



# Food Science

Innovative and scientific thought for food

"My fourth year project work was on cheese and that really increased the value of my studies. I also had experience with relevant software tools –that scientific background helps to understand the scientific processes involved in cheesemaking!"

Alice Crawford  
BSc(Hons) (Food Science)  
Food Technologist

Food production and quality is becoming increasingly important globally.

Consumers want foods that are new and exciting, while also being nutritious, safe, tasty, convenient and produced in an environmentally responsible manner. Food companies need to cost-effectively produce foods that meet increasingly diverse market needs. Regulatory agencies insist foods conform to legislation around composition and safety.

The challenge for the food scientist is to blend biology, chemistry, consumer research and nutrition to solve the problems of developing a safe, healthy, sustainable and nutritious food supply for people everywhere.

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## Why study Food Science?

Food Science is a portable degree. You can find Food Science jobs all over the world.

You can use both creative and technical skills in developing new food products.

Food Science is a very practical application of basic science (Chemistry, Microbiology, Biology) training with a product, consumer and market focus. There's a mix of scientific research, practical application and consumer interaction required to get the job done.

## Career opportunities

As a Food Science graduate, you will have good prospects here in New Zealand and also exciting opportunities overseas. Our graduates frequently find employment before they have even completed their final year at university.

You could end up working for a national or international food company specialising in dairy, confectionery, brewing, fruit and vegetables, seafood or any other foodstuff.

There are also positions for Food Science graduates in research institutes, for example Plant & Food Research, or government agencies such as the Ministry for Primary Industries.

Careers in areas such as product development, food quality management, chemical/nutritional analysis, sensory analysis, marketing and research will be at your fingertips.

## Background required

Secondary school students are recommended to take Biology, Chemistry and either Maths or Stats in years 12 and 13.

## What is the difference between Food Science and Consumer Food Science?

Food Science is "product and process" oriented whereas Consumer Food Science is "consumer" based. A food scientist understands the nature of food components like fats and proteins and how they behave in food systems, how to process foods to produce high quality foods, and how to develop new exciting food products for the marketplace. If you enjoy science subjects like chemistry and biology then you will probably prefer Food Science. On the other hand, if you enjoy learning more about consumer behaviour, food quality, marketing, and food policy then Consumer Food Science may be for you.

## What will I learn?

The Bachelor of Science (BSc) majoring in Food Science provides you with a comprehensive understanding of the food industry, combining both theory and practical hands-on experience.

**First year:** You will study the basic sciences, including biology, chemistry and statistics as well as introductory food science.

**Second year:** You will apply the science you learnt in first year specifically to food. You will do papers in food chemistry and processing, food systems, sensory science and microbiology.

**Third year:** You will start to tailor your course to your own particular interests. You will take food product development, advanced food chemistry and food processing papers and can choose to include food microbiology, sensory science, food policy and consumer issues.

There are course advisors within the Department who can help you plan your study path.

## Teaching style

Your classes will consist of lectures, tutorials, seminars, practical laboratories, self-directed learning using readings and website material, and field trips to food manufacturers and research organisations.

Assessment is a combination of assignments/projects, examinations, laboratory reports, essays and oral presentations.

Several papers provide you with the opportunity to work in groups on a large project, which often includes interaction with the food industry, a most valuable experience.

## Can I combine Food Science with other subjects?

Yes. There are a number of possibilities. You can major in Food Science for a BSc and include other subjects like Chemistry, Microbiology, Human Nutrition and Biochemistry to complement Food Science in your degree. You could even decide to do a double major in Food Science and another subject. Another option is to do a double degree, for example a BSc in Food Science and a BCom in Marketing.

## PROFILE

### Portia Prangley

Bachelor of Science (Food Science, Plant Biotechnology minor)

"My time at Otago gave me a platform to acquire knowledge to take forward into my career and provided hands-on experience through lab classes and field trips, enabling me to develop well-rounded skills in all areas.

"The subjects offered in Food Science allowed me to expand my knowledge of the function of food and delve into the interactions between food structure and human perception.

"And Plant Biotechnology explored ways to enhance crop resilience to environmental stress whilst maintaining quality and yield through studying molecular biology, genetics and breeding technologies.

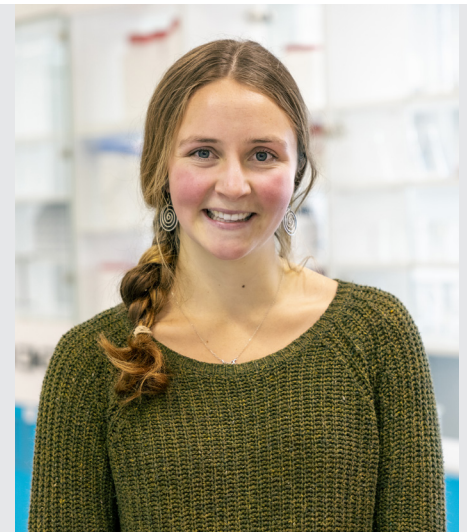
"In my second year, I was offered a summer job with Pacific Flavours and Ingredients, helping with various projects, from developing RTDs to researching new ways to form aromatic compound emulsions.

"Over the summer, I built relationships with colleagues and clients, proving that I could collaborate effectively in a team environment to produce results.

"In my final year, Pacific Flavours offered me a full-time position as a Food Science Administrative and Production Assistant.

"This involves a wide range of responsibilities such as carrying out research, development of immunoassays, investigating novel biomarkers, and assisting in production."

"My university experience gave me the opportunity to explore a new city, develop independence and take up new sports. Outside of study, I loved getting out of the city to go diving at stunning beaches, find new hikes or head away skiing."



For questions about  
Food Science  
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