# Course progression maps for 2025 commencing students

This progression map provides advice on the optimal sequencing of units and guidance on planning unit enrolment for each semester of study in conjunction with the required units outlined in the course 'Requirements' section of the Handbook. Please note that the map may be updated to reflect changes to course requirements. Be sure to review it for the latest information before re-enrolling. *Last updated: 20 March 2025*

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

### Engineering specialisation – Chemical engineering
### Pharmaceutical science specialisation - Formulation science

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| Year 1 Semester 1 February | BPS1011 Human physiology 1: Cells to systems | BPS1021 Medical chemistry 1: Structure | BPS1031 Physical chemistry 1: Equilibria and change | BPS1041 Scientific inquiry | |
| Year 1 Semester 2 July | BPS1012 Human physiology 2: Body systems | BPS1022 Medical chemistry 2: Reactivity and biomolecules | BPS1032 Physical chemistry 2: Solutions, surfaces and solids | BPS1042 Pharmaceutical science in context | |
| Year 2 Semester 1 February | ENG1011 Engineering methods | ENG1012 Engineering design | CHE2164 Thermodynamics 1 | Foundation unit * or First Year engineering breadth study *(if no foundation units are required)* | If two foundation units are required, you must overload to complete the second foundation unit: ENG1090* or PHS1001* |
| Year 2 Semester 2 July | ENG1005 Engineering mathematics *Required: ENG1090 ** | ENG1014 Engineering numerical analysis *Required: ENG1005* | CHE2163 Heat and mass transfer | CHE2162 Material and energy balances | |
| Year 3 Semester 1 February | BPS2031 Analytical methods 1: Principles and applications | BPS2041 Drug delivery and pharmacokinetics | BPS3071 Nanotechnology and polymer science in drug delivery | BPS3061 Industrial formulation | |
| Year 3 Semester 2 July | BPS2022 Drug discovery and design **OR** BPS2032 Analytical methods 2: Investigation design | BPS2042 Drug development | BPS3082 Applied pharmacokinetics, dynamics and product development | BPS3062 Professional experience **(Full-Year) OR** BPS3012 Applied pharmaceutical science: from concept to market | |
| Year 4 Semester 1 February | CHE3161 Chemistry and chemical thermodynamics | CHE3165 Separation processes | ENG1013 Engineering smart systems | ENG2005 Advanced engineering mathematics | |
| Year 4 Semester 2 July | CHE3166 Process design | CHE2161 Mechanics of fluids | CHE3162 Process control | CHE3164 Reaction engineering | |
| Year 5 Semester 1 February | ENG4701 Final year project A | CHE4162 Particle technology | Complete one Professional Practice domain unit | CHE3167 Transport phenomena and numerical methods | ENG0001 Continuous Professional Development (0 credit points) |
| Year 5 Semester 2 July | ENG4702 Final year project B | CHE4170 Design project | | 6 cp Core - Level 3, 4 or 5 chemical engineering unit from this list below | |

| Chemical engineering | Formulation science |
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**6 CP CORE – LEVEL 3, 4 OR 5 CHEMICAL ENGINEERING UNIT**

*Due to overlapping contents with BPS1031/BPS1032, you replace CHM1011/CHM1051 (which is a core unit in the chemical engineering specialisation) with a unit selected from below:*

CHE3172 Nanotechnology and materials 1
CHE5322 Advanced biochemical engineering
CHE5882 Biomass and biorefineries
CHE5883 Nanostructured membranes for separation and energy production
CHE5889 Food engineering and processing

NOTE:

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- * Foundation units: You enrol in the foundation units ENG1090 and/or PHS1001 if you have not completed the Australian VCE (Units 3 & 4) or equivalent Specialist mathematics and/or Physics with the required study score.
- **BPS3062 Professional experience:** This is a 6 credit points, **full-year** unit where you will attend workshops and complete industrial placement during the year. While enrolled in BPS3062, you will continue to enrol in units offered in the standard semesters. Alternatively, you may opt to enrol in MON3750 (Summer B) or MON3500 (Winter) instead of BPS3062.
- **CHE2161** - If you have completed this unit as a First Year breadth study unit, it will count towards your chemical engineering study. You must still fulfil the First Year engineering breadth study requirement by completing another breadth study unit.
- CHE4170 - You should not overload in the semester when undertaking this unit.
- Engineering minors are not available in the Engineering double degree courses.
- You are required to complete at least 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information refer to the CPD webpage.
- For enrolment advice, please refer to the Course advisers webpage.