Overview

This discipline has programs that teach students advanced technical and management skills and provide essential specialist knowledge in chemical engineering across a range of areas, including the fuel and energy sector, mineral processing, fine chemicals, pharmaceuticals, petrochemicals, consumer products and the food industry.

The specialisation in Chemical Process Engineering is defined by a core of disciplinary knowledge and advanced disciplinary knowledge. It provides a solid postgraduate coursework program for the professional chemical engineer wishing to upgrade their skills or extend their knowledge.
Faculty
Faculty of Engineering

School
School of Chemical Engineering

Study Level
Postgraduate

Minimum Units of Credit
24

Specialisation Type
Specialisation
Learning Outcomes

1. Undertake independent work. Graduates will develop their capacity for independent work, particularly identifying and sourcing information that is needed.

2. Global outlook Students will develop an appreciation of the issues associated with international engineering practice and global operating contexts (EA 1.5).

3. Employ communication, adaptive and interactional skills Graduates will demonstrate professional-level skills in presenting information and justifying decisions to other professionals, clients, stakeholders and the broader community (EA 3.2 / EA 2.8). Graduates will demonstrate creative and ethical approaches to practice (EA 3.3 & 3.1). Graduates will develop their ability to work as team members and leaders (EA 3.5).

4. Apply Disciplinary Knowledge and practices in chemical engineering. Graduates will develop advanced theory-based knowledge and techniques in chemical engineering (EA 1.3 / EA 2.12). Graduates will broaden their knowledge of engineering, including engineering management (EA 1.4). Graduates will be able to proficiently apply engineering methods to complex engineering problem solving (EA 2.1).

5. Use cognitive skills and critical thinking Graduates will develop their ability to define, investigate and analyse chemical engineering problems and develop creative and innovative solutions to these problems (EA 2.14 & 2.15).

Graduate Capabilities:

For more information on Graduate Capabilities, please click on this [link](#).
Available in Program(s)

Program(s) in which this specialisation is available

Graduate Certificate in Engineering Science - GradCertEngSc

7320 Engineering Science

Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 24
Typical Duration: 0.7 Years
Specialisation Structure

Students must complete 24 UOC.

Disciplinary Knowledge Courses

Students must take at least 18 UOC, up to a maximum of 24 UOC of the following courses.

CEIC8104  |  6 UOC
Topics in Polymer Technology

CEIC8204  |  6 UOC
Topics in Business Management in Chemical Engineering

CEIC8205  |  6 UOC
Fuel and Energy Engineering

CEIC8330  |  6 UOC
Process Engineering in the Petroleum Industry

CEIC8341  |  6 UOC
Membrane Processes

CHEN6701  |  6 UOC
Advanced Reaction Engineering

CHEN6703  |  6 UOC
Advanced Particle Systems Engineering

CHEN6706  |  6 UOC
Advanced Transport Phenomena

FOOD8450  |  6 UOC
Advanced Food Engineering
Engineering and Technical Management Courses

Students may take up to 6 UOC of the following courses

Students may choose electives from the following list or other courses for which they are qualified to enrol, with the approval of the stream authority. Students may only choose electives for which they are appropriately prepared by way of prior learning. Up to 6 UOC of foundation knowledge courses (usually CEIC3xxx courses) may be approved as electives by the Program Authority where appropriate.

CVEN9701 | 6 UOC
Engineering Economics and Financial Management

CVEN9731 | 6 UOC
Project Management Framework

CVEN9888 | 6 UOC
Environmental Management

CVEN9892 | 6 UOC
Sustainability Assessment and Risk Analysis

GSOE9017 | 6 UOC
Managing Energy Efficiency

GSOE9210 | 6 UOC
Engineering Decision Structures

GSOE9340 | 6 UOC
Life Cycle Engineering

GSOE9510 | 6 UOC
Ethics and Leadership in Engineering

GSOE9712 | 6 UOC
Engineering Statistics and Experiment Design

GSOE9810 | 6 UOC
Process and Product Quality in Engineering

GSOE9820 | 6 UOC
Engineering Project Management

GSOE9830 | 6 UOC
Economic Decision Analysis in Engineering

MANF4430 | 6 UOC
Reliability and Maintenance Engineering

SOLA9016 | 6 UOC
Sustainable Energy in Developing Countries

**Enrolment Disclaimer**

Unless advised otherwise by your program authority, you should follow the rules for the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.
Additional Information

Entry Requirements

A student must hold a Bachelor degree in Chemical engineering with Honours II/2 (or equivalent) or an equivalent qualification from a recognised university or tertiary institution, with an average mark of at least 65, in order to be admitted to the stream. Those without such a qualification are required to argue their prior learning is equivalent to this qualification. For example, a 3- or 4-year Bachelor of Engineering or Science combined with relevant discipline experience (such as chemical or food process operations) may be recognised.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)
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Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179