

Chemical Engineering Specialisation

First Year Study Pathways and Information Guide



What is Chemical Engineering?

Chemical engineering is all about developing processes that turn raw materials into useful, everyday products – with minimal environmental impact

Many of the items chemical engineers have produced we take for granted, such as the food and drinks we enjoy, to the clothes we wear and the energy we use. Chemical engineers work out sustainable processes to make everyday products, while also contributing to managing the world's resources, protect the environment and ensure we create a sustainable future. Chemical Engineering is everywhere, such as:

- Shampoo / hair products
- Toothpaste
- Phone batteries
- Clothing
- Coffee
- Breakfast cereals
- iPad silicon chips
- Ceramic materials
- Metals

What do Chemical Engineers do?

Chemical engineers work out sustainable processes to make everyday products, while also contributing to managing the world's resources, protect the environment and ensure we create a sustainable future.



What You'll Experience

Your learning experiences are designed to best suit the learning outcomes of the courses you choose

- Lectures
- Tutorials
- Work placements
- Overseas study
- Laboratory work
- Fieldwork
- Workshops.

Drawing on detailed process development, modelling and systems thinking, chemical engineers apply new approaches and big-picture thinking to reduce waste and energy consumption.

In this hands-on specialisation you'll explore topics including energy and mass flows, safety and sustainability, and the possibilities of interconnected systems.

You will benefit from the insights and expertise of world-leading researchers and highly qualified academic staff. With practical projects, guest lecturers from industry, internships and placements with leading engineering companies, you will gain the knowledge, skills and industry connections needed to transition from university to the workplace.

First Year

Core Courses



Second Year

You **MUST** declare your specialisation at the start



Third Year

If you're choosing one, start taking your majors courses



Fourth year +

Your major must be declared now, Advanced courses, thesis, capstone etc



Your Final Year

Regardless of specialisation you will do some version of a final year project. This could take the form of:

- Research project
- Thesis
- Design project
- Capstone
- Industry placement

Industry placements can be either self-sourced or sourced by the Faculty. EAIT Employability provides guides for finding placements and work experience, as well as how to prepare for your placement.

Career Possibilities

Our programs prepare you for your first job and beyond. Here are some of the careers you could be on your way to:

- Chemical engineer
- Process engineer
- Service engineer
- Technical manager
- Environmental engineer
- Petroleum engineer
- Materials engineer
- Chemical process engineer

After You Graduate

You'll develop both traditional and emerging skills and expertise to work in a rapidly changing profession

- Benefit from the insights and expertise of world-leading researchers and highly qualified academic staff.
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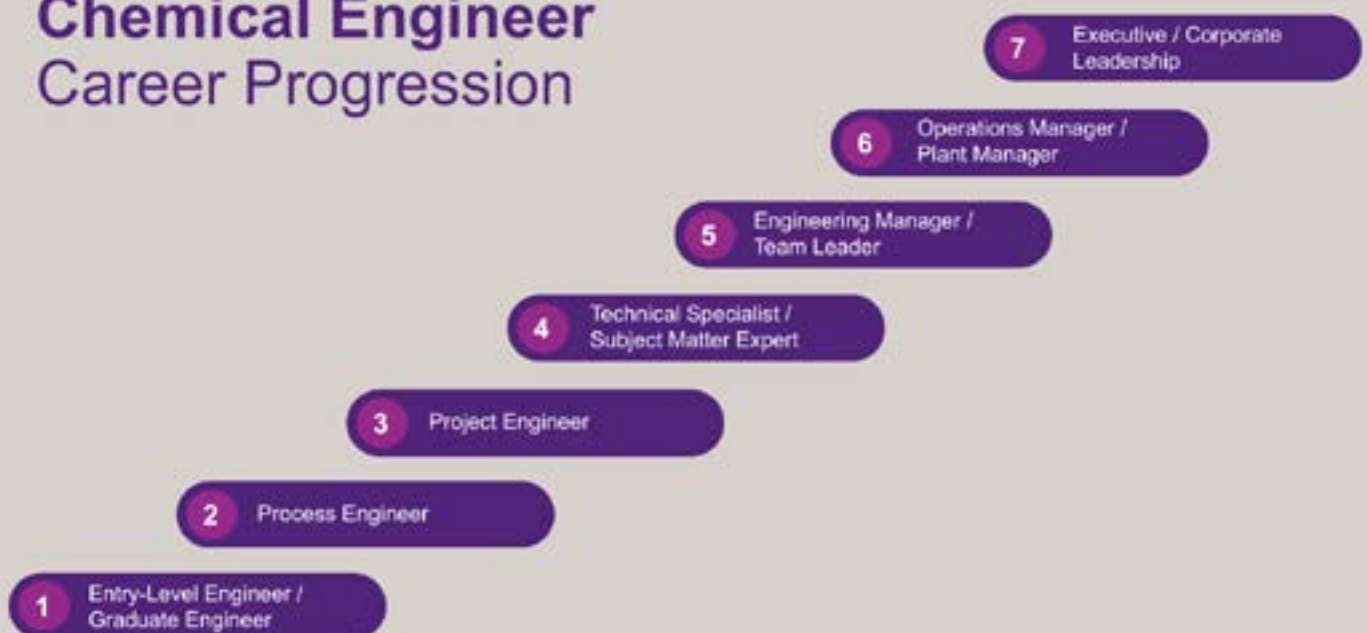
Chemical engineers are employed in environmental protection, management and safety, natural resource use and the energy sector, and petroleum and petrochemical industries. Companies such as Bayer, Unilever, Pfizer, The Dow Chemical Company, Patheon Biologics, Thermo Fisher Scientific, GE Health Care, CSL, Fujifilm Healthcare, Manildra and Dalby Biorefinery employ chemical engineers.

The 2026 Average Annual Salary for Chemical Engineers is between:

\$100K-\$110K

[seek.com.au](https://www.seek.com.au)

Chemical Engineer Career Progression



"As a curious mind who dreamed of creating something that would outlast me, I knew chemical engineering was my obvious path. It has enabled me to turn that ambition into the pursuit of technologies capable of improving the lives of many long after they leave the laboratory."

Sergio Garcia Joya
PhD Candidate,
Doctor of Philosophy,
Bachelor of Engineering (Honours)
/ Master of Engineering (Chemical)

Find Your Community

UQ has 200+ clubs and societies, including groups connected to Chemical Engineering

Student clubs and societies provide a voice for the student community and bring students together through networking and social events. They also provide valuable opportunities to engage with industry, enhance your leadership skills and make long-lasting friendships.

Student societies related to Chemical Engineering include:

- ChESS: Chemical Engineering Student Society
- MAMA: Mining and Metallurgy Association
- Society of Petroleum Engineers – UQ chapter
- Engineers Without Borders UQ
- Engineering Undergraduate Society

Chemical Engineering Study Pathways

Tailor your specialisation in chemical engineering with majors or minors that meet your interests and career goals. Chemical engineering offers these options:

Majors Include:

- No Major
- Biomedical Engineering Major
- Bioprocess Engineering Major
- Environmental Engineering Major
- Metallurgical Engineering Major

Minors Include:

- Artificial Intelligence Minor
- Computing Minor
- Data Science Minor
- Design Minor

Chemical Engineering Study Plans

Here are the resources available to help you plan your degree

There is a specific order that we recommend you take your courses in. These study plans are designed to ensure that you meet your prerequisites and can take the courses in the semester that they are offered.



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For more information

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<https://www.eait.uq.edu.au/study-plans/undergraduate/chemical-engineering>