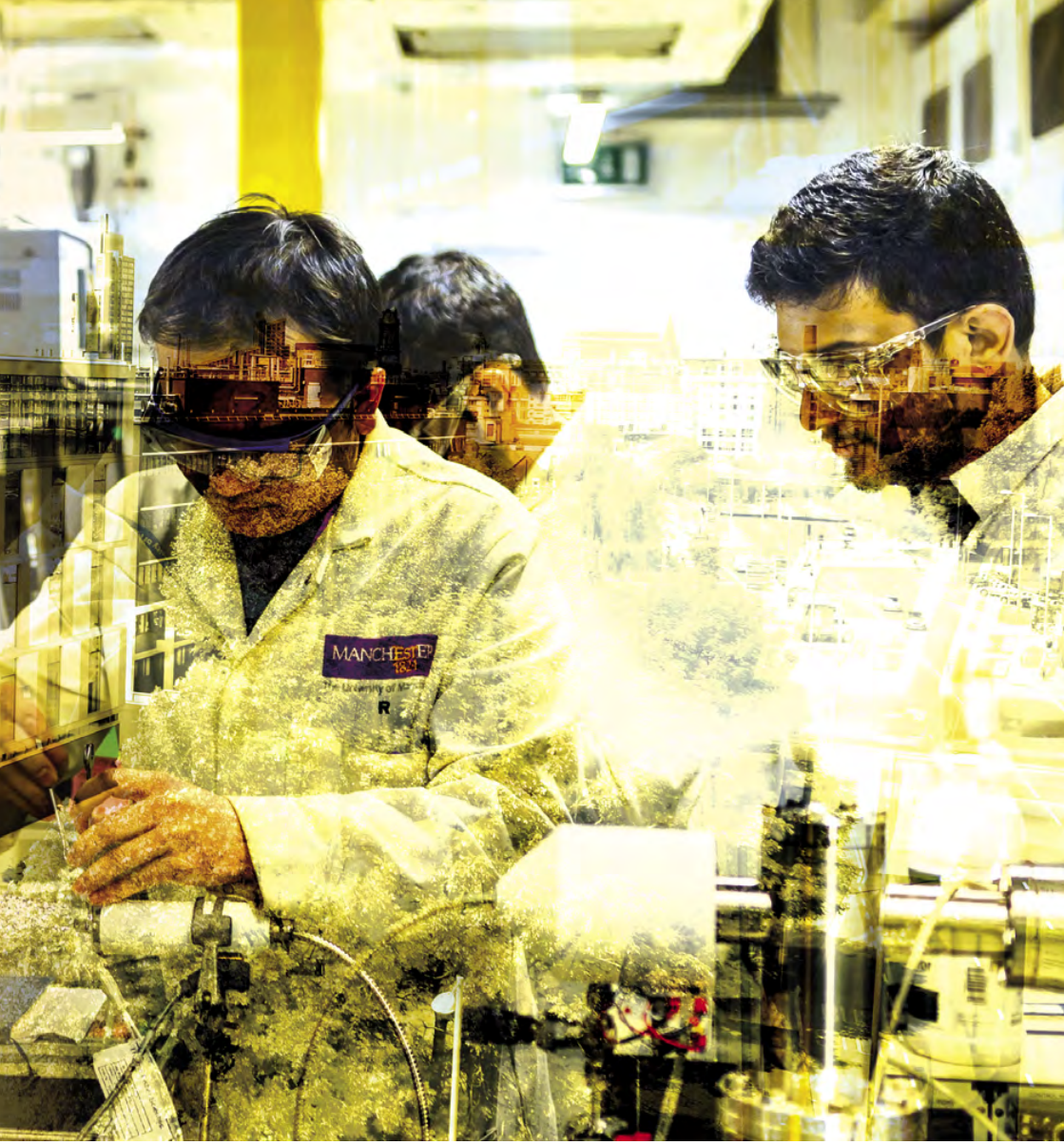
MANCHESTER 1824

The University of Manchester

Chemical Engineering

UNDERGRADUATE BROCHURE



Sometimes called 'process' or 'manufacturing' engineering, Chemical Engineering is concerned with the processes needed to carry out molecular transformations at a large scale. We take raw materials and, through our understanding of the underlying engineering and scientific principles, turn them into useful products via chemical and biological reactions. Without chemical engineers, we wouldn't have chocolate, painkillers, plastics, antibiotics, paper, ink, detergents, petrol, paint, or toothpaste.

Sustainability underpins our philosophy across teaching and research, as we continuously look to ways to improve process design, innovative manufacturing, life cycle sustainability assessment and optimisation, clean and clean-up technologies and the sustainable use of natural resources.

Why Manchester

Manchester is the birthplace of chemical engineering, and we continue to excel in its teaching and research.

We are ranked 5th in the UK for chemical engineering and 8th in Europe. (QS World University Rankings 2021)

Add an extra dimension to your degree and an experience to remember, by studying overseas and taking advantage of our strong links with international universities across the world.

All of our programmes are accredited by the Institution of Chemical Engineers (IChemE), meaning your education will equip you to graduate with an industrially recognised degree.

Read more about why Manchester should be your first choice uom.link/ug-ce-why-mcr

"It s in the makerspace that we come together, and our ideas come to life! You can tell it s designed with Engineering and Materials students in mind, because it s the perfect place to collaborate, connect, and create with each other!"

Olivia Del Pino Herrera, Engineering Student

Our campus

Come to our new home for Engineering and Materials; a place like no other. This is where engineers, material scientists and fashion students collaborate, innovate and make their mark on the world. Unleash your potential in our creative, academic playground that signals the evolution of a proud history of innovation spanning almost 200 years.

In this very special place, we're ripping up the rule book, offering you a truly innovative teaching and learning experience. As well as our creative classrooms, you'll also have access to world-leading sustainable research facilities. There are a world of possibilities, whether you are interested in aerospace, robotics, or sustainable fashion, there's a home for you here.

Manchester is synonymous with the Worker Bee and our Makerspace will be the hive of activity. It's led by students, for students, as the place to connect and tackle real-life challenges together with support from across our disciplines.

Our new home for Engineering and Materials is equipped and ready for students to unleash their potential.

uom.link/ug-ce-campus

Our courses

Chemical Engineering BEng

Chemical Engineering MEng

Chemical Engineering with Energy and Environment MEng

Chemical Engineering with Industrial Experience MEng

Chemical Engineering with Study in Europe MEng

Chemical Engineering with an Integrated Foundation Year

FLEXIBLE OPTIONS

The first two years are the same across our programmes, making it easy to switch during your studies, subject to grade requirements. Our MEng programmes give you the opportunity to specialise in an advanced area of your choosing including energy, separation and modelling, allowing you to dig even deeper into the theme that interests you most. The MEng programmes also give you the opportunity to complete a research project with one of our leading academics or a dissertation as part of your industrial placement.

FOUNDATION YEAR AVAILABLE

You can prepare for the full degree course if you do not have the appropriate qualifications for direct entry by undertaking our foundation course first.

Find out about the different courses and options on offer on our department website: uom.link/ug-ce

What you'll learn

Our Chemical Engineering courses combine expertise in multiple areas, from the intricacies of physical and life sciences, to the technological skills of computer modelling and electronics, with the aim of managing the behaviour of materials and chemical reactions.

This means we are predicting and manipulating compositions, flows, temperatures, and pressures of solids, liquids and gases, in order to produce our desired products.

You will discover how to understand and describe chemical, physical and biological processes using mathematical equations, as well as getting hands-on experience of using the equipment and techniques applied in industry for large-scale safe and sustainable manufacturing.

You will develop skills that will be invaluable for you in your future career, such as teamworking, problem-solving, presentation and communication, and the use of information technology.

How does this link to what you have already been studying? From physics and mathematics at school you will have learnt about basic heat transfer (such as conduction, convection and radiation), and calculations of momentum and motion. From chemistry, you will probably have experimented using filtration and distillation which are the foundation of a number of process operations. You may also have studied gas laws and factors influencing reaction rates. All of these feed into what you will be learning in depth as a Chemical Engineer.

Special features

INDUSTRIAL EXPERIENCE

Our Chemical Engineering with Industrial Experience course involves spending a year working in industry during your third year of study. You will expand the breadth and depth of your chemical engineering knowledge through a work placement, combined with distance learning and writing a dissertation based on the skills you acquire. As well as the salary that you will earn on placement, you also gain practical experience that can be invaluable, both in your final-year project and when applying for graduate jobs.

STUDY IN EUROPE

Our Chemical Engineering with Study in Europe course gives you the opportunity to study a modern language alongside chemical engineering before spending a year at one of our partner universities in the third year – an experience that can boost your prospects in the job market and give you a new perspective on your subject area. There are also study abroad options for second-year students on other courses.

FACILITIES

We are home to an extensive range of laboratory space, dedicated computer suites and a pilot scale area containing a range of large-scale industrial processing equipment, all housed in our £12 million James Chadwick Building. This development is one of the largest and best equipped of any European university.

OUR STUDENT COMMUNITY

Manchester's Chemical Engineering society is run by our students and is the hub of our flourishing social and sporting activities. The society organises many events throughout the year, including nights out, balls and the infamous Frank Morton!
uom.link/ug-ce-student-union

Read more about our department, students' experiences and our alumni (and where they are now) in our blog:
uom.link/ug-ce-blog

Discover what life as a chemical engineering student is like with our virtual tour:
uom.link/ug-ce-virtual-tour

Open days

The University holds undergraduate open days regularly where you have the opportunity to find out more about our courses, the support we offer and see our facilities. Attending an open day is a great way to find out what studying at Manchester is like and to hear from our staff and students.

For information about our open days visit:
uom.link/ug-ce-open-days

"My industrial placement helped me in my university work as well as making decisions regarding my future career. The experience of technical report writing, design calculations and project work provided a good foundation of knowledge and improved confidence in completing my design project. It also enhanced my transferable skills which have been vital to group work"

Fleur Hodges / MEng Chemical Engineering with Industrial Experience

Read more about Fleur's industrial experience: **uom.link/ug-ce-fleur**

Employability and careers

Our graduates are highly sought after and a chemical engineering degree from Manchester can be your ticket into any number of industries. Our graduates have progressed to careers across a range of sectors including; food and drink, chemicals, oil or gas, pharmaceuticals, fast-moving consumer goods, energy generation and waste treatment.

The roles our chemical engineering graduates take on vary hugely. These include product design, research and development, project management and manufacturing; but, they also work beyond chemical engineering in finance, teaching, consulting and IT. Chemical engineering can open up a range of career opportunities - and your job could take you anywhere in the world.

As the number-one most targeted university by top employers in 2022, you can enjoy a world of opportunities when you graduate from The University of Manchester (The Graduate Market in 2022, High Fliers Research).
uom.link/ug-ce-highfliers

WHAT OUR GRADUATES DO

- Site Engineer
- Process Engineer
- Data Analyst
- Low Carbon Technologies Engineer
- Project Manager
- Safety Consultant
- Site Manager

WHERE OUR GRADUATES WORK

- Pfizer
- Barclays
- Unilever
- Siemens
- Exxon Mobil
- Air Products
- Shell
- Tesco
- BP

Find out about the careers opportunities the University and our department offer, so that you graduate with a range of skills and experience: uom.link/ug-ce-careers

Get in touch

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Royal Charter RC000797

DISCLAIMER
This brochure was produced in 2022. It has therefore been produced in advance of course starting dates. For this reason, course information, including course content, may be amended prior to your applying for a place on a course of study. There are a number of reasons why changes to course information and/or published term dates may need to be made prior to your applying for a place on a course. These may include, but are not limited to: the need to make reasonable changes to the content and teaching offered in relation to any course for operational and/or academic reasons; the withdrawal of courses due to insufficient numbers; a course not receiving the required accreditation; and/or interruption or loss of key services due to circumstances beyond our control, including fire, flood or other operational issues. **Prospective students are therefore reminded that they are responsible for ensuring, prior to applying to study at The University of Manchester, that they review up-to-date information by searching for the relevant course at uom.link/fse-ug-courses**

STUDY ABROAD/INDUSTRIAL EXPERIENCE DISCLAIMER
Some aspects of the study abroad/industrial experience programmes may continue to be impacted by the COVID-19 pandemic. The situation is fast-moving and dynamic and may require adjustments at short notice.
For up-to-date information please visit: uom.link/fse-ug-study

FIELDWORK DISCLAIMER
The Department aims to run advertised fieldwork and we very much hope that students will be able to enjoy the fieldwork experience in the usual way. The ability of fieldwork to proceed, and whether any changes to proposed fieldwork might be necessary, will remain subject to COVID-19 restrictions and based on the U.K. government guidelines. We will therefore assess on a regular basis the viability of any travel and fieldwork and communicate any decisions to our students at the earliest possible opportunity.