Course progression maps for 2024 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. Please note that the map is subject to updates. Updated 16 January 2024

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

Engineering specialisation – Chemical engineering
Pharmaceutical science specialisation - Formulation science

Year 1 Semester 1 February	BPS1011 Human physiology I: Cells to systems	BPS1021 Medical chemistry I: Structure	BPS1031 Physical chemistry I: Equilibria and change	BPS1041 Scientific inquiry	
Year 1 Semester 2 July	BPS1012 Human physiology I: Body systems	BPS1022 Medical chemistry II: Reactivity and biomolecules	BPS1032 Physical chemistry II: Solutions, surfaces and solids	BPS1042 Pharmaceutical science in context	
Year 2 Semester 1 February	ENG1011 Engineering methods	ENG1012 Engineering design	Foundation unit * or First Year engineering breadth study *(if no foundation units are required)*	CHE2164 Thermodynamics 1	If two foundation units are required then overload is required for ENG1090* or PHS1001*, whichever left to complete.
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 I: Principles and applications	BPS2041 Drug delivery and pharmacokinetics	BPS3051 Pharmaceutical product development	BPS3061 Industrial formulation	
Year 3 Semester 2 July	BPS2022 Drug discovery and design **OR** BPS2032 Analytical methods II: Investigation design	BPS2042 Drug development	BPS3052 Applied pharmacokinetics/ dynamics and nanotechnology	BPS3062 Professional experience **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

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:

- * 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.
- CHE4164 and CHE4165 are integrated industrial project units for select students only. The units are undertaken in place of the final year project units ENG4701 and ENG4702. Depending on placement location, you may have to overload a semester or extend an additional semester in order to complete your course.
- 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.