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 Engineering is defined by a core of disciplinary knowledge, advanced disciplinary knowledge and an advanced research component. It provides a solid postgraduate coursework program for the professional chemical engineer wishing to upgrade their skills or extend their knowledge.

ENTRY REQUIREMENTS

Masters Students need a recognised four year Bachelor degree in engineering in one of the following:

- Chemical Engineering
- Food Science and Engineering

Biomedical Engineering degrees may also be considered.

For entry details, please click here.
Faculty
Faculty of Engineering

School
School of Chemical Engineering

Study Level
Postgraduate

Minimum Units of Credit
96

Specialisation Type
Specialisation
Available in Program(s)

Program(s) in which this specialisation is available

Master of Engineering Science - MEngSc

**8338 Engineering Science**

Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 96
Typical Duration: 2 Years
Specialisation Structure

Students must complete 96 UOC.

**Advanced Disciplinary Knowledge Core Courses**

Students must take 18 UOC of the following courses.

- **CEIC6711** | 6 UOC
  Complex Fluids Microstructure and Rheology

- **CEIC8102** | 6 UOC
  Advanced Process Control

- **CEIC8105** | 6 UOC
  Advanced Polymer Science and Research

**Disciplinary Knowledge Core Course**

Students must take 6 UOC of the following courses.

- **CEIC8104** | 6 UOC
  Topics in Polymer Technology

**Research Core Courses**

Students must take 24 UOC of the following courses.

- **CEIC9951** | 6 UOC
  Advanced Research Thesis A

- **CEIC9952** | 6 UOC
  Advanced Research Thesis B

- **CEIC9953** | 6 UOC
  Advanced Research Thesis C

One of the following:

- **GSOE9010** | 6 UOC
Advanced Disciplinary Knowledge Courses

Students must take at least 6 UOC, up to a maximum of 36 UOC of the following courses.

- **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

- **GSOE9121** | 6 UOC  
  Operational Energy Efficiency

- **GSOE9143** | 6 UOC  
  Sustainable Electrical Energy Technology Assessment

- **GSOE9210** | 6 UOC  
  Engineering Decision Structures

- **GSOE9340** | 6 UOC  
  Life Cycle Engineering
<table>
<thead>
<tr>
<th>Code</th>
<th>UOC</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSOE9510</td>
<td>6</td>
<td>Ethics and Leadership in Engineering</td>
</tr>
<tr>
<td>GSOE9712</td>
<td>6</td>
<td>Engineering Statistics and Experiment Design</td>
</tr>
<tr>
<td>GSOE9810</td>
<td>6</td>
<td>Process and Product Quality in Engineering</td>
</tr>
<tr>
<td>GSOE9820</td>
<td>6</td>
<td>Engineering Project Management</td>
</tr>
<tr>
<td>GSOE9830</td>
<td>6</td>
<td>Economic Decision Analysis in Engineering</td>
</tr>
<tr>
<td>GSOE9840</td>
<td>6</td>
<td>Process Improvement and Maintenance Engineering</td>
</tr>
</tbody>
</table>

**Disciplinary Knowledge Courses**

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

<table>
<thead>
<tr>
<th>Code</th>
<th>UOC</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEIC8204</td>
<td>6</td>
<td>Topics in Business Management in Chemical Engineering</td>
</tr>
<tr>
<td>CEIC8205</td>
<td>6</td>
<td>Fuel and Energy Engineering</td>
</tr>
<tr>
<td>CEIC8330</td>
<td>6</td>
<td>Process Engineering in the Petroleum Industry</td>
</tr>
<tr>
<td>CEIC8341</td>
<td>6</td>
<td>Membrane Processes</td>
</tr>
<tr>
<td>CHEN6701</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Advanced Reaction Engineering

CHEN6703  6 UOC
Advanced Particle Systems Engineering

CHEN6706  6 UOC
Advanced Transport Phenomena

**Electives**

Student complete a maximum 24 UOC of electives.
Students may choose the remainder of the electives from the Disciplinary or Advanced Disciplinary Knowledge course lists, or with the approval of the stream authority, other courses.
Students may only choose electives for which they are appropriately prepared by way of prior learning.
Up to 12 UOC of foundation knowledge courses may be approved as electives by the Program Authority where appropriate.

**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**

**Exemptions or Advanced Standing**

Exemptions and advanced standing rules for the stream follow the program rules. A student may apply for exemptions. Students with a four year honours degree (for example in Chemical Engineering) can obtain a maximum of 48 UOC of exemptions. Full details are noted on the program handbook page.

**Need information on our engineering programs? Start your search at the Faculty website**
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
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Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179