

# Food Science and Food Safety

Postgraduate Handbook 2018



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

**SCIENCE**  
SCHOOL OF CHEMICAL SCIENCES



# Welcome to Food Science and Food Safety

Food science is the study of the physical, chemical, and biological properties of foods, and their effects on the sensory, nutritional and storage properties.

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## Why study with us?

Food products must be safe, attractively packaged and meet the high standards of the international market place. Much of the science that underpins the technology of food processing derives from chemistry, biological sciences, physics, engineering, and nutrition. A postgraduate qualification in Food Science from the University of Auckland provides in-depth knowledge in these areas and can help you further your career.

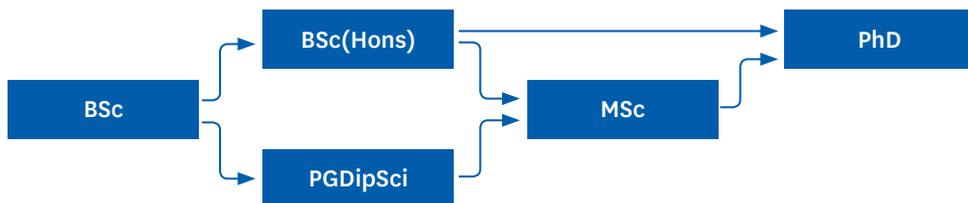
Recent advancements in science and technology have opened new frontiers for the production and shelf life of foods, providing convenience and health benefits, thus creating exciting and challenging opportunities to work. A basic or advanced qualification in food science will equip you with the skills to take up challenging positions within the food industry, research institutes and in an academic field.

Our programme is at the forefront of teaching in the discipline of Food Science. Our students are exposed to new developments and interact with the academic staff at the school, including visiting national and international experts. We also have a strong research culture and offer opportunities to engage in fundamental and applied research activities ranging from modelling of food biomolecules to product development.

This handbook guides you through the various courses offered under the umbrella of Food Science at the University of Auckland. Whether you are ready for honours, postgraduate diploma, masters or PhD study in Food Science, or are looking to undertake our Master of Professional Studies in Food Safety, we look forward to welcoming you to Food Science at the University of Auckland.

ASSOCIATE PROFESSOR SIEW-YOUNG QUEK  
Director, Food Science Programme

# Postgraduate study options in Food Science and Food Safety



## Bachelor of Science (Honours) in Food Science

### Prerequisites

- Bachelor of Science majoring in Food Science, Food Science and Nutrition, or equivalent
- At least 90 points at Stage III

### Programme structure

**Length:** one year of full-time study or two years of part-time study.

- At least 30 points from CHEMMAT 757, FOODSCI 706-710
- Up to 30 points from MEDSCI 709, 710, BIOSCI 741 or other courses approved by the Programme Director
- 60 points FOODSCI 788 Dissertation

[www.science.auckland.ac.nz/food-science](http://www.science.auckland.ac.nz/food-science)



*A candidate for BSc(Hons) must achieve a GPA average of B- or above to be awarded this degree. A student who completes the BSc(Hons) year but does not attain the minimum grade for honours may credit the 700-level courses towards a Postgraduate Diploma in Science (PGDipSci).*



## Postgraduate Diploma in Science (PGDipSci) in Food Science

### Prerequisites

- Bachelor of Science majoring in Food Science, Food Science and Nutrition, Biological Sciences, or Chemistry
- Or an approved degree of equivalent standing completed at another university

### Programme structure

**Length:** one year of full-time study or part-time study must be completed within four years.

Consists of 120 points (usually eight courses):

- 60 points from FOODSCI 703, 707, 708, CHEMMAT 757
- 60 points from approved 600 and 700 level courses



# Master of Science (MSc) in Food Science

## Prerequisite

- A BSc(Hons) or PGDipSci in Food Science, or an approved degree of equivalent standing completed at another university

[www.science.auckland.ac.nz/food-science](http://www.science.auckland.ac.nz/food-science)

## Programme structure

**Length:** one year of full-time study or two years of part-time study.

- 120 points FOODSCI 796 MSc Thesis in Food Science

*Please note that mid-year enrolment is possible for the MSc.*

## Selection of supervisor

Students need to select a research supervisor in parallel with their application to enrol for BSc(Hons) and MSc in Food Science.

[www.chemistry.auckland.ac.nz/supervisors](http://www.chemistry.auckland.ac.nz/supervisors)



# Master of Professional Studies in Food Safety (MProfStuds in Food Safety)

The MProfStuds programme provides skills and training that are in demand in the international food and food production industries. It has been designed for those keen to earn a degree while maintaining their professional careers. Courses are delivered only online, offering flexible hours and remote learning. This specialisation is offered jointly by the Faculty of Science and the Faculty of Medical and Health Sciences.

International students: please note, that the MProfStuds is currently restricted to New Zealand and Australian citizens/residents.

[www.science.auckland.ac.nz/food-safety](http://www.science.auckland.ac.nz/food-safety)

## Prerequisites

- A relevant four year Bachelors degree
- or
- A relevant four year Bachelors (Honours) degree
- or
- A three year Bachelors degree and either a professional qualification equal to one year postgraduate study, or three years relevant work experience

Entry is with the approval of the Director of the programme.

***Applicants without one of these qualifications may wish to consider a PGDipSci in Food Science.***

## Programme structure

**Length:** one year of full-time study or two years of part-time study.

- 60 points: FOODSCI 711-714
- 15 points from FOODSCI 715-717, or other courses as approved by the Programme Director
- 45 points: FOODSCI 797 (project)

# Doctor of Philosophy (PhD)

## Quick facts

**Points per degree:** 360 points

**Fulltime study:** 3-4 years

**Part-time study:** 6-8 years

**Degree structure:** Research

**Taught at:** All Campuses or off-campus registration (subject to approval)

**Application closing dates:** Apply at any time

**Start date:** Start at any time

For more information:

[www.science.auckland.ac.nz/phd](http://www.science.auckland.ac.nz/phd)

## Entry to PhD

The normal requirement for admission to the PhD is an honours degree with 2nd class honours division 1 or better, either MSc, BSc(Hons), or BTech.

Candidates with overseas qualifications should consult the school for advice and assessment of their qualifications. Candidates may be required to enrol in one or more courses concurrent with research work to complement either their research work or their background in the subject.

## Postgraduate Food Science and Food Safety courses

Course code	Title	Semester
FOODSCI 703	Food Processing	S1
FOODSCI 705/705A&B	Project in Food Science	S1
FOODSCI 706	Food Safety	S1
FOODSCI 707	Food Science	S1
FOODSCI 708	Advanced Food Science	S2
FOODSCI 709 A & B	Selected Topics in Food Science and Technology	S1/S2
FOODSCI 710	Industrial Internship	S1/S2/Summer
FOODSCI 711	The Science of Food Contaminants and Their Control	S1
FOODSCI 712	Food Safety Management	S1
FOODSCI 713	Food Legislation	S2
FOODSCI 714	Research Methodology in Food Safety	S2
FOODSCI 715	Food Allergens and Intolerants	S2
FOODSCI 717	Food Processing and Sanitation	S1
FOODSCI 740	Food Analysis	S1
FOODSCI 788 A & B	BSc(Hons) Dissertation in Food Science	S1/S2
FOODSCI 796 A & B	MSc Thesis in Food Science	S1/S2
FOODSCI 797	Project in Food Safety	S1/S2

For course descriptions and more information: [www.chemistry.auckland.ac.nz/pgcourses](http://www.chemistry.auckland.ac.nz/pgcourses)

Find masters and doctoral supervisors and research projects that you can join:  
[www.findathesis.auckland.ac.nz](http://www.findathesis.auckland.ac.nz)



# Careers in Food Science and Food Safety

Food science graduates can expect to find employment in the food industry (both national and international), Crown Research Institutes, and government agencies in areas such as food manufacture, food safety, food analysis, brewing, cereals and baking, dairy products, minimally processed fruits and vegetables, food additives, product development, sensory evaluation and winemaking.

## Opportunities include:

- Compliance manager
- Food quality assurance officer
- Food safety officer
- Policy developer
- Regulatory affairs manager

## Graduates of our postgraduate programmes are already employed in:

- Brewing
- Crown Research Institutes
- Dairy industry
- Food Manufacturing Companies
- Government agencies
- Multinational food companies

*"I want to make an original contribution to scientific knowledge in Food Science and Technology."*

*"As the University of Auckland is one of the world's highly ranked universities, I found a research topic of interest and decided to study here."*

*"My thesis topic is about the study of probiotic potential and fermentation metabolomics of honey for *Lactobacillus reuteri* DPC16. My research focusses on how New Zealand mānuka honey can improve the probiotic efficacy (growth and antibacterial activity) of one *Lactobacilli* strain."*

*"While studying, the networking opportunities within the food industry have meant that I can work on practical challenges and research problems. I've also found the doctoral support group and workshops on doctoral skills are really helpful."*

**Anand Mohan** is studying for a PhD in Food Science.



# Helpful information

## Academic dates

[www.auckland.ac.nz/dates](http://www.auckland.ac.nz/dates)

## Accommodation

[www.accommodation.auckland.ac.nz](http://www.accommodation.auckland.ac.nz)

## Apply for postgraduate study

[www.auckland.ac.nz/applynow](http://www.auckland.ac.nz/applynow)

## Career Development and Employment Services

[www.cdes.auckland.ac.nz](http://www.cdes.auckland.ac.nz)

## Childcare

[www.auckland.ac.nz/childcare](http://www.auckland.ac.nz/childcare)

## Course advice and degree planning in Science

[www.science.auckland.ac.nz/student-centre](http://www.science.auckland.ac.nz/student-centre)

## Disability Services

[www.disability.auckland.ac.nz](http://www.disability.auckland.ac.nz)

## How to enrol

[www.auckland.ac.nz/enrolment](http://www.auckland.ac.nz/enrolment)

## Information for postgraduate students

[www.postgraduate.ac.nz](http://www.postgraduate.ac.nz)

## International students

[www.international.auckland.ac.nz](http://www.international.auckland.ac.nz)

## Libraries and Learning Services

[www.library.auckland.ac.nz](http://www.library.auckland.ac.nz)

## Māori and Pacific students

[www.science.auckland.ac.nz/tuakana](http://www.science.auckland.ac.nz/tuakana)

## Need help?

[www.askauckland.ac.nz](http://www.askauckland.ac.nz)

## Postgraduate Students' Association

[www.pgsa.org.nz](http://www.pgsa.org.nz)

## Rainbow Science Network for LGBTI students

[www.science.auckland.ac.nz/rainbowsience](http://www.science.auckland.ac.nz/rainbowsience)

## Scholarships and awards

[www.scholarships.auckland.ac.nz](http://www.scholarships.auckland.ac.nz)

[www.auckland.ac.nz/fees](http://www.auckland.ac.nz/fees)

## Support for students

[www.science.auckland.ac.nz/support](http://www.science.auckland.ac.nz/support)

**Questions about Food Science  
and Food Safety?  
[chemistry@auckland.ac.nz](mailto:chemistry@auckland.ac.nz)**

## 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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NEW ZEALAND

## Connect with us

Faculty of Science, The University of Auckland  
Private Bag 92019, Auckland 1142, New Zealand

Phone: 0800 61 62 63 | Email: [scifac@auckland.ac.nz](mailto:scifac@auckland.ac.nz)

Web: [www.chemistry.auckland.ac.nz](http://www.chemistry.auckland.ac.nz)



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