QUEEN'S UNIVERSITY BELFAST

CHEMICAL ENGINEERING

A UNIQUE LEARNING ENVIRONMENT
The UK's first joint School of Chemistry and Chemical Engineering.

EMPLOYABILITY AT THE CENTRE
Extensive network of industrial collaborations and placement opportunities.

AT THE FOREFRONT OF CURRENT DEVELOPMENTS
Sustainable energy, renewable resources and future-proof solutions to global challenges.

SHAPING A BETTER WORLD
SINCE 1845

CHEMICAL ENGINEERING

Why study Chemical Engineering?

Chemical Engineers are at the forefront of scientific and technological developments; without them we wouldn't have clean drinking water, petrol, antibiotics, or energy to power our world. As well as designing, constructing and operating chemical processes to create products we depend on every day, chemical engineers are tackling some of the world's most urgent problems. They are working to develop sustainable solutions to energy generation, clean water supply, food production and plastic recycling, among other global challenges.

As a Chemical Engineering student, you'll use chemistry, mathematics, biology and physics to understand the world on a molecular level. The subject also overlaps with mechanical, electrical and civil engineering with the design, development and operation of chemical plants.

Course Director
Dr Chunfei Wu

Who will be teaching you?

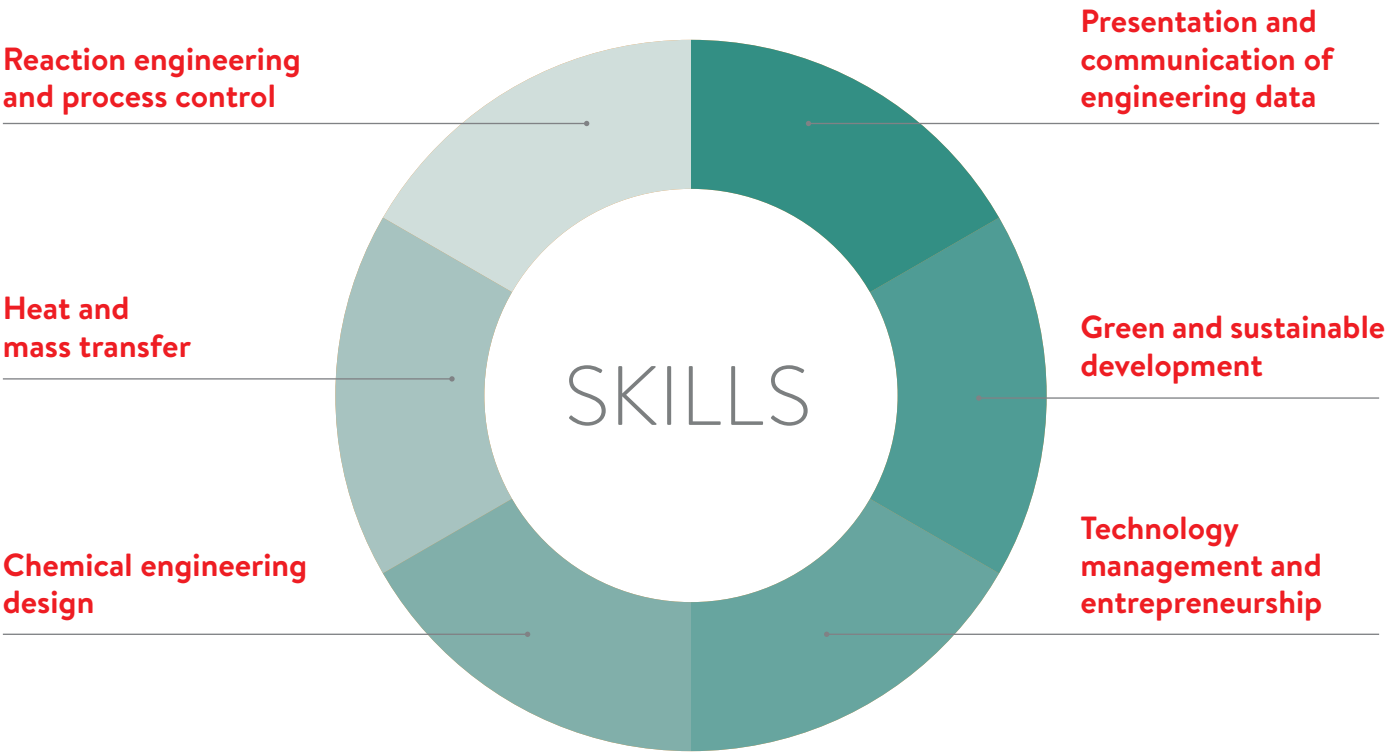
Queen's boasts the UK's first School of Chemistry and Chemistry Engineering, where a team of inspirational academics and world-leading researchers will guide you through your studies. In the most recent Research Assessment Exercise, 80% of the research carried out at the School was deemed internationally excellent or world-leading. This excellence in research informs excellence in teaching, meaning that the latest thinking in the laboratory will be delivered to your lectures.

Your study options

Our degree programmes are modular and provide a thorough training in a range of engineering, chemistry and science modules, which reflects the growing need for chemists and engineers to work together, communicate and understand each other. There's a choice of six modules (or the equivalent in half modules) each year, and a defined pathway to obtain professional accreditation. You'll have the opportunity to tailor your studies as your strengths and interests develop, for example, first year students have the unique opportunity to switch between Chemical Engineering and Chemistry (providing they have the appropriate A-levels). In tandem with subject-related learning, you'll develop numeracy, problem-solving, communication and information-retrieval skills which can be transferred to a range of career paths.

Our pathway options offer you the flexibility to choose the right direction for your future career and include Chemical Engineering with a Year in Industry, which incorporates a placement year with a top employer, such as BP Chemicals, Pfizer or P&G. In addition, we offer opportunities to study abroad through the Erasmus exchange programme and Study USA, as well as exchanges with Chalmers Technical University in Gothenburg,

WHAT YOU'LL LEARN



Sweden, and with Delft Technical University in the Netherlands.

There are two honours degree structures available: BEng and MEng. Many of the elements of the BEng are in common with the MEng programme, and you'll have the opportunity to transfer between the two pathways, subject to meeting the appropriate programme requirements at the end of Stage 2.

Our subject areas

BEng Honours (Chemical Engineering)

Stage 1: Students take several modules in Chemical Engineering modules as well as in Chemistry, Mathematics and Electrical Engineering.

Stage 2: Students extend their knowledge of Chemical Engineering and study associated subjects such as computer-aided design and applications, laboratory practice, and professional studies.

Stage 3: Comprises more advanced Chemical Engineering modules, various modules covering aspects of management and professional studies, an in-depth design project and an optional research project.

MEng Honours (Chemical Engineering):

Stage 4: MEng students take a fourth year, when they study research-led modules in advanced Chemical Engineering and specialist topics such as analysis and computer simulation of advanced chemical processes, energy and quality management, and safety and environmental management. There are further professional studies modules involving an entrepreneurial project in this year, and a major industrial project.

Industrial placement: Students have the opportunity to take a placement year in industry in one of the globally leading UK or European based companies the School collaborates with. This is normally the penultimate year of your study.

Practical skills: Practical work is essential to your training in this laboratory based subject area, and Queen's offers well-equipped laboratories and state-of-the-art instruments, along with excellent computer facilities. You will spend a substantial part of your degree developing technical skills and applying the theory from your lectures to real-life or practical contexts in a bright teaching laboratory setting.

AFTER GRADUATION

"I completed a BEng in Chemical Engineering sandwich degree, this meant I spent a year working in a large pharmaceutical company. This work, paired with other summer research placement I undertook during the course of my degree encouraged me to start a PhD also within the school. I am now final year PhD, with the focus of my research being on drug delivery. The degree itself prepared me not only for life in industry but also for life in academia. There are many additional opportunities within the school too, to work and study abroad for example. I, myself have lived abroad in China whilst studying."

Natasha McKee

Professional recognition

Our degrees are accredited by the Institution of Chemical Engineers and students also have the opportunity to submit a portfolio for the City & Guilds Licentiateship Award.

As such, we equip our students with work-ready skills that employers require including problem-solving and investigative skills, as well as communication and numeracy skills.

Our employer links help our students secure industry placements ranging from a few weeks work experience to full year internships. Our students recently spent time working in industry for pharmaceutical companies such as Eli Lilly, Pfizer, Almac and Randox, as well as a variety of other high-profile employers such as Seagate.

Your career prospects

As well as opening the doors to roles in the energy, chemical and pharmaceutical industries, studying for a degree in Chemical Engineering at Queen's will assist you in developing the core skills and employment-related experiences that are valued by all types of employers, professional organisations and academic institutions. You could go on to work in manufacturing, healthcare, design and construction, pulp and paper, food processing, electronics and advanced materials, polymers, business services, biotechnology, and environmental health and safety industries, among others.

We support the development of transferable skills such as numeracy, problem-solving, communication and information retrieval, giving students an edge in the employment market.

We have close working relationships with a large number of employers including Eli Lilly, Invista, Seagate, and Johnson Matthey. Through our Industrial Advisory board, such industry leaders advise us on course content and provide input to research projects.

Our graduates are well regarded by many local, national and international employers and past graduates have entered careers in a wide variety of fields, including the pharmaceutical and fine chemical industry, the forensic services, publishing, marketing, teaching and the financial services. Further study is also an option – graduates can choose one of our Master's programmes, as well as a comprehensive list of research topics; see the School website for further information.

As the world's population swells, chemical engineers are increasingly needed to help sustain modern society, and a degree in Chemical Engineering at Queen's can open up a world of career opportunities across a range of industries including pharmaceuticals, petrochemicals, manufacturing, food and drink industries, water purification and sustainable energy generation.

Awards and rankings

We're ranked in the top 200 Chemical Engineering degree courses in the world (QS World Rankings by subject 2019) and we're joint 6th in the UK for Graduate prospects in Chemical Engineering (Complete University Guide 2019), so there's no better place to study this enthralling subject. The School has also been awarded the prestigious Athena SWAN Silver award in recognition of its work to support women in science.

To discuss your options in more detail or if you have any questions contact:

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FIND OUT MORE ABOUT OUR CHEMICL ENGINEERING COURSES:

http://go.qub.ac.uk/chemicalengineering

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FACULTY OF ENGINEERING AND PHYSICAL SCIENCES