Course progression map for 2019 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 should be used in conjunction with the requirements of the course as specified in the Handbook. This map is subject to updates. Update version: 19 May 2022

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

Engineering specialisation – Chemical engineering

Pharmaceutical science specialisation - Formulation science

| YEAR 1 Semester 1 | 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 | BPS1012 Human physiology I: Body systems | BPS1022 Medical chemistry II: Reactivity and biomolecules | BPS1032 Physical chemistry II: Solutions, surfaces and solids | BPS1042 Pharmacochemical science in context |
| YEAR 2 Semester 1 | ENG1001 Engineering Design: lighter, faster, stronger or ENG1002 | ENG1005 Mathematics for engineering or ENG1003 | Foundation unit or ENG1060 Computing for engineers | CHE2164 Thermodynamics 1 |
| YEAR 2 Semester 2 | ENG1002 Engineering design: cleaner, safer, smarter or ENG1001 | ENG1003 Engineering mobile applications or ENG1005 | CHE2163 Heat and mass transfer | CHE2162 Material and energy balances |
| YEAR 3 Semester 1 | BPS2031 Analytical methods I: Principles and development | BPS2041 Drug delivery and Pharmacokinetics | BPS3311 Industrial formulation | BPS3331 Pharmaceutical product development and manufacture |
| YEAR 3 Semester 2 | BPS2022 Drug discovery and design | BPS2042 Drug development | BPS3322 Drug delivery nanotechnology | BPS3332 Applied pharmacokinetics and pharmacodynamics |
| YEAR 4 Semester 1 | CHE3161 Chemistry and chemical thermodynamics | CHE3165 Separation processes | First Year engineering elective or ENG1060 Computing for engineers if not completed | ENG2005 Advanced engineering mathematics |
| YEAR 4 Semester 2 | CHE3166 Process design | CHE2161 Mechanics of fluids | CHE3162 Process control | CHE3164 Reaction engineering |
| YEAR 5 Semester 1 OR | CHE4164 Integrated industrial project (18 points)
For selected students taking a period of integrated industrial training in their final year.
CHE4164 (18 cp) will be replaced by CHE4164 (6 cp) and CHE4165 (6 cp) from 2022. You must now also complete CHE4161. See footnote. | | ENG0001 Continuous Professional Development (0 credit points) |
| YEAR 5 Semester 1 | CHE4180 Chemical engineering project
Replace with ENG4701.
See footnote | CHE4161 Engineers in society | CHE4162 Particle technology | CHE3167 Transport phenomena and numerical methods |
| YEAR 5 Semester 2 | ENG4702 Final year project B
See footnote | CHE4170 Design project | CHE4171 Biomedical engineering
From 2022, replace with one level 3, 4 or 5 chemical engineering unit from this list below. |

6 CP CORE – LEVEL 3, 4 OR 5 CHEMICAL ENGINEERING UNIT

Due to overlapping contents with BPS1031/BPS1032, CHE2166 or CHE4171 was to be completed in place of CHM1011/CHM1051 (which is a core unit in the chemical engineering specialisation). From 2022, you replace with a unit selected from below:

- CHE3172 Nanotechnology and materials 1
- CHE3322 Advanced biochemical engineering
- CHE5822 Biomass and biorefineries
- CHE5881 Nanostructured membranes for separation and energy production
- CHE5888 Food engineering and processing

Note:
- From 2021, ENG4701 and ENG4702 will replace the 12 credit points CHE4180, therefore extending the final year project over two semesters. Please seek course advice if needed.
- 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.
- All students 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.

Source: Monash University 2019 Handbook – CRICOS Provider Number: 00008C

While the information provided herein was correct at the time of viewing and/or printing, Monash University reserves the right to alter procedures, fees and regulations should the need arise. Students should carefully read all official correspondence, other sources of information for students and the official university noticesboards to be aware of changes to the information contained herein. The inclusion in a publication of details of a course in no way creates an obligation on the part of the university to teach it in any given year, or to teach it in the manner described. The university reserves the right to discontinue or vary courses at any time without notice. Students should always check with the relevant faculty officers when planning their courses. Some courses and units are described which may alter or may not be offered due to insufficient enrolments or changes to teaching personnel.