



Food Science and Technology

Postgraduate coursework programs

Never Stand Still

Engineering

Chemical Engineering

YOUR FUTURE. YOUR CHOICE.

If you are looking at increasing your knowledge in Food Science and Technology, then turn to UNSW Engineering's School of Chemical Engineering.

Our advanced study options in food science and technology provide a deeper understanding of the industry, strategies and tools to increase efficiency and performance, and the opportunity to learn alongside like-minded industry professionals. Whether you are approaching the industry from an engineering perspective or from a science background, our programs can be tailored to suit you and boost your future prospects.

SCHOOL OF CHEMICAL ENGINEERING

The School of Chemical Engineering at UNSW Australia has been providing quality education for 65 years and is well known in the industry for its cutting-edge research.

Our content-rich postgraduate courses are taught by outstanding academics and industry leaders and are highly relevant due to our firm connection to industry. We are at the forefront of exciting innovations and emerging technologies through a number of international research groups and centres, and our state-of-the-art facilities provide the perfect support for our students.

The School consistently ranks highly, both nationally and internationally. UNSW Australia is a QS 5-star university and Chemical Engineering is ranked no.1 in New South Wales. According to the 2014 National Taiwan University Ranking we are the top university for Chemical Engineering in Australia and no. 6 in the world.

COURSEWORK PROGRAMS

- Master of Engineering Science (Food Process Engineering)
- Graduate Diploma of Engineering Science (Food Process Engineering)
- Master of Food Science
- Graduate Diploma of Food Science.



MASTER OF ENGINEERING SCIENCE

THE DEGREE OF CHOICE FOR THE ENGINEERING PROFESSIONAL

The **Master of Engineering Science** program at UNSW Engineering is designed especially for graduate engineers seeking to develop or enhance their careers through cross-training, re-training and specialisation.

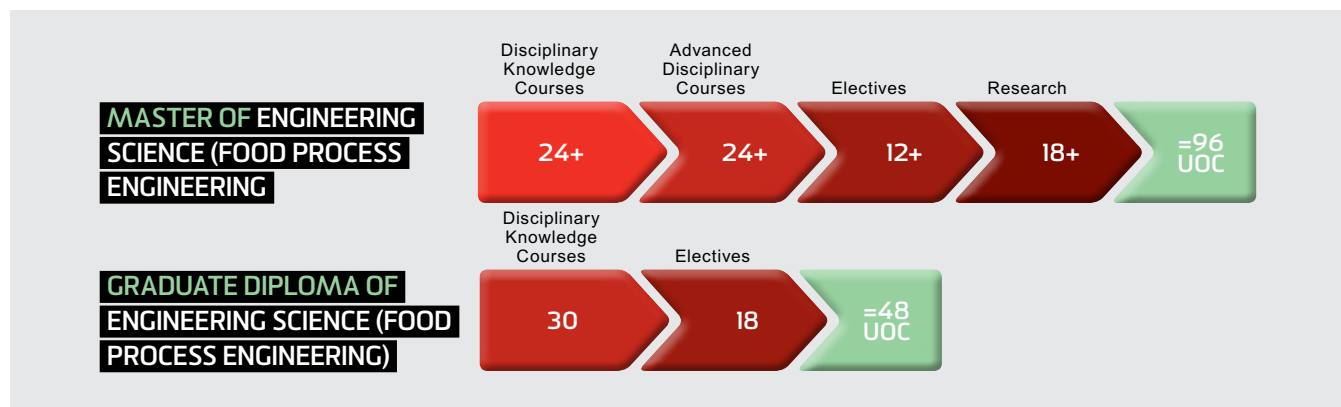
Our courses are packed with stimulating and comprehensive content that will inspire you to learn more and stay connected to your exciting engineering future. An extensive research component ensures every graduating student is armed with advanced practical and analytical skills.

PROGRAM OPTIONS	PROGRAM CODE	UNITS OF CREDIT	DURATION*	COMMENCE
Master of Engineering Science (Food Process Engineering)	FOODNS8338	96	2 years	Feb, Jul
Graduate Diploma of Engineering Science (Food Process Engineering)	FOODOS5341	48	1 year	Feb, Jul

* Eligible students may apply for credit for up to eight courses (48 UOC) of the Master of Engineering Science or four courses (24 UOC) of Graduate Diploma programs depending on previous study and professional experience. This can reduce the time taken by up to a year.

TYPICAL PROGRAM STRUCTURE

This program is designed for engineers who want to specialise in the area of food science. It provides a thorough study of factors affecting the science, processes, operation technology and engineering of foods, and the life cycle of plants. Students also study issues that affect business decisions encountered in the food industry including a focus on efficient design and robust, objective analysis. It can also provide a solid postgraduate coursework program for the professional food scientist wishing to upgrade their skills or extend their knowledge. Qualified students can choose to enter at Masters level, but those who have less time (or who would like just a taste of postgraduate study) can begin with the Graduate Diploma.



DISCIPLINARY KNOWLEDGE COURSES

Students can choose from subjects including:

- FOOD8000 Chemistry, Biochemistry and Microbiology of Food
- FOOD8601 Food Processing Principles
- FOOD8403 Advanced and Applied Nutrition
- FOOD8320 Food Microbiology
- FOOD6804 Food Diagnostics
- FOOD8450 Advanced Food Engineering
- FOOD8220 Nutrition
- FOOD8010 Food Preservation
- FOOD8110 Advanced Food Chemistry
- FOOD8901 Product Design and Development
- FOOD8030 Food Safety and Quality Assurance
- FOOD6806 Food and Nutritional Toxicology
- FOOD8801 Unit Operations in Food Processing.

ADVANCED DISCIPLINARY KNOWLEDGE COURSES

Masters students need to take:

- CEIC8102 Advanced Process Control
- FOOD9100 Advanced Processing Technologies
- FOOD9101 Complex Fluid Microstructure and Rheology

PLUS one course from subjects including:

- CVEN9888 Environmental Management
- CVEN9892 Sustainability Assessment
- GSOE9121 Operational Energy Efficiency
- GSOE9210 Engineering Decisions
- GSOE9340 Life Cycle Engineering
- GSOE9510 Ethics and Leadership in Engineering
- GSOE9840 Maintenance Engineering
- GSOE9810 Quality in Engineering
- CVEN9731 Project Management Framework
- GSOE9830 Engineering Economics.

ELECTIVES

Electives can be taken from the approved list of Engineering and Technical Management Courses or from Disciplinary or Advanced Disciplinary Knowledge Courses from this specialisation or another specialisation within the Master of Engineering Science program as long as the student is eligible to enrol. Up to two subjects (12 UOC) of foundation knowledge courses may also be taken.

A full and current list of courses is available online in the UNSW Handbook.

RESEARCH

Students must complete a research component that gives them the opportunity to broaden their understanding of something that they are passionate about through practical application with the close support of a practicing engineering researcher.

- CEIC9002 Advanced Thesis A (12 UOC)
- CEIC9003 Advanced Thesis B (12 UOC).

ENTRY REQUIREMENTS

Masters: You need a Bachelor of Engineering in Chemical Engineering or Food Process Engineering with at least Honours II/2 or equivalent or hold a Graduate Diploma in Food Process Engineering with at least 65% average mark.

Graduate Diploma: You need a three or four year degree in a relevant discipline of engineering or science plus relevant professional experience. The Graduate Diploma is a common pathway to the Masters.

EXEMPTIONS OR ADVANCED STANDING

Students may be granted credit for some courses. Those with a four year honours degree (for example in Chemical Engineering) can apply for credit for up to 48 UOC for the Masters (effectively reducing it to one year full time) or 24 UOC for the Graduate Diploma. Full details can be found on the program handbook page.

PROGRAM SNAPSHOT

"The new Master of Science program in Food Science and Technology is designed for food scientists and graduates wishing to develop and expand their technical knowledge and skills in their current area of expertise interacting with researchers at the cutting edge of their discipline. The only program of its type in New South Wales means it is an attractive option for local food industry professionals seeking to upskill."

The new Master of Engineering Science (specialisation in Chemical Process Engineering and Food Process Engineering) program provides a solid postgraduate coursework program for the professional chemical engineer and food process engineer wishing to upgrade their skills or extend their knowledge, or for chemical engineers wishing to develop knowledge in the food area.

In this program students will also have an opportunity to work on extended research projects with academics doing cutting edge research within the school."



DR JAYASHREE ARCOT
ASSOCIATE PROFESSOR OF
NUTRITION AND CO-DIRECTOR,
TEACHING AND LEARNING



MASTER OF FOOD SCIENCE

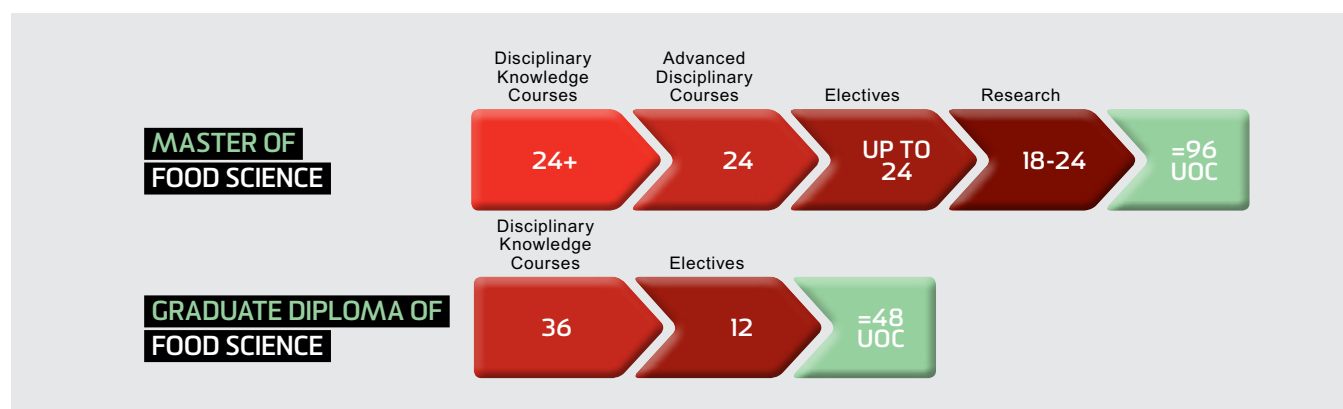
STEP UP YOUR ENGINEERING KNOWLEDGE

The **Master of Food Science** program is designed for those with a science background who wish to deepen their knowledge in the food science area. It's also designed for engineers who want to move into food science from a more science-based perspective.

PROGRAM OPTIONS	PROGRAM CODE	UNITS OF CREDIT	DURATION	COMMENCE
Master of Food Science	8037	96	2 years	Feb, Jul
Graduate Diploma of Food Science	5037	48	1 year	Feb, Jul

TYPICAL PROGRAM STRUCTURE

Students will gain a thorough understanding of theoretical aspects of the science, technology and engineering of foods, and have the opportunity to undertake an extensive research project. For graduate engineers who wish to retrain or undertake a shorter program of specialised study the Graduate Diploma is a very handy step-up into the Masters program.



DISCIPLINARY KNOWLEDGE COURSES

Students can choose from subjects including:

- FOOD8601 Food Processing Principles
- FOOD8403 Advanced and Applied Nutrition
- FOOD8320 Food Microbiology
- FOOD6804 Food Diagnostics
- FOOD8450 Advanced Food Engineering
- FOOD8220 Nutrition
- FOOD8010 Food Preservation
- FOOD8110 Advanced Food Chemistry
- FOOD8901 Product Design and Development
- FOOD8030 Food Safety and Quality Assurance
- FOOD6806 Food and Nutritional Toxicology
- FOOD8801 Unit Operations in Food Processing.

ADVANCED DISCIPLINARY KNOWLEDGE COURSES

Masters students are required to take:

- FOOD9100 Advanced Processing Technologies
- FOOD9101 Complex Fluid Microstructure and Rheology
- FOOD9102 Sensory Analysis of Foods
- FOOD9103 Advanced Food Microbiology.

ELECTIVES

Students may choose any courses as electives as long as they are eligible to enrol. This could include any of the Disciplinary or Advanced Disciplinary Knowledge Courses on the list for this program. Suggested electives include:

- GSOE9712 Engineering Statistics and Experimental Design
- GSOE9510 Ethics and Leadership in Engineering
- GSOE9830 Economic Decision Analysis in Engineering.

A full and current list of courses is available online in the UNSW Handbook.

RESEARCH

Students must complete a research component that gives them the opportunity to broaden their understanding of something that they are passionate about through practical application with the close support of a practicing engineering researcher.

ENTRY REQUIREMENTS

Masters: Students must hold either a Bachelor degree in Food Science with at least Honours II/2 (or equivalent), or a Graduate Diploma in Food Science from UNSW, or an equivalent qualification from another recognised university or tertiary institution.

Graduate Diploma: Students must hold a Bachelor degree in Food Science with an average mark of at least 65%, or an equivalent qualification from a recognised university or tertiary institution.

*Please note semester offerings may vary.



ARC TRAINING CENTRE

The ARC Training Centre for Advanced Technologies in Food Manufacture (ATFM) works closely with the Australian food industry to ensure its companies can sustain a globally competitive position in markets that demand the highest level of product quality, freshness, taste and safety. The Centre focuses on developing a suite of industry-aligned and commercially relevant projects that will successfully compete for market share against manufacturers with inferior quality and safety through product differentiation. The projects undertaken are selected according to industry priorities and the Centre provides industry with a continuum of high-level skills through technological and engineering knowledge transfer.

WHY UNSW ENGINEERING?

UNSW Engineering is the largest Engineering Faculty in Australia. We continue to foster and develop elite-level engineers across a broad range of disciplines exposing them to world-class innovation, cutting-edge research and dedicated teaching staff. As such, we are recognised as Australia's top Engineering university.*

WHY NOT JOIN US?

- **Cutting-edge programs** – be inspired by our research-led, industry-relevant curriculum.
- **Real-world focus** – continually updated programs ensure graduates are armed with the very latest knowledge and techniques to be able to stand at the top of their field.
- **Flexibility** – programs can be tailored to suit your interests, entry points twice a year, out-of-hours classes and distance learning options.

TAKING THE NEXT STEP

HOW TO APPLY

To gain entry to UNSW you'll need to successfully meet both the academic entry requirements and the English language requirements. For assistance with the application process, contact a UNSW official representative at international.unsw.edu.au/contact-us

Apply online at apply.unsw.edu.au

The UNSW Apply Online service has quick links to key information for applicants, including the application tracking service which allows you to check the progress of your application.

Closing Dates

Semester One (February): Applications must be lodged by 30 November.

Semester Two (July): Applications must be lodged by 30 May.

Not all programs have a Semester Two start date.

Late applications

Late applications will be accepted after the closing dates subject to the availability of places. Please note that whilst UNSW endeavour to process applications as quickly as possible, due to time constraints it cannot be guaranteed that a late application will be processed in time for semester commencement.

International Students

Applications are made directly to UNSW Australia, via our Apply Online portal at apply.unsw.edu.au For more information on what you need and how to apply go to international.unsw.edu.au

Most international students will require a student visa to study in Australia (application and processing of this visa may take some time). More information can be found at international.unsw.edu.au/living-sydney/visas/

SCHOLARSHIPS

There are a number of scholarships available for eligible students. To find out more about available postgraduate scholarships, eligibility and application process go to scholarships.unsw.edu.au

FEES

A postgraduate coursework fee calculator for both domestic and international students can be found at apply.unsw.edu.au

ACCOMMODATION

UNSW offers a range of accommodation options, visit housing.unsw.edu.au for full details.

STUDENT LIFE

At UNSW there is an abundance of support available to students. To find out more about studying at UNSW, visit unsw.edu.au and search for Student Life.

* Shanghai Jiao Tong University's Academic Ranking of World Universities in Engineering/Technology and Computer Sciences 2014.

CRICOS Provider Code: NSW 00098G



in Australia according to Shanghai Jiao Tong University's Academic Ranking of World Universities in Engineering/Technology and Computer Sciences 2014.



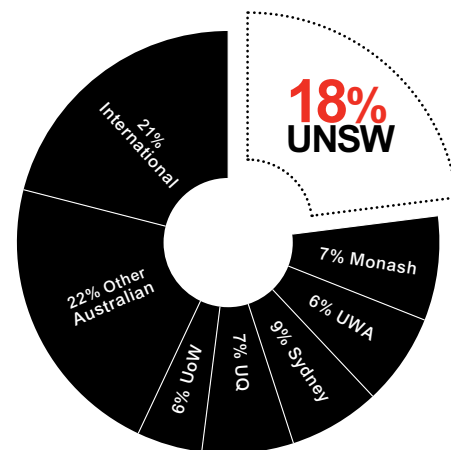
More technology entrepreneurs

than any other university in Australia.
(Crunchbase Report 2013)



QS World University Rankings by Subjects 2014

18th in Civil, 29th in Computing, 33rd in Electrical, 37th in Mechanical and 46th in Chemical.



18% of the **top 100** most influential engineers in Australia are UNSW Graduates*

*Engineers Australia Top 100 list in 2014

CONTACT US

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