



UNSW Engineering

Bachelor of Engineering (Honours) (Chemical Engineering)

What do chemical engineers do?

Chemical engineers design, create and optimise the systems and equipment used in chemical, industrial, biological and environmental processes. This work produces everything from fuels and fertilisers to foods, beer and wine, to polymers, pharmaceuticals and safe drinking water. Chemical engineers also design and operate large-scale chemical process equipment and factories, and play an important role in making industries safer, more efficient and sustainable, especially in the current context of climate change.

What will your study involve?

Chemical engineers are among UNSW's most employable graduates, working in many industries. This degree not only provides students with

valuable technical skills, but also the necessary analytical and problem-solving abilities to help them work effectively as part of any team. Another key contributor to employability is the ability to apply and think about systems and processes as a whole. This degree can be studied alone or combined with a second degree.

UNSW Chemical Engineering

- UNSW Chemical Engineering is ranked 2nd in Australia (Academic Rankings of World Universities (ARWU), 2023).
- Close links with key industrial, commercial and professional organisations which allows for exciting and innovative student-led projects and industry-based projects and training
- Hands on lab-based courses in state-of-the-art labs and working on real process equipment.

Program details

Lowest Selection Rank (2025): 92

Duration: four-year embedded honours degree

Study areas: Chemical Engineering, Design of Chemical Reactions, Separations, Fluid Dynamics, Advanced Thermodynamics, Process Safety and Control, Sustainable Process Design, Humanitarian Engineering

Assumed knowledge: Mathematics Extension 1, Physics, Chemistry

Portfolio Entry: UNSW offers the Faculty of Engineering Admission Scheme (FEAS) which is a pathway for students interested in studying undergraduate engineering to support their academic results, find out more at unsw.to/feas

Accreditation

Your Bachelor of Engineering (Honours) degree is recognised globally, is accredited with Engineers Australia and the Institution of Chemical Engineers, the degree is also acknowledged by the Washington Accord, which lets you work in over 20 countries across the globe upon graduation.

Career options

Chemical engineers can pursue careers in a variety of fields including environmental management, clean energy, food and drink production, mining and minerals, oil and gas, paper and packaging, pharmaceuticals, water treatment and recycling. They're also involved in research, from a molecular level right up to full-scale industry.

Student Testimonials

"I wanted to develop a diverse skill set that would be transferable to a wide range of fields and I loved chemistry at school, but how could I apply scientific theory to the real world? When I met the students and professors, and saw the state-of-the-art facilities, I knew UNSW was the place for me."

- Alex Dunn
Chemical Engineering (Honours)

Example Study Plan



Year 1		Year 2		Year 3		Year 4	
Term 1	DESN1000 Engineering Design & Innovation	Term 1	CEIC2000 Materials and Energy Systems	Term 1	CEIC3000 Process Modelling and Analysis	Term 1	CEIC4951 Research Thesis A (4 UoC)
	CHEM1811. Engineering Chemistry 1A		CEIC2001 Fluid and Particle Mechanics		CEIC3004 Process Equipment and Design		CEIC4001 Process Design Project (12 UoC)
	MATH1131 Mathematics 1A <u>OR</u> MATH1141 Higher Mathematics 1A		MATH2089 Numerical Methods and Statistics		CEIC3005 Process Plant Design		
Term 2	ENGG1811 Computing for Engineers	Term 2	CEIC2002 Heat and Mass Transfer	Term 2	CEIC3006 Process Dynamics and Control	Term 2	CEIC4952 Research Thesis B (4 UoC)
	CHEM1821 Engineering Chemistry 1B		CEIC2005 Chemical Reaction Engineering		CEIC3007 Chemical Engineering Lab B		CEIC4000 Environment & Sustainability
	MATH1231 Mathematics 1B <u>OR</u> MATH1241 Higher Mathematics 1B		General Education Course		General Education Course		General Education Course
Term 3	CEIC1000 Sustainable Product Engineering and Design (L1 Elective)	Term 3	CEIC2007 Chemical Engineering Lab A	Industrial Training		Term 3	CEIC4953 Research Thesis C (4 UoC)
	MATH2018 Engineering Mathematics 2D		DESN2000 Engineering Design and Practice				Discipline Elective Course
	PHYS1121 Physics 1A <u>OR</u> PHYS1131 Higher Physics 1A		CEIC3001 Advanced Thermodynamics and Separation				Discipline Elective Course

NOTES

You'll be required to complete 60 days of Industrial Training throughout your degree.

This degree example is indicative only and subject to change at any time without prior notice.

For the latest degree information visit the relevant UNSW Handbook page at www.handbook.unsw.edu.au.

UNSW's new 'flex semester' calendar is scheduled to start in 2028.

For more information see <https://www.unsw.edu.au/academic> calendar project.



Visit the
Degree
Finder page
here!