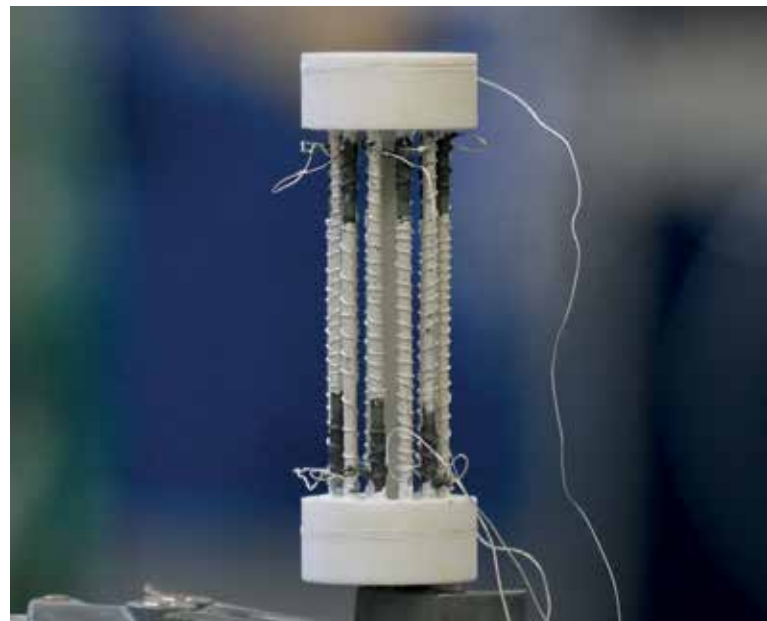




UNIVERSITY OF
BIRMINGHAM

SCHOOL OF
CHEMICAL
ENGINEERING



ADVANCED CHEMICAL ENGINEERING

MSc/PGDip

With pathways in Bioprocessing, Energy,
Formulation and Healthcare Technology

Advanced Chemical Engineering

MSc/PGDip – with pathways in Bioprocessing, Energy, Formulation and Healthcare Technology

Chemical engineering is dynamic and evolving, and today extends far beyond its roots in oil and gas processing. It provides solutions to problems facing many manufacturing sectors, such as food, pharmaceuticals, healthcare, biotechnology, energy and fast-moving consumer goods.

The School of Chemical Engineering at the University of Birmingham focuses on research in three areas, answering three major questions of global importance:

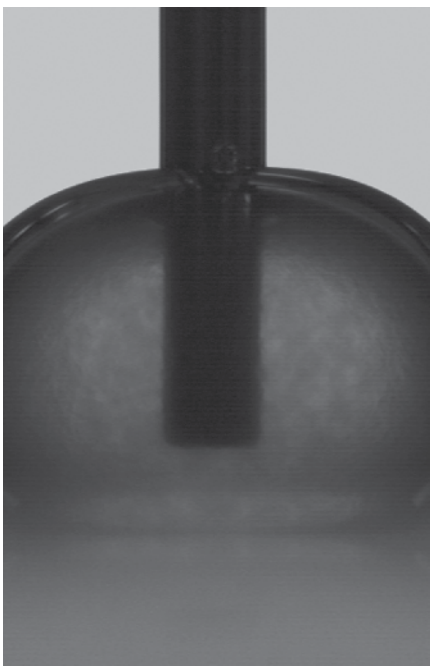
- **Formulation Engineering** – How can we develop and produce formulated products such as food or pharmaceuticals with novel properties in a sustainable manner?
- **Energy** – How can we reshape energy supply and storage in a sustainable way?
- **Healthcare Technology** – How can we maintain a healthy aging population?

These programmes focus on exploring the key aspects of chemical engineering that we can use to answer these questions.

Core modules will give you an in-depth understanding of advanced chemical engineering principles and concepts relevant to multiple application areas. The wide range of optional modules will allow you to develop expertise in specialist areas. We also offer pathways in bioprocessing, energy, formulation or healthcare technology that allow you to focus on a specific area, giving you a degree with a more specialised title.

The research project (MSc only) will allow you to undertake independent research with world-leading research teams within the school.

Our graduates are well prepared for a career in a variety of industries and have an opportunity to capitalise on the growing global demand for chemical engineers in many sectors.



PROGRAMME STRUCTURE

The MSc programmes are one-year full time courses or can be taken part-time over two or more years. Taught modules are delivered in semesters 1 and 2. The programmes start with an introductory 10-credit module to introduce material that will be encountered in the programme. This is followed by 50 credits of multidisciplinary core modules that cover advanced concepts in chemical engineering that are relevant to multiple sectors.



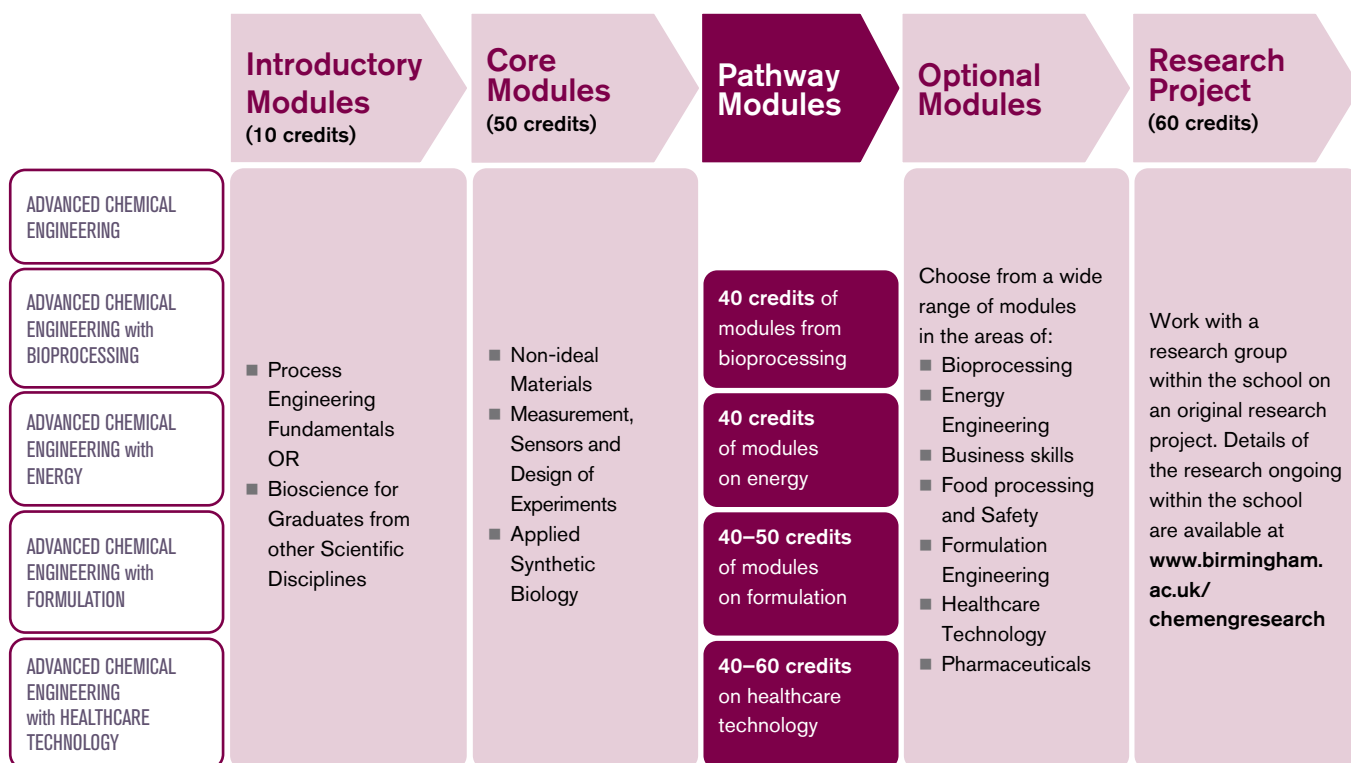
The core modules are followed by optional modules in multiple diverse areas, reflecting the expertise of the School. The programmes are designed to allow you to customise your learning experience and topics studied, to reflect your interests and next destination. The Advanced Chemical Engineering programme allows the most diversity, with students choosing 60 credits of optional modules from multiple themes.

The pathway programmes (Advanced Chemical Engineering with bioprocessing, energy, formulation or healthcare technology) are more specialised; each has at least 40 credits of pathway modules that allow you to focus in a specific area, while allowing you to choose some complementary optional modules.

Finally, in the summer, Masters students undertake an original research project, working closely with a research group within the school.

This allows you to consolidate your knowledge in a practical setting and develop practical research expertise. This brings the total credits for the MSc to 180.

Teaching is delivered in a mixture of lectures, seminars and tutorials, with electronic support via our online learning environment. Some modules are delivered mainly in an online format. Modules are assessed by a mixture of examination, written coursework, and presentations.



Please note that optional modules are subject to change. For a full list of the available optional modules and module contents, please visit www.birmingham.ac.uk/adv-chemical-engineering

WHY BIRMINGHAM?

Birmingham has been challenging and developing great minds for more than a century. With over 35,000 students and 7,000 staff, today we are one of the world's leading universities.

Characterised by a tradition of innovation, research at the University has broken new ground, pushed forward the boundaries of knowledge and made an impact on people's lives – a tradition that these programmes proudly continues.

Enhance your professional prospects

There is a great demand for chemical engineers in industry worldwide. These courses give you a professional basis for a career in a variety of industries.

Our Careers Network offers a range of events and support services designed to help you maximise your employability: from networking opportunities and career coaching workshops, to our effective-careers-strategy toolkit and one-to-one guidance.

We also offer subject specific careers consultants and advisers for each college and a dedicated careers website for international students.

Graduates from the Advanced Chemical Engineering programme have gone on to work in industry in a variety of sectors and roles, from R&D to process engineering, and further study in academia.



Some of the key features of these programmes include:

- Teaching is led by our world-leading research in chemical engineering
- Allows students to gain an understanding of the fundamentals of advanced chemical engineering underlying formulated product development and manufacture
- Students can specialise in one specific area on a pathway programme, or select from a wide range of options to tailor their learning experience
- Students work within research groups on an original research project
- The programme is current seeking re-accreditation from IChemE



LEARN MORE

For full module information and an online application form, please visit our dedicated web pages, or contact our programme staff with your questions.

Tel: +44 (0)121 414 5329
Email: m-sc-admis-chem-eng@bham.ac.uk
www.birmingham.ac.uk/adv-chemical-engineering

This leaflet was written several months in advance of the start of the academic year. It is intended to provide prospective students with a general picture of the programmes and courses offered by the School. Please note that not all programmes or all courses are offered every year. Also, because our research is constantly exploring new areas and directions of study some courses may be discontinued and new ones offered in their place.

Please note the information in this leaflet is correct at time of publication but may be subject to change (November 2019).



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