



Advanced Chemical Engineering MSc

www.cranfield.ac.uk/ace



Learn from net-zero chemical engineering experts who are decarbonising industry one reaction at a time

Chemical engineers and chemical engineering play a pivotal role in net zero energy transition and the future of the planet, alongside mitigating the impact of traditional oil and gas. Chemical engineers possess the unique set of skills to imagine, design, optimise and commercialise such innovative technologies in the drive to achieve net zero.

Whilst studying with us, you will experience our applied approach to learning. Using our pilot plant facilities and benefiting from Cranfield's strong industry links, you will gain the essential skills and experience to develop a successful career in a thriving discipline with its high demand for postgraduate level engineers. You will also benefit from professional development, career mentoring and teamwork to transform you into an engineering leader who will solve global challenges.

Who is it for?

A distinguishing feature of this course is that it is not exclusively designed for chemical engineering graduates. Suitable for all engineering and applied science graduates, this MSc will provide you with the skill sets that employers actively seek in highly desirable engineering graduates, enabling you to embark on a successful career as a chemical engineering professional in industry, government or research.

Your career

The Advanced Chemical Engineering MSc has been developed based on Cranfield's industry-driven research, which makes our graduates desirable by companies competing in a range of industries, including conventional and clean energy, materials, environments, biorefining, biochemicals, petrochemicals, waste management and consultancy and management.

Those wishing to continue their education via PhD or MBA studies in the chemical or energy sectors will be well-prepared by the interdisciplinary, project-oriented profile that they will have acquired throughout this course.

Overview

Start date

Full-time: October. Part-time: October

Duration

One year full-time, two-three years part-time

Qualification

MSc, PgDip, PgCert

Study type

Full-time / part-time

Structure

Taught modules 40%, group project 20%, individual research project 40%

Campus

Cranfield campus

Entry requirements

A first or second class UK Honours degree (or equivalent) in a related engineering or applied science. Other recognised professional qualifications or several years relevant industrial experience may be accepted as equivalent; subject to approval by the Course Director.

Applicants who do not fulfil the standard entry requirements can apply for the pre-master's course, successful completion of which will qualify them for entry to this course for a second year of study.

Fees

Please see www.cranfield.ac.uk/fees for detailed information about fee status, full-time and part-time fees as well as deposit requirements and bursary and scholarship information.

Course details

The taught programme is delivered from October to February and is comprised of eight modules.

The modules, except Research Methods for Chemical Engineering, are taught mainly over two weeks, with the assignment completed during that period. The first week is mainly allocated to structured teaching, with the following week largely free of structured teaching to allow time for more independent learning, reflection, and completion of assignments. Research Methods for Chemical Engineering module is delivered over six weeks.

Modules

Keeping our courses up-to-date and current requires constant innovation and change. The modules we offer reflect the needs of business and industry and the research interests of our staff. As a result, they may change or be withdrawn due to research developments, legislation changes or for a variety of other reasons. Changes may also be designed to improve the student learning experience or to respond to feedback from students, external examiners, accreditation bodies and industrial advisory panels.

To give you a taster, we have listed below the compulsory and elective (where applicable) modules which are currently affiliated with this course. All modules are indicative only, and may be subject to change for your year of entry

Compulsory modules

All the modules in the following list need to be taken as part of this course.

Advanced Reaction Kinetics for Energy

Research Methods for Chemical Engineering

Separation and Purification Design

Biofuels and Biorefining

Applied Thermochemical Pilot Design

Engineering Project Management

Elective modules

Select one from the list below

Bioprocess Engineering

Thermal Systems Operation and Design

Process Instrumentation and Control Engineering

"During a module, we learned about the combustion process of coal and other biomass feedstocks and were able to carry out a pilot-scale test in the laboratory. Then, we visited the biomass power plant at Cranfield to see the system that provides heating for our campus, to really see theory in practice."

Siqi Wang

Advanced Chemical Engineering, 2019

Accreditation

The MSc of this course is accredited by The Energy Institute.



Class profile 2022/23

Gender:

Male 70% - Female 30%

Age range:

20 - 49 years

Nationality

UK: 20% - International: 80%

Class size:

20

For more information contact our Admissions Team:
T: +44 (0)1234 758082

Visit campus for yourself and meet current students and our academics at our next Open Day:
www.cranfield.ac.uk/openaday

February 2024

Every effort is made to ensure that the information provided here is correct at the time it is published. Please check our website for the latest information.