Lancaster University

Chemistry

Undergraduate Degrees 2026

Chemistry will provide scientists with the *molecules and materials* to solve major *societal challenges* of the 21st century.

Chemistry is a fascinating subject that we are passionate about here at Lancaster. Our established undergraduate degree programmes are Royal Society of Chemistry accredited and research-led. The teaching and research laboratories are housed in the recently refurbished Chemistry Building, where you will receive hands-on training in the fundamental experimental and computational techniques of modern practical chemistry. Throughout your degree, alongside chemistry, you will also develop key transferable skills, enhancing your career prospects. Our graduates have gone onto postgraduate study, as well as graduate-level jobs in chemical industries and elsewhere.

Three features that set us apart are:

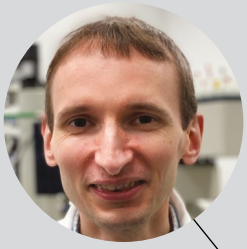
(i) a great student experience, evidenced by our track record in the NSS;

(ii) excellent staff-student ratio

(iii) the opportunity for all of our students to carry out research.

Our students often highlight the accessibility of our academic staff, which supports our belief that we offer a highly supportive environment committed to your future success.

We welcome you to Chemistry at Lancaster!



Head of Department

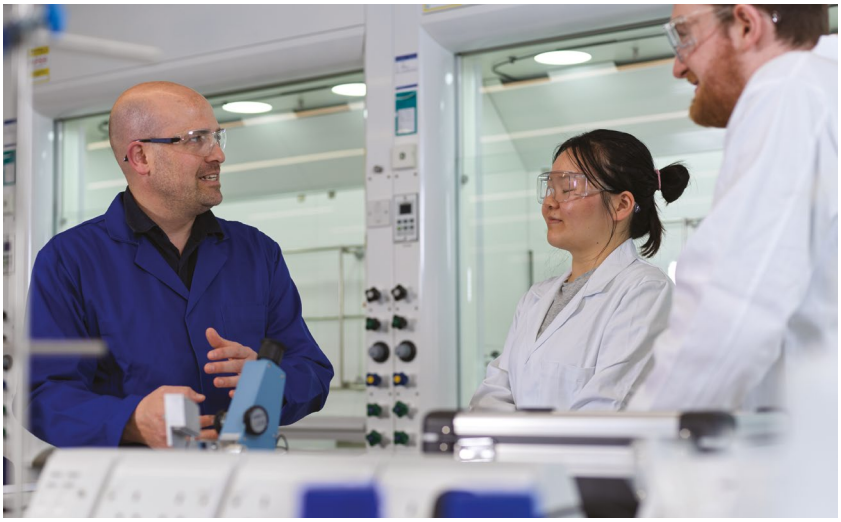
Dr Nick Evans

Chemistry is often referred to as the 'central science', as it interfaces with the physical, environmental, and biological sciences. We have developed our degree programmes to reflect the diversity of the discipline.

Degree title	Degree (Hons)	UCAS code	Course duration (years)	Typical A level offer
Chemistry	BSc	F100	3	ABB
Chemistry	MChem	F101	4	AAB
Chemistry (Study Abroad)	BSc	F1T6	4	ABB
Chemistry (Study Abroad)	MChem	F1T7	5	AAB
Chemistry (with Industrial Placement)	MChem	F102	4	AAB
Chemistry (With Foundation Year)	BSc	F10F	4	CCC

Study abroad available Industry placement available

The table above shows our typical offer for A level students. See our website for alternative qualifications, including international equivalences. **lancaster.ac.uk/chemistry/study/undergraduate**



Made for *learning*

We provide the very best in modern, custom-designed laboratories for both teaching and research, together with instrument suites, computer rooms, offices, and social spaces, including: specialist synthetic, physical & analytical and computational teaching labs, NMR, X-Ray diffraction, electron and atomic force microscopes, UV-Vis, IR and Raman spectrometers, a mass spectrometry suite and a Nanoscribe microscale 3D printer.

Taught by the very best

To ensure that you have the best possible experience, our courses are taught by experienced, highly qualified experts, with international reputations.

Modern chemistry skills

Science in general, and chemistry in particular, is becoming increasingly multidisciplinary. We will therefore equip you with the knowledge and understanding of a broad range of sciences, as well as advanced subject-specific skills, to meet this need.

Our teaching is research-led, and our curriculum is explicitly developed to provide you with the skills that a modern chemistry graduate needs. As part of our commitment to teaching excellence, we have developed our degrees in conjunction with the Royal Society of Chemistry, and operate a continual course development process in response to student feedback.

An integrated approach

You will be taught chemistry as an integrated subject, emphasising the practical and theoretical skills that are important for a modern chemistry graduate and which are highly valued by employers. Our courses develop practical synthetic, characterisation, measurement and analytical skills. They also involve data analysis, mathematical and computational techniques, written and oral presentations, report-writing, literature searching and fundamental research.

+ More than £30 million invested in chemistry since 2012
+ Small class sizes and approachable academic and support staff
+ Flexible degree programmes
+ Study abroad option
+ Industrial placement option

Oscar, *third year,*

MChem Chemistry

There are so many reasons to study chemistry at university, not least the enormous variety of career paths that a chemistry degree can offer you. From batteries to pharmaceuticals, and from plastics to fuels, so many improvements to our daily lives are directly affected by advances in chemistry. I've also developed a multitude of different skills during my degree, including data analysis, team working skills, time management and logical problem solving.

I've found the close-knit nature of the department at Lancaster to be incredibly valuable, and my lecturers are exceptionally responsive. The staff-student ratio also means that we're able to get to know our lecturers well, resulting in a real sense of community within the department.

I feel the best thing about studying chemistry at Lancaster is this community. I've made some amazing friends on my course and we all help each other with different concepts and areas according to our individual strengths. The facilities and scientific instrumentation here are also impressive; my favourite facility in the department is the Nanoscribe – a 3D printer capable of printing on the nanometre scale and often used for designing the surface of catalysts.

10TH

for Chemistry in the UK

The Guardian University Guide 2025

Dr Maria Paz Munoz-Herranz
Industrial Placement Coordinator

“Launch your career with Lancaster’s MChem Chemistry with Industrial Placement – a cutting-edge degree that combines world-class teaching with real-world industry experience.”

The Chemistry Department is very excited to have launched this new degree course in which students can complete their fourth year research projects during their industrial placement.

We provide students with lots of support to find and prepare for their placements, and potential industrial partners have already given us great feedback about the structure of the programme.

We are looking forward to sending our first cohort of students on placements in the autumn of 2025.

Industrial *placement*

MChem Hons Chemistry (with Industrial Placement) - 4 Years

Our MChem Industrial Placement option offers a fantastic opportunity for you to increase your attractiveness to employers and to add a distinctive practical chemistry element to your CV.

Working with an industrial partner, you will deepen your understanding of the workplace and learn how to apply your skills and knowledge to real world experiences. This will greatly increase your confidence and broaden your horizons.

Throughout your second and third year we will support you to find a placement and help you through the competitive application process.

Whilst on placement you will be undertaking a major research project. You will also take a selection of modules delivered online. At present, students only pay 20% of the standard tuition fee in the year of their placement. Please see our website for full details.

You will be supported throughout your placement year by the Department and a company employee.

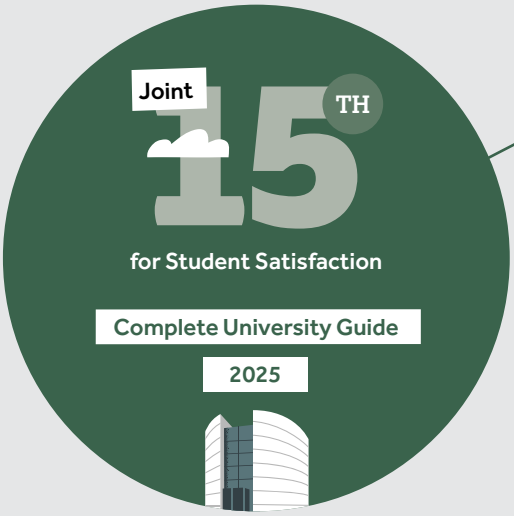
Exciting research projects

In the final year of your degree, you will have the opportunity to undertake a piece of original research. We offer a broad range of projects across all our research areas.

The research projects form a major part of your studies. They provide the opportunity to work more independently, but under the guidance and supervision of our expert academic staff, who have extensive experience in chemistry research.

We are continuously developing research programmes that cross the standard discipline boundaries, and indeed the interfaces with the other natural sciences, and that engage with government and industry.

Significant investment from the University into custom-designed facilities and equipment enables us to tackle major research challenges. This will provide you with the opportunity to use an extensive array of modern analytical and characterisation techniques.



Our research is structured around the following core themes

+ Analytical and Spectroscopy
+ Theoretical and Computational Chemistry
+ Electrochemical and Surfaces
+ Inorganic Chemistry
+ Organic Chemistry

The research itself seeks to address many major challenges, relating to:

+ Healthcare
+ Energy
+ Materials
+ The environment

Within our department, undergraduate chemistry students are making significant strides in research, with some even having their projects published. Here are some examples of published undergraduate research:

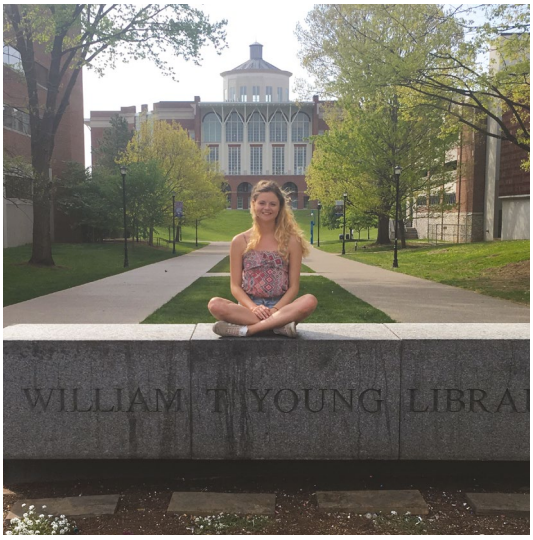
+ Investigation of structure and dynamics in a photochromic molecular crystal by NMR crystallography
+ Decomposition of d- and f-shell contributions to uranium bonding from the quantum theory of atoms in molecules
+ Palladium-Catalysed Construction of All-Carbon Quaternary Centres with Propargylic Electrophiles
+ Modulating the Expression of Chirality in a Mechanically Chiral Rotaxane
+ Self-assembly of singlet-emitting double-helical silver dimers
+ A mini-review of shape-memory polymer-based materials
+ Rapidly Accessible “Click” Rotaxanes Utilizing a Single Amide Hydrogen Bond Templating Motif
+ The Rapid Synthesis and Dynamic Behaviour of an Isophthalamide [2]Catenane

These accomplishments highlight the department’s commitment to fostering a research-driven environment, where undergraduate students are encouraged to engage in meaningful scientific inquiry. Such experiences not only contribute to the advancement of chemical knowledge but also prepare students for successful careers in academia, industry, and beyond.

Possible Destinations

USA, Canada, Australia and New Zealand

(Please note: study abroad destinations are subject to availability and are not guaranteed)



Your global *experience*

As part of our courses, it is possible to spend a year studying at a prestigious overseas university.

Study abroad

Broaden your academic horizons by spending a year studying abroad in either North America or Australasia. You'll study similar modules to those available in Lancaster while gaining an understanding of a different culture and society.

Visit **lancaster.ac.uk/study-abroad** to see a full list of the overseas institutions with whom we currently have a partnership arrangement.

Vacation travel

Alternatively, there are often shorter options in the Easter or summer vacation to destinations such as China, Germany, Ghana, India and Malaysia. These programmes include meeting local students and businesses as well as some academic study and cultural discovery. You may also be able to attend a summer school at one of our many overseas partner universities.

Find out more at **lancaster.ac.uk/your-global-experience**.

> *My study abroad year let me research in Kentucky, gain global experience, and return more skilled, confident, and connected.*

Kate, *fourth year*

MChem Hons Chemistry (Study Abroad)

University of Kentucky, USA

Lancaster University

I'd never really thought about studying abroad until I came to the open day and it was mentioned at the end of the talk. I looked into it a bit more and there was loads of support, so you're not just getting thrown into this different country and having to look after yourself.

We had the opportunity to go to Australia, Canada and a couple of places in America and New Zealand. I went to Kentucky as the course there matched what I was doing here. It was a really cool place and I feel I actually got to experience the real America.

I got to do a project over there and work in an American research group. I also made connections as well; I still email my supervisor who supervised my project in Kentucky. Studying abroad has meant having more skills to add to my CV – I can now say that I'm good at communicating because I've communicated with all these different people and I'm flexible as I've had to adapt to a whole different country. I also feel like you're building your confidence as well because you have to make new friends really quickly, and make these connections. It also made me appreciate Lancaster more, as I feel you are a bit spoiled because it's such a good department.

In Kentucky, I did a computer-based project, where I was simulating molecules that would prevent overcharging in batteries. It's been this project that's made me realise that energy storage is what I want to do.

Degree specifics

Chemistry is a dynamic and essential subject; you will explore the composition, structure, properties, and changes of matter in a discipline that bridges both theoretical understanding and practical application.

In the first year, you will build a strong foundation of core chemistry knowledge and concepts across organic, inorganic and physical chemistry, with key principles of biochemistry, physical concepts, and sustainability and green chemistry. Alongside this you will develop new practical chemistry skills in synthesis, measurement, and characterisation.

Second year follows the fundamentals of first year with new concepts and principles being introduced to broaden and deepen your chemistry knowledge and skills. You will continue to develop expertise and confidence in a wide range of practical chemistry skills, so you learn to work safely and independently in a lab.

In third year, you will undertake an individual project, allowing you to explore a specific area of interest in depth. You will also study a range of advanced and more specialised chemistry topics.

Throughout your degree, considerable emphasis is placed on developing analytical, problem-solving, and professional skills—preparing you for a wide range of careers or further study.

Enhancing your curriculum

We continually review and enhance our course curricula to ensure we are delivering the best possible learning experience, and to make sure that the subject knowledge and transferable skills you develop will prepare you for your future.

Information within this publication with respect to courses and modules is correct at the time of publication, and the University will make every reasonable effort to offer courses and modules as advertised. In some cases, changes may be necessary and may result in new modules or some modules and combinations being unavailable, for example as a result of student feedback, timetabling, staff changes and new research.

Year 1

Our single honours Chemistry degrees share a common first and second year. Here, the key concepts and theories underpinning chemistry are introduced, along with the supporting practical skills. The topics link and interface with other disciplines and will be built upon in later years.

Chemistry teaching provides you with a broad introduction to degree-level chemistry, to ensure that you have the foundation of knowledge you need to study more advanced and specialised topics in the later years of the degree, irrespective of your pre-Lancaster background. You will be taught through a variety of lectures, practical classes, seminars/workshops, and tutorials.

You will develop a range of transferable and maths and computational skills, as well as theoretical and practical knowledge across organic, inorganic, physical, biological, and analytical chemistry.

Core themes

+ Fundamental Chemistry A
+ Fundamental Chemistry B
+ Fundamental Practical Chemistry
+ Fundamental Skills in Chemistry
+ Fundamental Science Concepts for Chemists

Our free learning resource pack provides the key materials to support your studies:

+ Lab coat
+ Eye protection
+ All glassware and lab equipment
+ Lab books
+ Online core course text books

ROYAL SOCIETY OF CHEMISTRY | ACCREDITED DEGREE

All of our degrees are proudly accredited by the Royal Society of Chemistry, ensuring they meet the highest standards of academic and professional excellence.

Year 2

The second year of our Chemistry degrees builds upon the strong foundations of the first year, where we introduce a range of new topics and go into greater depth with more familiar topics.

Second year fully develops the atomic scale picture of compounds, and examines how this affects structure, reactivity and mechanism from the perspectives of organic, inorganic, physical, and quantum chemistry, building a more detailed picture of how we can interrogate and control the world of atoms and molecules.

You will develop skills in more specialised practical techniques, building confidence and expertise and extensive practical chemistry experience across synthetic, physical, and computational laboratory classes. Concepts and theories are taught primarily via lectures and workshops.

There is a continued focus throughout the degree on your developing a range of skills that complement your chemistry expertise and knowledge. You will be given regular opportunity to practise transferable skills, such as problem-solving, communication, and data analysis, and will be offered careers and employability guidance.

Core themes

+ Further Chemical Analysis and Spectroscopy
+ Further Chemical Practical and Skills
+ Further Organic Chemistry
+ Further Physical Chemistry
+ Further Inorganic and Materials Chemistry

Year 3 and 4

The final years of our BSc and standard MChem programmes allow an element of specialisation and provide further opportunity to hone your advanced chemical knowledge and practical skills. A key component of the final years is the opportunity to undertake independent projects in conjunction with one of our academic research groups, allowing you to apply your substantial expertise to real-world problems.

Year 3
Core themes

+ Advanced Chemical Synthesis
+ Advanced Physical Chemistry
+ Computational Chemistry
+ Advanced Chemistry Practical and Skills

Core research project

+ Chemistry Research Project

Optional themes

+ Advanced Organic Chemistry and Materials Chemistry
+ Advanced Inorganic Chemistry and Materials Chemistry
+ Advanced Chemical Structure Elucidation

Year 4
Core research project

+ MChem Chemistry Research Project

Optional themes

+ Frontiers in Organic Chemistry
+ Frontiers in Materials Chemistry
+ Frontiers in Spectroscopy
+ Frontiers in Computational Chemistry

“I learned about many different analytical techniques as part of my Chemistry degree at Lancaster, and the breadth of knowledge has also helped me to quickly understand unfamiliar techniques..”

Laura Mabon

MChem Chemistry (2022)

Regulatory Scientist

MChem Chemistry

I work as a regulatory scientist in the Chemicals Regulation Division of the Health and Safety Executive. My job is to use chemistry to complete risk assessments for pesticide and biocide products, for authorisation in the UK.

I utilise my analytical chemistry knowledge on a daily basis when validating methods of analysis. This involves evaluating data for a range of analytical techniques, from HPLC-UV to ICP-MS, to demonstrate that the method can accurately detect and quantify a specific analyte.

As a chemistry student, I appreciated being part of a relatively small department. This enabled me to get to know everyone well, which facilitated collaborative working and resulted in a strong support system. I was also able to get to know lecturers well due to small seminar and tutorial groups, which made it easier to ask questions and seek help outside of the lectures.

£27,000

average starting salary
for chemistry graduates

Discover Uni, 2023

Hello future

Chemistry graduates are in high demand due to the many transferable skills that are developed in a chemistry degree.

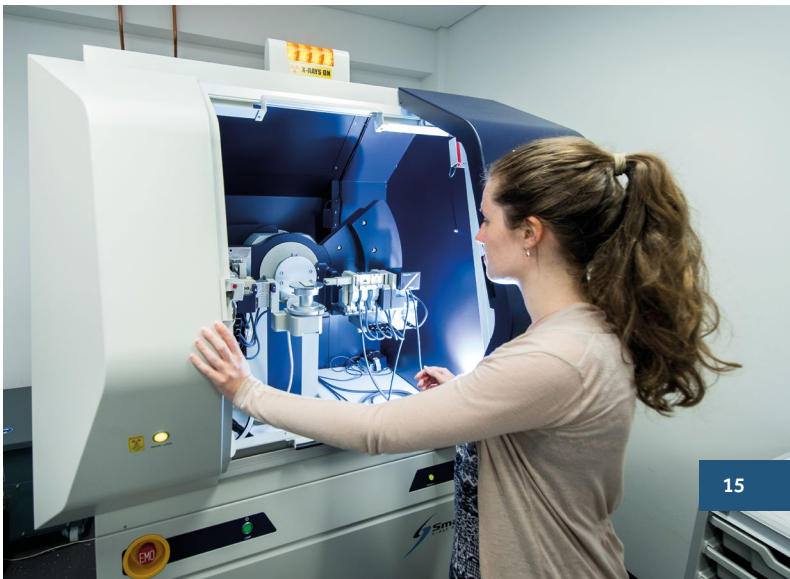
Some examples of graduate careers are:

+ All areas of chemical industry, ranging from multinational oil, chemical and pharmaceutical companies, to a host of smaller enterprises producing new and specialised products
+ Energy providers
+ Public health and environmental protection
+ Research in universities, government institutions, industry and private agencies
+ Teaching
+ Patent agencies
+ Scientific journalism
+ Forensic science
+ Postgraduate medicine

Graduates can also seek employment in a wide range of non-chemistry related industries, in business, commerce, finance, banking or the Civil Service.

We offer careers advice and guidance throughout your time here and beyond, as all Lancaster graduates have lifetime access to our careers service.

Scan the QR code to find out more about chemistry and careers



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