# Course progression map for 2016 commencing students

This progression map provides advice on the suitable sequencing of units and guidance on how to plan unit enrolment for each semester of study. It does not substitute for the list of required units as described in the course ‘Requirements’ section of the Handbook.

## E3008 Bachelor of Engineering (Honours) and Bachelor of Pharmaceutical Science

### Engineering specialisation – Chemical engineering

#### Pharmaceutical science specialisation - Formulation Science

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<tr>
<th>Year 1 Semester 1</th>
<th>Unit</th>
<th>Year 1 Semester 2</th>
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<th>Year 2 Semester 1</th>
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<th>Year 2 Semester 2</th>
<th>Unit</th>
<th>Year 3 Semester 1</th>
<th>Unit</th>
<th>Year 3 Semester 2</th>
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<tbody>
<tr>
<td>PSC1011 Physiology I</td>
<td></td>
<td>PSC1021 Bioorganic and medicinal chemistry I</td>
<td>PSC1031 Physical chemistry I</td>
<td>PSC1041 Scientific enquiry</td>
<td>EN1001 Engineering design: Lighter, faster, stronger or ENG1002 Engineering design: Cleaner, safer, smarter</td>
<td>CHEM1011 chemistry 1 or CHEM1015 Chemistry 1 advanced</td>
<td>If two foundation units are required then overload is required for ENG1090 or PHS1080, whichever is not yet completed</td>
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<tr>
<td>PSC1012 Physiology II</td>
<td>PSC1022 Bioorganic and medicinal chemistry II</td>
<td>PSC1032 Physical chemistry II</td>
<td>PSC1042 Introduction to pharmaceutical sciences</td>
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<td>EN1003 Engineering design: Cleaner, safer, smarter or ENG1007 Engineering design: Lighter, faster, stronger</td>
<td>Free elective or ENG1060 Computing for engineers</td>
<td>CHE2161 Mechanics of fluids</td>
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</tbody>
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### Chemical engineering

- PSC1011 Physiology I
- PSC1021 Bioorganic and medicinal chemistry I
- PSC1031 Physical chemistry I
- PSC1041 Scientific enquiry
- EN1001 Engineering design: Lighter, faster, stronger or ENG1002 Engineering design: Cleaner, safer, smarter
- CHEM1011 chemistry 1 or CHEM1015 Chemistry 1 advanced
- If two foundation units are required then overload is required for ENG1090 or PHS1080, whichever is not yet completed

### Formulation science

- CHE3161 Chemistry and chemical thermodynamics
- CHE3165 Separation processes
- CHE2164 Thermodynamics 1
- ENG2005 Advanced engineering mathematics
- CHE3167 Transport phenomena and numerical methods (for students planning to enrol in CHE3164)

### Year 4 Semester 1

- CHE3166 Process design
- CHE2162 Material and energy balances
- CHE2163 Heat and mass transfer
- CHE3164 Reaction engineering

### Year 5 Semester 1

- CHE4164 Integrated industrial project (18 points) For selected students undertaking a period of integrated industrial training in the first semester of their final year. This will replace the two core units below [CHE4180 and CHE4161]

### Year 5 Semester 2

- CHE4162 Particle technology
- CHE4170 Design project
- CHE3162 Process control

### NOTE:

- Students in the double degree do not complete the following Pharmaceutical Science units since Engineering studies provide the knowledge and skills:
  - PSC2011 Biochemical pharmacology; PSC2012 Molecular pharmacology; PSC2021 Structural organic chemistry; PSC2031 Analytical Methods; PSC3221 Biomolecule formulation and modified release technology; PSC3212 Pharmaceutical regulatory affairs; PSC3232 Industry placement; one elective unit from PSC2322 Molecular biotechnology; PSC3121 Synthetic medicinal chemistry; PSC3142 Computational drug design.
- Depending on placement location, students who choose CHE4164 may have to overload a semester or extend an additional semester in order to complete their course and placement requirements.
- Students should overload in the semester of undertaking CHE4170.

This course map is subject to change and recommended as a guide only.


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