



# UNSW Engineering

## Bachelor of Food Science (Honours)

### What do food scientists do?

Food scientists, food technologists and engineers work together to ensure safe, nutritious, and appealing foods are produced economically and sustainably (processing to reduce food, energy and packaging wastes). They draw on expertise from many disciplines including chemistry, microbiology, biochemistry, nutrition, physics and engineering. Increasingly, Food Scientists are working in broader fields such as health-related roles and with planetary health which is linked to our food systems.

### What will your study involve?

Humanity's need for food for nourishment profoundly shape the world we inhabit. At UNSW you can learn about the interconnected areas of Health, Food Engineering and Sustainability.

This degree explores the fundamentals of processing and preserving food and how to optimise the quality and safety of foods. You'll cover key principles and concepts in food chemistry, nutrition, microbiology,

processing, preservation, safety and quality assurance, product development and unit operations. We emphasise the engineering aspects of food processing, such as fluid and particle mechanics, and heat and mass transfer.

During your third year, you'll visit several food-manufacturing plants, providing a rare opportunity to see how the food industry works. These elements of your degree amplify the hands-on laboratory courses in food science and technology.

### UNSW Food Science

- UNSW Food Science is part of the School of Chemical Engineering, 2nd in Australia (Academic Rankings of World Universities (ARWU), 2022).
- Close links with key industrial, commercial and professional organisations which allows for exciting and innovative student-led projects and industry-based training.
- Hands on lab-based courses in state-of-the-art labs and working on real processing equipment.

### Program details

**Lowest Selection Rank (2022):** 85

**Duration:** Four-year embedded honours degree

**Study areas:** Food Science and Technology, Food Science and Nutrition, Humanitarian Science and Technology (minor)

**Assumed knowledge:** HSC level mathematics (2 Unit), Chemistry is recommended.

**Alternative Entry:** Faculty of Engineering Admission Scheme (FEAS), as an alternative pathway for students who want to study at UNSW but don't meet the required selection rank, find out more at [unsw.to/feas](https://unsw.to/feas)

### Career options

Ensuring a sustainable global food supply is the core drive of food scientists with numerous career options to pursue.

A UNSW Food Science Degree opens a range of career opportunities across food engineering, food microbiology, food chemistry and biochemistry, food allergy and food safety, nutrition, product development, sensory analysis and food packaging.

### Accreditation



The UNSW Food Science program is the only Australian program approved by the U.S. Institute of Food Technologists.

### Student Testimonials

"I wanted to learn the intricate details behind the food we consume every day, and how science and technology can improve consumables for the betterment of humanity. It is my belief that, by completing this degree, I can contribute towards eradicating world poverty and hunger."

**Tharun Vanjimuthu, Food Science (Honours)**



### Example study plan

	TERM 1			TERM 2			TERM 3		
YEAR 1	Introduction to Food Science	Mathematics for Life Sciences	Engineering Chemistry 1A	Fundamentals of Physics	Computing for Engineers	Engineering Chemistry 1B	Sustainable Food Manufacture	Statistics for Life and Social Sciences	Molecules, Cells & Genes
YEAR 2	Food Chemistry	Microbiology 1A	General Education	Food Processing Principles	Fundamentals of Biochemistry	Data Driven Decision Making in Chemical Engineering	Analytical Chemistry	Principles of Molecular Biology	Food Microbiology
YEAR 3	Nutrition	Food Products and Ingredients Technology	Food Properties and Functions Laboratory	Unit Operations in Food Processing	Discipline Elective	Food Safety and Quality	General Education	Discipline Elective	
YEAR 4	Product Design Project Thesis A	Complex Fluids Microstructure and Rheology		Product Design Project Thesis B	Advanced Food Chemistry	Environment and Sustainability	Discipline Elective		

This is a sample degree outline only and may be subject to change. Please refer to the UNSW Handbook for further information and relevant course codes.