1495 UNIVERSITY OF ABERDEEN

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GO BEYOND BOUNDARIES

School of **Engineering**

Chemical Engineering

UNDERGRADUATE GUIDE

1ST IN SCOTLAND FOR GENERAL ENGINEERING

Complete University Guide 2024

Why Study Chemical Engineering?

Chemical engineering at Aberdeen focuses on developing more sustainable way of manufacturing the products we use every day while addressing the global challenges of climate change, energy, sustainability, and human health.

Chemical engineers play a crucial role in enhancing our quality of life by developing affordable medicines, researching new sources of clean energy, protecting the environment, and helping ensure access to clean water and healthy food to people around the world.

The University of Aberdeen is internationally recognised as leading centre for chemical and process engineering. You will be taught by world-leading experts in areas including low carbon energy sources, renewable materials and sustainable processes and gain valuable insights into the latest tools, systems, and technologies used to promote sustainable manufacturing practices.

The School of Engineering has completed a major programme of refurbishing and upgrading the teaching facilities which included the addition of several new dedicated chemical engineering laboratories and the development of state-of-the-art computing & learning spaces.

Industry Links and Employability

According to the Royal Academy of Engineering, Aberdeen is one of 13 engineering hot spots in the UK with over 8,000 engineering businesses across the city and surrounding region.

The School of Engineering has strong links with industry, including local, national and international organisations, who support our teaching through guest lectures and seminars, placement opportunities, site visits and scholarships.

Chemical Engineering Degree Programmes

BEng (4 Years)
BEng Chemical Engineering

MEng (5 Years)
MEng Chemical Engineering

Find out more at
www.abdn.ac.uk/study

Accreditation
Our degrees are accredited by the Engineering Council and are your first step towards achieving Chartered Engineer status with the Institution of Engineering and Technology (IET). Our Chemical Engineering degrees are also accredited by the Institution of Chemical Engineers.

Valyla Rodrigues
MEng Chemical Engineering

I undertook a group project with Micropack Fire and Gas. Our project was to design an enclosure for a flame detector. I really liked that we had a physical model to design and not just do research like the other groups. I appreciated how this experience allowed us to relate to our degree, for example we had the opportunity to use software in creating a design where we used CAD and Granta Edupack, which was taught to us in first year. I liked that this experience was very professional and would allow us to use this in our later years at university. I also really appreciate that the University of Aberdeen provides various clubs and societies, to help students develop a good work life balance.

Chemical Engineering Society

The University of Aberdeen Chemical Engineering Society is a student-run group for both professional and social events. They have a wide range of activities to suit your interests.

You can learn more about the Society at
facebook.com/groups/ABDNChemEng

What You'll Study

This is an example course list for the four-year BEng and five-year MEng degrees in Chemical Engineering. For full details of our various degree programmes, please refer to the relevant pages on our online prospectus at **www.abdn.ac.uk/study**

Year 1
- Principles of Electronics
- CAD and Communication in Engineering Practice
- Circuit Analysis and Design
- Engineering Mathematics 1
- Fundamentals of Engineering Materials
- Fundamental Engineering Mechanics

Year 2
- Fluid Mechanics and Thermodynamics
- Design and Computing in Engineering Practice
- Process Engineering
- Engineering Mathematics 2
- Electrical and Mechanical Systems
- Electronic Systems

Year 3
- Chemical Thermodynamics
- Heat, Mass and Momentum Transfer
- Fluid Mechanics
- Chemical Reaction Engineering
- Separation Processes 1
- Process Modelling
- Chemical Engineering Design
- Engineering Analysis and Methods 1A
- The Engineer in Society

Year 4
- Process Safety
- Process Control
- Biochemical Engineering
- Separation Processes 2
- Individual Project (MEng/BEng)
- Group Design Project (BEng)

Year 5 (MEng only)
- Upstream Oil and Gas Processing
- Computational Fluid Dynamics
- Air and Water Pollution Control
- Process Plant, Equipment and Operations
- Mathematical Optimisation
- MEng Group Design
- Three elective courses from a range of options

Our Experts

Dr Marcus Campbell Bannerman

Programme Leader, Chemical Engineering

My favourite quote about engineering is "Scientists study the world as it is, engineers create the world that never has been". You should study engineering because you want to make new things where only science can give you the understanding how. Chemical engineering is about making everything where reactions or chemical interactions take place, from generating energy to making chocolate.

Prof Davide Dionisi

Personal Chair, School of Engineering

Engineering and chemical engineering are essential parts of our everyday life, from the construction industry (e.g. buildings and roads) to the furniture, food and energy industries, just to make a few examples. Nowadays, our society faces many sustainability challenges, e.g. climate change, dwindling fossil fuels, uneven distribution of resources, sanitation, and engineering is part of the solution for all of them.

Our Interdisciplinary Approach

Professional engineers in today's world are required to work with colleagues from a range of engineering disciplines. All engineering students at the University of Aberdeen undertake studies from electrical and electronic, civil, chemical, mechanical and petroleum engineering during their first two years.

This ensures our graduates are experienced and knowledgeable about the various skills and challenges each discipline would face, making them excellent choices for any engineering team.

This approach also gives students flexibility in their degree - rather than being locked into a specific programme when applying, our students can choose the path that they prefer once they have experienced all five disciplines.

Careers

If you have an aptitude and fascination for how the physical world works, are interested in how chemical reactions and the physical properties of matter can be harnessed to create world changing technologies, and want to contribute positively to making the life of the human race better and to the development of a sustainable environment, then you should consider chemical engineering as a career choice.

Recent graduate job roles have included:

- Graduate Chemical/Process Engineer
- Project Assistant for Biopharmaceuticals and Technology
- Junior Well Integrity Engineer
- Technical Safety Engineer
- Graduate Operations Support Engineer
- Supply Chain Graduate
- Recent graduate employers

Recent graduates work at companies such as:

- Johnson Matthey
- The Dow Chemical Company
- BP
- Unilever
- Mace Group
- Heineken
- Genesis Oil and Gas Consultants
- Atkins
- Tenaris
- Nexen

David Grant

MEng Chemical Engineering

When applying for university positions, Aberdeen stood out as it offered more than just a chemical engineering degree. The first 2 years encompass all aspects of engineering, which wasn't offered at the other universities I was considering. At first glance, it may seem strange that you are covering different engineering disciplines, however no engineering problem focuses solely on a single discipline. With this approach, University of Aberdeen offered the chance to develop myself as an all-round engineer with insights into each disciple, while still achieving a fully accredited chemical engineering degree. This made my choice to study at the University of Aberdeen an easy one.

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