODSCI 303	BIOSCI 348	FOODSCI 302	LIST B	LIST C	BSc Elective (Stage II or III)
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LIST B: 15 points from BIOSCI 358, FOODSCI 304

LIST C: 15 points from BIOSCI 201, 358, CHEM 240, FOODSCI 304, SCIGEN 201, EXERSCI 206

1. At least 180 points (12 courses) must be above Stage I
2. 30 points (two courses) must be taken from the appropriate General Education Schedules for BSc students
3. This planner describes the recommended order for completing courses to assist with satisfying prerequisites or core requisites
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Key courses

Food Science

FOODSCI 201	Foundations of Food Science
FOODSCI 301	Food Quality Attributes
FOODSCI 302	Food Preservation
FOODSCI 303	Sensory Science
FOODSCI 304	Food Product Development

General Science

BIOSCI 101	Genomes to Organisms
BIOSCI 106	Foundations of Biochemistry
BIOSCI 107	Biomedical Science
BIOSCI 202	Genetics
BIOSCI 203	Biochemistry
BIOSCI 204	Microbiology
BIOSCI 348	Food and Industrial Microbiology
BIOSCI 358	Nutritional Science
CHEM 110	Chemistry of the Living World
CHEM 120	Chemistry of the Material World
CHEM 230	Molecules for Life: Synthesis and Reactivity
CHEM 240	Analytical chemistry
MATHS 110	Mathematics for Science
SCIGEN 201	Innovating for a Knowledge Society
EXERSCI 206	Exercise Nutrition
STATS 101/108	Introduction to Statistics

Medical and Health Sciences

HLTHPSYC 122	Behaviour, Health and Development
MEDSCI 142	Biology for Biomedical Science: Organ Systems
MEDSCI 203	Mechanisms of Disease
MEDSCI 205	The Physiology of Human Organ Systems
MEDSCI 301	Molecular Basis of Disease
MEDSCI 312	Endocrinology of Growth and Metabolism
MEDSCI 315	Nutrition, Diet and Gene Interactions
POPLHLTH 102	Health and Society
POPLHLTH 111	Population Health
POPLHLTH 202	Research Methods in Health
POPLHLTH 206	Life Cycle Nutrition
POPLHLTH 305	Community Nutrition


Engineering (Food Pathway only)

CHEMMAT 211	Introduction to Process Engineering
CHEMMAT 756	Food Process Engineering

What should I study to best prepare for this programme?

Many factors will influence your achievement at University. Some Stage I courses may assume you have already studied the subject at high school. In preparation for a Bachelor of Science in Food Science and Nutrition, here is information that should make your decision making and life at University a bit easier:

www.chemistry.auckland.ac.nz/food-science-and-nutrition-advice-for-school-leavers



Anna Worthington is studying for a Bachelor of Science majoring in Food Science and Nutrition, following the Nutrition pathway.

"I have a real interest in how the body works. How do we break down food to provide us with the energy we need? What constitutes a healthy diet? Is there a way to engineer food to improve its nutritional value?"

"Studying Nutrition is about so much more than just food. Firstly, the major helps you to build a solid framework of knowledge on the anatomy and physiology of the human body. Along with integrating some chemistry and biology of nature, you also get an introduction to the importance of population health."

"I like that my major challenges me. I like that it aligns with my interests and piques my curiosity. I also enjoy that there are a range of great lecturers who endeavour to present their material in engaging and entertaining ways; this makes going to 8am lectures much more bearable. I have also enjoyed meeting like-minded people in my major who share a passion for nutrition."

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/rainbowsience

Scholarships and awards

www.scholarships.auckland.ac.nz

Support for students

www.science.auckland.ac.nz/support



Applications close on 8 December for Semester One and 4 July Semester Two

**Questions about
Food Science and Nutrition?
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Disclaimer

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.



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