



University of  
**Strathclyde**  
Glasgow



A joint degree from two of the country's leading chemistry and engineering departments

**DEPARTMENT OF PURE & APPLIED CHEMISTRY**

# Applied Chemistry & Chemical Engineering

[www.strath.ac.uk/science/chemistry/](http://www.strath.ac.uk/science/chemistry/)

# Stand out from the crowd and open doors to exciting and financially rewarding career prospects with a unique degree that will bridge the gap between chemistry and chemical engineering.

Do you thrive on taking chemistry off of the page and out of the test tube? Do you have the capacity to understand the atomic scale of molecules, and yet hold the ability to scale reactions up to industrial quantities?

Do you have the skills to perform these reactions in a safe and controlled way, while producing innovative products to meet the dynamic demands of our modern world?

Do you dream of working in a 'chemical laboratory' that may involve several reactor vessels, storage tanks, mixer units and separators, for the bulk production of a chemical substance?

Our society consumes and trades synthetic products on such a large scale that the global chemical industry has to produce vast quantities of materials to meet the evolving demands of consumers around the world. The quantities involved could be hundreds of tons or grams, the molecules either tough polymers or delicate, easily damaged, biologically active agents.

From the production of plastics, fuels, washing powders and fertilisers, to textiles, medicines, high-tech electronics and food production – millions of people

depend on the chemical industry to create and supply innovative new products that will improve our way of life.

Adding to this complexity, these products must also be manufactured and disposed of in a safe and sustainable way, to protect the health of people and environments around the world today, and for generations to come. Any errors in the understanding of reaction energetics, containment requirements or the physical strengths of the hardware have the potential to lead to serious consequences, not only for the industry, but also for the general public.

Knowledge of chemical reactions on a small scale in the laboratory is not sufficient to tackle these big issues. Instead, the art of moving tonnes of reactants around, mixing them, controlling their rate of reaction, separating the products and de-toxifying the by-products has to be taught as a special skill.

Through the University of Strathclyde's unique MSci Applied Chemistry with Chemical Engineering degree you can gain the expertise and skills required to pave the pathway to an exciting and prosperous career...

## Did you know?

The MSci Applied Chemistry with Chemical Engineering degree is unique in Scotland, with accreditation from both the Royal Society of Chemistry and the Institution of Chemical Engineers.





## Did you know?

The University of Strathclyde was voted Scottish University of the Year by the Daily Mail University of the Year Awards 2024 and University of the Year by the Times Higher Education Awards 2012 & 2019.

# Why study MSci Applied Chemistry with Chemical Engineering at the University of Strathclyde?

The industries of bulk chemical production seek graduates who know considerably more than how small-scale chemical reactions proceed in a laboratory environment.

Ideally, graduates will have a broad expertise, ranging from the engineering practicalities of moving, mixing and reacting potentially hazardous chemicals in bulk, through to a clear understanding of the chemistry that is taking place at every stage of the production process, to ensure product accuracy and purity. As well as being interested in chemistry, graduates will have strong physics and mathematical skills, leadership skills, patience and precision to ensure their grasp of quantities, reaction kinetics and tolerances are without question.

Until our course was put in place, engineers and chemists were trained separately, leading at times to a 'knowledge gap' between the two disciplines and a lack of appreciation of each other's skills and problems. The existence of this 'gap' was recognised by the professional organisations in the UK, and the University of Strathclyde is the first university to

respond by offering a true hybrid degree, combining Applied Chemistry with Applied Engineering.

Our course is currently unique in Scotland and rare in the UK. It carries valuable professional accreditation from both the Royal Society of Chemistry and the Institution of Chemical Engineers. Therefore, graduates can become both Chartered Chemists and Chartered Engineers with appropriate industrial experience.

Training is divided between the Department of Pure and Applied Chemistry and the Department of Chemical and Process Engineering. Both departments have strong industrial links and long traditions of training students specifically for the chemical industry. This unique blend of teaching equips our graduates with a true 'start to finish' awareness of chemical production and a level of innovative and cohesive thinking that really makes them stand out in the job market, with real potential for exciting and well paid international career prospects.

# How is the course structured?



**Year 1:** The foundation course, consisting of the fundamentals of Chemistry, Chemical Engineering and Mathematics

**Years 2 & 3:** The core disciplines of Chemistry and Chemical Engineering receive equal attention. Extensive practical work reinforces the lecture material and encourages you to develop skills in communication, teamwork and the ability to work safely.

**Years 4 & 5:** Knowledge and skills are integrated in two projects: a semester long engineering design project in the context of chemistry, and a substantial chemistry project, often in an engineering context.

Supporting lectures bring together aspects of Chemistry and Chemical Engineering through up-to-the minute technological developments and consideration of their financial and social implications. It may be possible to carry out part of your design work in industry or in a partner university abroad.

## Did you know?

Strathclyde's innovative MSci Applied Chemistry and Chemical Engineering course was designed with input from industry professionals, to cover the gap in education and knowledge between chemists and chemical engineers. This makes our graduates highly desirable to employers.

## What do our students say?

“ For me, ACCE took away the difficult decision of whether to study chemistry or chemical engineering. This course offers a broad and varied range of classes across both disciplines which allowed me to learn about many new things and discover where my specific interests lay. Additionally, the transferable skills gained and the fact that this degree has accreditation from two governing bodies really opens up a wealth of potential career options.”

**Jennifer Devlin – MSci Applied Chemistry & Chemical Engineering**

“ACCE contained a wide range of subjects which allowed for a comprehensive view into both chemistry and chemical engineering. I always liked chemistry and this course allowed me to see how important it is when small laboratory based experiments are expanded into industry. The course itself allowed me to develop my writing, numerical and presentation skills alongside gaining a deep knowledge of the topics. Finally, due to the small nature of the course I was able to make good friends with all of those involved. This course is hard work but I think it sets you up for jobs in academia or industry.”

**Heather Mutch – MSci Applied Chemistry & Chemical Engineering**



### Did you know?

MSci Applied Chemistry and Chemical Engineering graduates are in high demand in both science and engineering based careers.

# Studying, working and living in Glasgow

The University of Strathclyde campus is situated in the heart of Glasgow, a vibrant, multi-cultural city with an exciting social scene, great transport links, and many part-time employment prospects.

Glasgow has a long reputation as Scotland's largest, friendliest and most cosmopolitan city. You will find beautiful architecture around every corner and activities to suit every taste.

You can enjoy a vast array of places to eat out and shop, from high street names to off-beat boutiques; and revel in legendary nightlife, with a huge selection of bars and clubs to choose from. Glasgow is home to an eclectic mix of cutting-edge music, with over 100 gigs taking place every week.

There are more than 20 incredible museums, galleries and science centres scattered across the city, and best of all, most of them are completely free!

The city is also home to numerous theatres, cinemas, Scottish Opera, BBC Scottish Symphony Orchestra, Scottish Royal Ballet, and an abundance of sporting stadiums and events; as well as vibrant festivals and pop up events throughout the year.

“Glasgow” means “dear green place”, and with over 90 parks and gardens open to the public across the city, it is easy to see why. With the spectacular scenery of the highlands and islands less than one hour from the city centre and the ‘bonny banks’ of Loch Lomond just 40 minutes away; you’re never far from the breath taking vistas of Scotland’s great outdoors.





## Did you know?

The 2024 Times & Sunday Times University League Table of UK Chemistry Departments ranked our Department in the top 10 in the UK for Chemistry on the basis of entry standards, student satisfaction, teaching quality, employment prospects, and research quality.

# Entry Requirements for MSci Applied Chemistry with Chemical Engineering (FH18 MSci/ACCE)

**SCAN THE QR CODE  
TO VIEW DETAILS OF  
ENTRY REQUIREMENTS**



 **SCAN QR CODE**

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Find out more: [www.strath.ac.uk/science/chemistry/](http://www.strath.ac.uk/science/chemistry/)  
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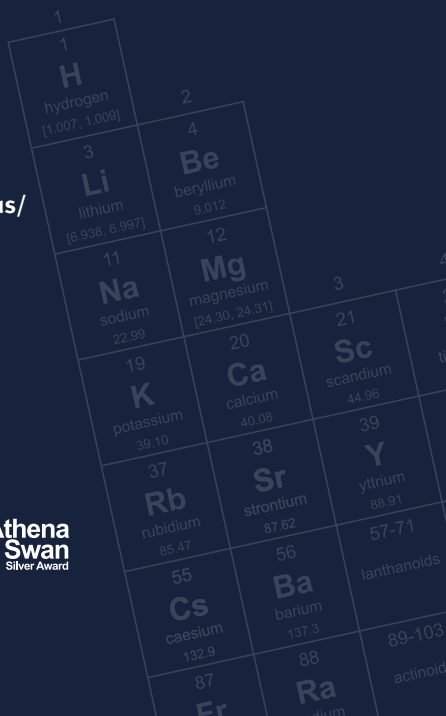
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University of Strathclyde Glasgow

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Athena  
Swan  
Silver Award



1 H hydrogen [1.007, 1.009]	2 He helium [4.0026, 4.0026]	
3 Li lithium [6.938, 6.997]	4 Be beryllium 9.012	
11 Na sodium 22.99	12 Mg magnesium [24.30, 24.31]	
19 K potassium 39.10	20 Ca calcium 40.08	3 Sc scandium 44.96
37 Rb rubidium 85.47	38 Sr strontium 87.62	39 Y yttrium 88.91
55 Cs caesium 132.9	56 Ba barium 137.3	57-71 lanthanoids
87 Fr francium	88 Ra radium	89-103 actinoids