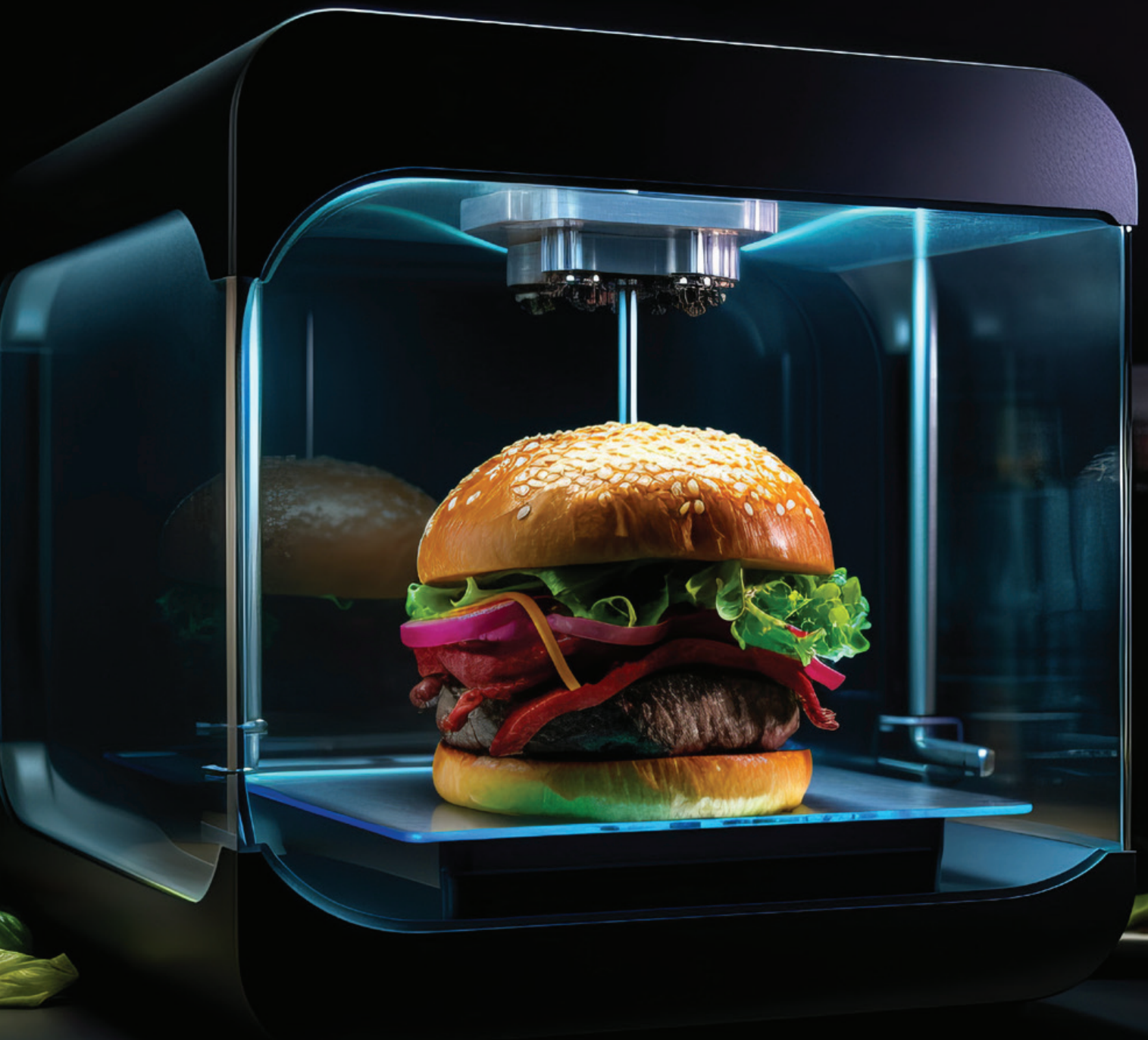




**LINCOLN
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Te Whare Pūrākau
Learning, Teaching
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Food Science Careers



What is Food Science?

How to feed the world, protect the future, and live well are universal concerns at the centre of Lincoln University's mission. Food plays a key role in each of them. The production and availability of regular food supplies is of paramount importance to all humans. Specialisation in food science gives students a solid scientific grounding from which to build a career addressing issues around food: composition, nutrition, production, processing, sustainability, consumption, safety and supply.

The food science specialisation uses scientific principles to examine food and food-related manufacturing and processing practices. Students learn the biological and chemical makeup of food as well as about processes, such as social, political, environmental and economic factors, that affect food and its production, distribution and consumption. The scientific underpinning of the degree ensures that students are skilled in the utilisation of statistics and biometrics in experimental design and data analysis, and the ability to collect, synthesise and critically review data across a wide range of disciplines. Students graduate with a working knowledge of the scientific, industry and personal skills that professionals working in food science careers need. The programme's close industry ties means that students can feel confident that their qualification is relevant and will see them industry-ready at graduation.



Food science in New Zealand and the world

New Zealand has a shortage of scientists and technologists so career prospects for food science graduates are good. Employment opportunities are diverse; graduates may wish to start in the lab, and from there the possibilities are endless. The amount and type of food related roles are only limited by imagination. From primary production to laboratory research to management, demand is high for qualified food scientists.

Increasing food production in a way that is sustainable concerns policymakers worldwide, and to achieve both aims seems incompatible. But as innovations occur in the name of achieving sustainable growth, new roles and opportunities arise, particularly in food technology. In countries with developed economies, the nutritional content of food, and its safe supply to meet consumers' many and varied needs means that expansion is projected for roles in product innovation.

New Zealand's reputation as an exporter of high quality produce means that roles are available worldwide, wherever our products go, and where new markets are forecast. The multinational groups driving this expansion require not just food scientists, but those with interests across all sectors that support food production, distribution, storage and sale.



Skills and knowledge developed by studying food science

Employers value the rigorous scientific skills that Lincoln University graduates have. The skills and knowledge developed at Lincoln University are relevant and practical, and are directly transferable to many workplaces. Guest speakers from industry, together with problem-based active learning tasks, ensure students have hands-on engagement with potential employers from the beginning of their studies. Making the most of academic and industry connections while studying is encouraged so that students are well-placed to build on their skills and knowledge in their future place of work.

Employers seek well-rounded, engaged graduates with a strong work ethic. As in any sector, employers value those with a professional attitude. This includes good communication (including the ability to communicate to groups, as well as effective interpersonal and written communication), honesty, self-motivation, initiative, time management, and flexibility. The importance of these basic skills cannot be underestimated, even in voluntary or internship roles, as future job opportunities often arise from a good reputation and a varied network of contacts.



Skills and knowledge valued in food science roles

Rigorous scientific methodology practices

Competence in technical and food safety compliance

Knowledge of experiment design, implementation and analysis

Knowledge of food safety standards and principles

Ability to prioritise workload

IT and report writing skills

Analytical and critical thinking

Innovative thinking

Knowledge of laboratory practices and procedures

Relationship building and negotiation skills

Solution-focused attitude

Numerical and quantitative skills

Knowledge of chemical and biological properties of food

Meticulous attention to detail



Where can food science graduates find work?

Places of employment for food science graduates include:

- Government departments or bodies (e.g., Ministry for Primary Industries (MPI), New Zealand Customs Service, New Zealand Food Safety Authority)
- Crown research institutes (e.g., National Institute of Water and Atmospheric Research (NIWA), Institute of Environmental Science and Research (ESR), Scion, Landcare Research, AgResearch, GNS Science, Plant and Food Research)
- Local/ regional government (e.g., Auckland Council, Greater Wellington Regional Council, Nelson City Council)
- Private consultancy, recruitment, research or services firms (e.g., Scientific and Technical Recruitment, Food Inc., Eurofins NZ Laboratory Services,ASUREQuality, Cawthron Institute)
- Food processing, manufacturing or exporting companies (e.g., Talleys, Synlait Milk, Heinz Wattie's, Silver Fern Farms, Tegel Foods, Turners and Growers (T&G), Oceania Dairy, Foodstuffs, ANZCO Foods, RJ's Licorice, Silver Fern Farms, Griffins Foods, Kraft Heinz, Mars New Zealand, Davis Food Ingredients, Goodman Fielder, Danone)
- Tech industries (e.g., Callaghan Innovation, Lincoln Agritech, Intech Instruments)
- Beverage or brewing companies (e.g., Zealong Teas, Nestlé, Fonterra, Monteith's Brewing Company, DB Breweries, Frucor Beverages, Lion New Zealand)
- Tertiary education sector (e.g., Lincoln University)
- Analytical testing laboratories and chemical companies (e.g., Hill Laboratories, Eurofins, Ecolab, Ixom, ASUREQuality, Chemiplas)
- Regulatory bodies (e.g., New Zealand Food Safety Authority NZFSA, Food Standards Australia New Zealand FSANZ)



Food science job titles

Academic Lecturer	Food Toxicologist
Advisor Compliance and Investigation	Improvement Technologist
Applications Technologist	Laboratory Technician
Associate Research Technologist	Medical Laboratory Scientist - Bacteriology
Bioanalytical Officer	Microbiologist
Biochemist	Nutritionist
Biosecurity Officer	Postharvest Technologist
Brewer/ Distiller	Production/Food Processing Team Leader/ Manager
Cereal Scientist	Public Health Officer
Dietician/ Dietetics Specialist	Quality Assurance Technician/ Manager
Food Biochemist	Quality Manager
Flavour Chemist	Quality Systems Coordinator
Food Compliance Officer	Quarantine Officer
Food Engineer	Regulatory Affairs Officer
Food Inspector	Research and Development Technologist
Food Labelling Technologist	Research Scientist
Food Production Assistant/ Manager	Risk Manager
Food Product Developer	Safety Inspector
Food Safety and Quality Leader	Sensory Evaluation Expert
Food Safety Specialist	Technology Development Manager
Food Scientist	Teaching Technician in Food Science
Food Technologist	



Pay rate indications: full time equivalent (FTE) \$NZ per annum¹

Most starting salaries for graduates of bachelor degrees fall between 50,000 - 70,000. Entry level jobs are stepping stones to roles with increased responsibilities and remuneration. Your employability is enhanced by all of your life experiences, be they employment related, or the transferable skills and competencies gained from community involvement, volunteer work, or previous work or study - all of which can grow competency, expand networks, and demonstrate enthusiasm to future employers.

¹Rates sourced from SEEK, MBIE, Careers NZ, Universities NZ, PayScale, PQOS survey data

Job title	Indicative rate
Research Scientist	60,000 - 140,000+
Food Technologist/ Product Developer	45,000 - 140,000+
Quarantine Inspector/ Officer	55,000 - 70,000+
Biosecurity Officer	50,000 - 100,000+
Laboratory Technician	45,000 - 85,000
Production Assistant/ Manager	45,000 - 115,000+
Microbiologist	45,000 - 130,000+
Food Safety	55,000 - 100,000+
Applications Technologist	60,000 - 100,000+
Quality Assurance Specialist	55,000 - 100,000+

Food science tasks

The following list includes the types of tasks that a food technologist might undertake.

Gather test samples of food products

Interpret sample results

Devise ways of improving efficiency in processes

Develop food packaging

Ensure quality and safety specifications are met

Develop prototypes to meet product briefs

Investigate the nutritional properties of foods

Write up research tailored to specific stakeholders

Conduct laboratory tasks/ trials

Operate and maintain scientific equipment

Present experimental findings to colleagues or stakeholders

Use computer software to analyse or present data

Product testing

Checking ingredient specifications

Operate within a budget

Microbiological compliance testing

Monitor and report on performance

Adhere to HACCP and/or ISO quality systems

Nutrient mapping

Liaise with internal and external stakeholders

Job tasks are role-specific, so the above is an indication only. For more information on roles, registered Lincoln University students can search

LU Career Centre (online) for job titles similar to those they are interested in. Job descriptions, including tasks and skills required, are often available.



Industry bodies

Membership of an industry specific body enhances the professional status of graduates. By joining a professional body, members can research career options, access training and events, and network and collaborate with industry colleagues at all levels.

Examples of food science industry bodies include:

New Zealand Institute of Food Science and Technology
www.nzifst.org.nz

Food Standards Australia New Zealand
www.foodstandards.gov.au

New Zealand Food Safety Authority
www.foodsafety.govt.nz

Food Inc. Food Industry Consultants
www.foodinc.co.nz

New Zealand Food and Grocery Council
www.fgc.org.nz

Food Technology New Zealand
www.foodtechnology.co.nz

Plant and Food Research
www.plantandfood.co.nz

Brewers Guild of New Zealand
www.brewersguild.org.nz

New Zealand Feed Manufacturers Association
www.nzfma.org.nz

New Zealand Food & Grocery Council
www.fgc.org.nz

New Zealand Beverage Council
www.nzbc.nz

Meat Industry Association
www.mia.co.nz

New Zealand Seafood Industry Council
www.seafood.co.nz



Find out more:

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