CHEMICAL ENGINEERING
Nurturing Holistic Engineers, Impacting Lives
What is Chemical Engineering?

NUS Chemical Engineering is a premier chemical engineering programme known globally for its outstanding chemical engineering training, research and thought leadership. Students are groomed to become creative and socially responsible chemical engineers with sound knowledge of the discipline, strong integrative skills and a global outlook.

At NUS Chemical Engineering, we set out to make a difference. We aspire to influence the future by offering students from Singapore and beyond an outstanding global education enhanced by Asian perspectives. We strive to transform students from diverse backgrounds and disciplines into confident global citizens through a well-rounded and holistic university education.

Our programmes nurture intellectual curiosity and cultivate academic rigour, ensuring that our graduates are well-placed for a fast-paced, borderless world. Our education stresses academic rigour, experiential and global learning, and real-world relevance. We prepare students for a dynamic, fast-changing workplace of the future and equip them with the necessary skills, ensuring that they continue to be highly adaptable and sought after by the industry and beyond.
What’s in Store

The four-year B.Eng (Chemical Engineering) programme at NUS educates budding engineers to design, develop and operate chemical processes by which chemicals, petroleum products, food, pharmaceuticals and consumer goods can be produced economically and safely with minimal environmental impact. In addition, NUS Chemical Engineering students acquire the necessary background and skills to design and develop functional products that benefit society in many ways.

Students will also acquire fundamental knowledge and capabilities for:

- Transforming chemical, physical & biological phenomena for the benefit of industry, medicine & environment.
- Creating new materials, devices and drugs.
- Applying lab-scale science to large-scale production.

Through the four-year programme, NUS Chemical Engineering students will develop:

- Strong foundation in basic sciences and core chemical engineering (mass and energy balances, thermodynamics, fluid mechanics, heat and mass transfer, reaction engineering, separation processes, process design and control).
- Capabilities to solve challenging industrial and cutting-edge research problems through a multi-faceted education.
- Critical analysis skills, coupled with an ability to develop innovative solutions and learn independently.
- Effective communication skills.
Career Prospects

Chemical engineers are critical to the development of new technologies in robust and vibrant chemical and pharmaceutical industries.

With changing societal demands for more environmentally conscious processes and socially responsible business practices, chemical engineers play an important role in providing solutions to more efficient use of resources and production of safer and greener products.

Our graduates have found employment in chemical, petroleum refining, petrochemical, semiconductor/electronic, bio/pharmaceutical and related industries. Some examples are:

- ExxonMobil
- GSK
- JGC
- Merck Sharp & Dohme
- Micron Semiconductor
- Shell Eastern Petroleum
- SOXAL
- Sulzer Chemtech
Words from our Graduates

My chemical engineering education at NUS provided me with a solid grounding for current demands in the industry. I find courses like process control, process safety and process modeling highly relevant to my work demands in modeling and simulating waste-to-energy processes.

Through a design project, there was also an opportunity to be involved in all processes related to the design of a plant (process design, process simulation, HAZOP, economic analysis, etc), all of which are tasks I’m required to perform on a day-to-day basis at work.

Ong Gim Hoe, Class of 2012
Senior Engineer, STSE Engineering Services, ST Marine

The undergraduate and post-graduate programmes at NUS Chemical Engineering equipped me with necessary skills invaluable to my working career - project management, presentation techniques, analytic skills and chemical engineering concepts.

NUS Engineering educators are dedicated to ensuring that all graduates are well-prepared to enter the workforce. Needless to say, the time spent in NUS was indeed enriching and fulfilling.

Lee Su-Qin Elaine, Class of 2007
Utilities Commercial Specialist, ExxonMobil Asia Pacific

My chemical engineering education at NUS gave me the foundation to apply a range of skills in my daily work, from technical knowledge in assessing risks to project management in working effectively.

The international exposure I gained at NUS Engineering imparted me with stakeholder engagement and influencing skills; these are especially valuable in working with different people from diverse backgrounds and cultures in a multinational company.

I really appreciate all the dedicated faculty members for their patient guidance during my undergraduate days, as well as the student clubs and activities, which added much colour to my undergraduate life!

Ng Yichun, Class of 2014
Coordinator, Health, Safety, Security and the Environment, Shell Chemicals Singapore