6140 Bachelor of Engineering and Bachelor of Commerce

Chemical and Process Engineering

Note:
1. This guide is only available to students who are enrolled in the Chemical and Process Engineering program within the Bachelor of Engineering component of the Bachelor of Engineering and Bachelor of Commerce (6140) combined degree course prior to 2012.
2. Students enrolled in the Chemical and Process Engineering program must complete either, the Chemical and Process Engineering major (MJ-ECHEM) or the Hydrocarbon Processing major (MJ-EHCPR).

Course details

Course Credit Points:

<table>
<thead>
<tr>
<th>Bachelor of Engineering component</th>
<th>- 168 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Commerce component</td>
<td>- 84-90 points</td>
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<tr>
<td>Total required for this course</td>
<td>- 252-258 points</td>
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</tbody>
</table>

Students must complete the following:

- Bachelor of Engineering foundation core units - 36 points;
- all units in Table 6.2.2Ba (Chemical and Process Engineering core units) - 102 points;
- one unit from Group A in Table 6.2.2Bb (Chemical and Process Engineering options) – 6 points;
- one of the following majors: the Chemical Engineering major (MJ-ECHEM) or the Hydrocarbon Processing major (MJ-EHCPR) – 24 points;
- a Professional Practicum of at least 12 weeks; and
- a Bachelor of Commerce component - 84-90 points

The following table is intended as a guide only. All units have a value of 6 points unless noted otherwise. Unit availability may be subject to change. For the most up-to-date information, please consult the Timetable at http://www.timetable.uwa.edu.au/
### Semester One
#### Year One
- **MATH1020** Calculus, Statistics and Probability (no longer offered)
- **PHYS1001** Physics for Scientists and Engineers (replaces PHYS1101 Advanced Physics A)
- **GENG1001** Introduction to Engineering Mechanics (Note 2)
- Commerce unit

#### Semester Two
- **MATH1010** Calculus and Linear Algebra (no longer offered)
- **GENG1002** Intro. to EE Engineering (Note 2)
- Commerce unit

### Year Two
- **MATH2040** Engineering Mathematics (Note 3)
- **CHEM1001** Chemistry - Properties and Energetics
- Commerce unit

### Semester Two
- **ENSC1002** Material Behaviour from Atoms to Bridges (replaces MATE1412 Materials Engineering 1)
- **CHEM1002** Chemistry - Structure and Reactivity
- **CITS2401** Computer Analysis and Visualisation (replaces GENG2140 Mod. & Comp.Analy.for Eng.)
- Commerce unit

### Year Three
- **ENSC3003** Fluid Mechanics (replaces CHPR2433 Fluid Mechanics)
- **ENSC3006** Chemical Process: Thermodynamics and Kinetics (replaces CHPR2431 Chem. Eng. Thermodynamics 2)
- Commerce unit

### Semester Two
- **ENSC3005** Mass and Energy Balances (replaces CHPR2530 Process Fundamentals) (Note 4)
- **ENSC3007** Heat and Mass Transfer (replaces CHPR2432 Heat and Mass Transfer)
- **GENG4402** Control Engineering (replaces CHPR3433 Process Dynamics and Control)
- Commerce unit

### Year Four
- **CHPR4406** Reaction Engineering (replaces CHPR3432 Chemical Kinetics and Reactor Design)
- **GENG5505** Project Management and Engineering Practice (Group A option)
- **ENSC3019** Unit Operations and Unit Processes (replaces CHPR3530 Process Modules)
- **CHPR4405** Particle Mechanics and Solids Handling (replaces CHPR3434 Particle Technology) (Note 5)
- **BE Major unit**
- **Commerce unit**

### Semester Two
- **CHPR4402** Chemical Engineering Design Project Part 2
- **CHPR4412** Chemical and Process Eng. Project Part 2
- **BE Major unit**
- **Commerce unit**

### Year Six
- **Commerce or BE Major unit**
- Commerce unit

### Note 1: Students requiring GENG1001 must complete ENSC2001 Motion.
### Note 2: Students requiring GENG1002 must complete ENSC2002 Energy.
### Note 3: Students requiring MATH2040 must complete MATH1002 Mathematical Methods 2.
### Note 4: ENSC3005 will only be offered in semester two from 2014 onwards (no longer offered in both semesters)
### Note 5: CHPR4405 Particle Mechanics and Solids Handling will replace CHPR3434 Particle Technology, offered in semester two.
Bachelor of Engineering component

Table 6.2.2Bb—Chemical and Process Engineering options

Group A

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>S1, S2</td>
<td>GEN5505</td>
<td>Project Management and Engineering Practice (replaces ELEC4332 Project Engineering Practice)</td>
</tr>
<tr>
<td>N/A</td>
<td>MECH4400</td>
<td>Engineering for Sustainable Development (unit is no longer offered)</td>
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Majors

- **Chemical Engineering major (MJ-ECHEM)** - The **Chemical Engineering** major comprises:

  1. **all** units in Table 6.2.2Bc (Chemical Engineering major core units) below – 18 points

     | Semester | Course Code | Course Title                                      |
     |----------|-------------|--------------------------------------------------|
     | S1       | CHPR4404    | Advanced Thermodynamics (replaces CHPR4531 Advanced Prediction of Fluid Properties) |
     | S2       | CHPR5522    | Gas Processing 2 - Treating and LNG Production (replaces GENG4405 Numerical Methods and Modelling or CHPR3531 Process Modelling) |
     | S1       | CHPR5501    | Advanced Reaction Engineering and Catalysts (replaces CHPR4431 Advanced Reaction Engineering) |

  2. **one** unit from Table 6.2.2Bd (Chemical Engineering major options) below – 6 points

     | Semester | Course Code | Course Title                                      |
     |----------|-------------|--------------------------------------------------|
     | S2       | CHEM2002    | Physical and Analytical Chemistry (replaces CHEM2220 Analytical and Physical Chemistry) |
     | S1       | ELEC3320    | Process Instrumentation and Control (offered for the last time in 2014) |

- **Hydrocarbon Processing major (MJ-EHCPR)** - The **Hydrocarbon Processing** major comprises:

  1. **all** units in Table 6.2.2Be (Hydrocarbon Processing major core units) below - 18 points

     | Semester | Course Code | Course Title                                      |
     |----------|-------------|--------------------------------------------------|
     | S1       | CHPR4404    | Advanced Thermodynamics (replaces CHPR4531 Advanced Prediction of Fluid Properties) |
     | S2       | CHPR5522    | Gas Processing 2 - Treating and LNG Production (replaces GENG4405 Numerical Methods and Modelling or CHPR3531 Process Modelling) |
     | S2       | ENSC3018    | Process Synthesis and Design (replaces CHPR4530 Process Systems) |

  2. **one** unit from Table 6.2.2Bf (Hydrocarbon Processing major options) below – 6 points

     | Semester | Course Code | Course Title                                      |
     |----------|-------------|--------------------------------------------------|
     | S1       | ELEC3320    | Process Instrumentation and Control (offered for the last time in 2014) |
     | S2       | GEN5504     | Petroleum Engineering (replaces PETR2510 Petroleum Engineering Fundamentals) |

**Key to availability of units:**  
S1 = Semester one  
S2 = Semester two  
N/A = Not available in 2014