

School of **Chemistry**

Undergraduate Degree Programmes

Welcome

A warm welcome awaits you	3
Choose Cardiff	4
Student placements	5
Our degree programmes	8
Student experience	9
Studying with us	10
Careers in chemistry	11
Applications	12

94% of graduates

in employment and/or further study, due to start a new job or course, or doing other activities such as travelling, 15 months after the end of their course.*

*Based on UK-domiciled, full and part-time graduates at all levels of study.

Source: Graduate Outcomes 2020/21 survey results published by the Higher Education Statistics Agency (HESA). Copyright Jisc 2023. Jisc cannot accept responsibility for any inferences or conclusions derived by third parties from its data.

Accredited by the
Royal Society of
Chemistry

12th in the UK for the
impact of our research

Source: THE (Times Higher Education) analysis
of REF (Research Excellence Framework) 2021



“The course really suited me in terms of the aspects of chemistry you can explore – you can choose lots of different optional modules and really tailor the degree to your liking. I wanted to study at a Russell Group university that does lots of research, and Cardiff is an amazing city with loads to do.”

Dan, Chemistry student

A warm welcome awaits you

I am delighted that you are considering studying at the School of Chemistry at Cardiff University. During your time with us, we will do everything we can to help you achieve your potential, giving you the knowledge, skills, and experiences for a fulfilling career and future.

Our students and staff come from the UK, Europe and further overseas to create a close knit and diverse community.

Sustainability is high on our agenda, reflected by our landmark research into catalysis for a greener future. Our teaching staff are actively researching ways to tackle key scientific challenges from sustainable energy to the development of new pharmaceuticals. Their experience covers all the main areas of chemistry and its interfaces with other scientific disciplines and technologies.

This expertise is embedded in our degree programmes, providing a forward-thinking learning experience in molecular science. I hope you will find your university experience intellectually stimulating, enjoyable and highly beneficial to your future career.

We look forward to receiving your application and for you to become a part of our community.

Professor John Pickett FRS
Head of School



Choose Cardiff

Here are our top five reasons to study at the School of Chemistry:



1

Flexible courses

Years one and two of our BSc and MChem Chemistry degrees share a common curriculum, giving you the option to switch between programmes even after your enrolment. You can also add a Placement Year Abroad or Year in Industry to the BSc or MChem at the end of your first year. This means you can choose the right path for you after you've had a chance to find your feet.



3

Location, location, location

Our school is located in the historic Main Building, a stone's throw away from the Students' Union and Centre for Student Life, where student support services are based. We are a short walk from Cardiff's vibrant city centre, several of the university's student residences, and the 130 acres of Bute Park.



5

Excellent career prospects

Everything we do at the School of Chemistry is about setting you up for a successful career, which is why **94%** of our recent graduates were in employment and/or further study or doing other activities such as travelling, 15 months after the end of their course.*

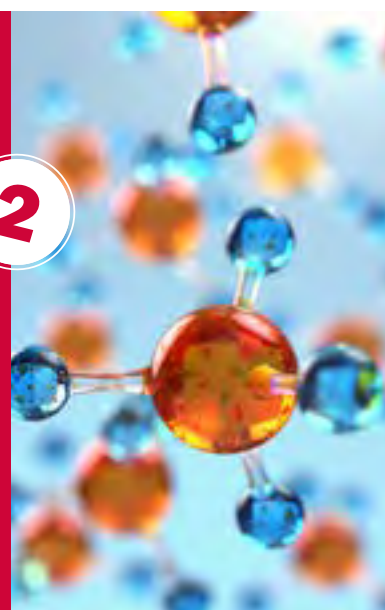
Our graduates go on to work in a wide variety of job roles including pharmaceutical development, materials analyst, catalyst researcher and patent attorney.

World-leading research

As a Russell Group University, our research excellence feeds directly into our teaching.

We're ranked 12th in the UK for the impact of our research in addressing major challenges facing society, the economy and our environment by the THE (Times Higher Education) analysis of the 2021 Research Excellence Framework (REF). **99%** of our submission was deemed world-leading or internationally excellent, showing the strength of our research expertise, all of which feeds into our degree programmes.

2



Investment into facilities

We've invested over £14 million into our school's teaching and learning spaces in recent years and undertaken major lab upgrades.

Our research facilities include the Cardiff Catalysis Institute, based in the new, state-of-the-art Translational Research Hub, where scientists work with commercial partners across sectors including energy, advanced materials, transport, communication and healthcare.

4



All our courses are accredited by the Royal Society of Chemistry

* Based on UK-domiciled, full-time graduates who were studying for their first degree. Source: Graduate Outcomes 2020/21 survey results published by the Higher Education Statistics Agency (HESA). Copyright Jisc 2023. Jisc cannot accept responsibility for any inferences or conclusions derived by third parties from its data

Student placements

Get a feel for your future career with a year in industry.



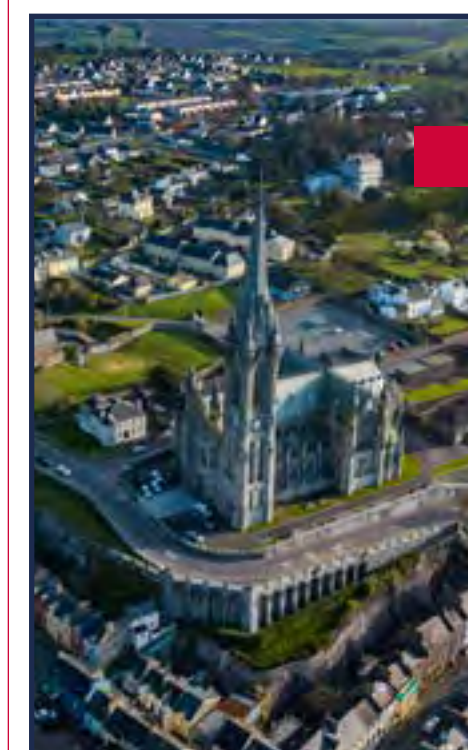
Not only will you kick-start your professional training while earning a salary, an industrial placement year can help you stand out from the crowd after graduation. Both our BSc and MChem Chemistry degrees are available with the option of a placement year in industry.

At Cardiff University, we have links with over 300 institutions worldwide and our chemistry students have completed placements at organisations such as Dow Chemical Company, GSK, Pfizer and Kodak.

How does it work?

If you choose the year in industry option, you'll spend your third year working as a company employee with your research supervised by your host industrial employer. Students on the MChem scheme study four core modules via distance learning alongside the placement.

You don't need to commit to a year in industry until the start of year two.



Meet Emma



I decided to do a year in industry because I really wanted to get some experience.

I worked at GSK in Cork, in Ireland. The thing I enjoyed most about the placement was the sense of independence I was given; I was treated as one of the team and given projects to manage on my own. I would 100% recommend this course to someone considering an industrial placement.

Emma Green, MChem Chemistry with a Year in Industry

Student placements

An unforgettable adventure through a year abroad.

Studying abroad as part of your degree is a great way to broaden your academic knowledge, immerse yourself in another culture and gain skills valued by employers. But, above all, it's the start of an adventure.

Our partnerships with top universities mean that you can study in some of the most iconic and inspiring cities in the world. Destinations include Bern, Munich, Bologna and Barcelona, as well as many other universities further afield in Australia, Hong Kong, Japan, USA, New Zealand and Canada.

We will help you to find a placement related to your interests and will maintain close contact with you throughout the year.

How does it work?

During the BSc Chemistry with a Placement Year Abroad, you'll spend year three on a placement overseas, undertaking a project under the supervision of an English-speaking member of staff at the placement provider.

If you choose to study the MChem Chemistry with a Placement Year Abroad, you'll spend year three of four at a university overseas, giving you the chance to experience the working practices and culture of a different country. You'll carry out a nine-twelve month research project and take a compulsory theory module in each branch of the subject across both semesters through distance learning.

You don't need to commit to a year abroad until the start of year two.



Chemistry students volunteering with the Agape Volunteers teaching programme, a charity project which supports humanitarian work to improve lives across Africa.



Meet Nancy



My placement year made me realise that science is universal.

I studied in Nanjing Tech University in China during my year abroad. Nanjing is the old capital of China and a very beautiful city. I worked on making catalysts for electrolysis.

One of the biggest things I learned was communication skills. I had to give presentations every week, which initially I was not so comfortable doing, but the more I practised, the better I became. I also learned how to work with people from different cultures, and how to understand their perspectives.

I enjoyed travelling the most. I was able to travel around China and went to Guilin, Shanghai, Shenzhen and many other places. It was touching meeting the local people you wouldn't otherwise meet.

I think you have so much to gain from a chemistry degree, especially going on a year abroad. I loved my placement so much that I have already booked a ticket back to Nanjing, and I hope to do a PhD in China.

Nancy Turnbull, MChem Chemistry with a Placement Year Abroad



Meet Gregory



When I came back for my final year, I was able to do my lab work much more effectively.

Baltimore was an amazing city, and I also had trips to New York, Boston, Washington and Pittsburgh. I chose this course as I had wanted to do a year abroad since I was in Year 13 and knew I wanted to go to an English-speaking country.

My project was devising a molecule that was an inhibitor, based on literature from two different sources. The staff helped me with biochemistry and lab skills so that when I came back to Cardiff, I was able to do my lab work a lot more effectively and efficiently.

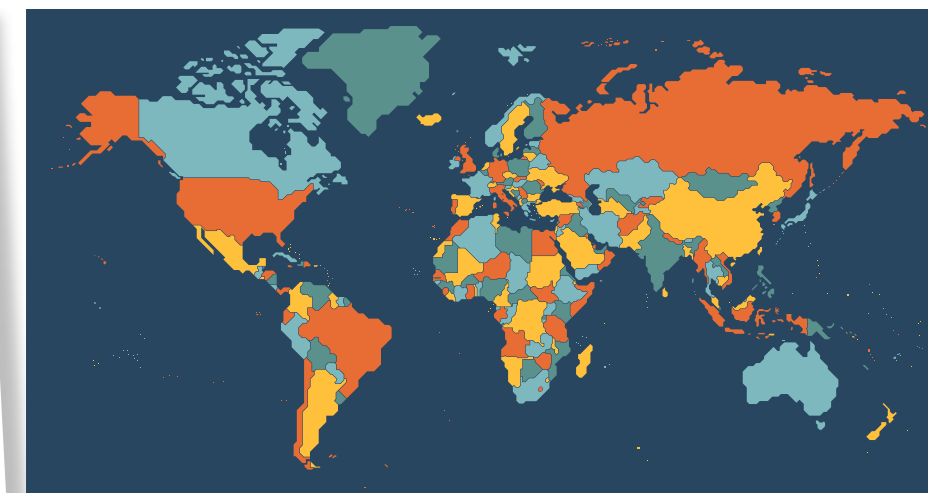
I enjoyed meeting new people in a scientific field in a different country. I would 100% recommend this course as it gives you great knowledge of an academic institution and also a lot of opportunity to go out and explore things outside of science.

Gregory Vickers, BSc Chemistry with a Placement Year Abroad

Spend your summer on a placement

Through the Global Opportunities team, you can undertake a range of short-term placements to study, work or volunteer abroad. Lasting a minimum of two weeks typically during the summer holidays, these programmes are ideal if you don't have the opportunity to study abroad as part of your degree, but would still like to gain in international experience.

Find out more:
www.cardiff.ac.uk/globalopportunities



Our degree programmes

All our undergraduate degree programmes are accredited by the Royal Society of Chemistry.

Chemistry BSc

UCAS Code: F100

Part of everyday life, chemistry is vital for tackling the world's most urgent problems - from green technologies, to developing new treatments to keep us healthy. This flexible, three-year course provides a broad introduction to chemistry, with the opportunity to specialise in the areas you're interested in through optional modules and a research project.

You will study core topics on analytical, physical, organic, inorganic and solid-state chemistry, with the opportunity to take a wide range of optional modules from green and sustainable chemistry and drug development to heterogeneous catalysis and engineering biosynthesis.

During the third year, as well as learning core topics, in the spring semester you will focus on a research project in your preferred area of chemistry (this could be lab or literature-based), under the supervision of an expert in the field.

As our Chemistry BSc shares a common curriculum with the MChem for the first two years, you can transfer from the BSc to MChem (subject to academic achievement in year two) at the start of year three.

There is also the option of adding a year in industry or placement year abroad, as long as you register your interest by the start of year two.

This programme is also available with the following options:

Chemistry with a Year in Industry BSc

UCAS Code: F101

Chemistry with a Placement Year Abroad BSc

UCAS Code: F106

Medicinal Chemistry BSc

UCAS Code: F150

Medicinal chemists are at the forefront of modern medicine, developing new therapies to prevent and treat infections and disease. This course focuses on the biological aspects of chemistry, giving you the skills to join this exciting field.

You'll gain a solid grounding in core chemistry topics as well as specialising in biochemistry, microbiology and drug design.

Your laboratory experience will focus on drug synthesis and testing in our dedicated lab space with industry-standard equipment. As well as developing your research and computational abilities, you'll learn to design your own experiments, giving you an insight into the project management skills needed within the pharmaceutical industry.

In the final year, you will have the opportunity to specialise in an area of your interest through a research project, supervised by an expert in the field.



Visit our course webpages to find out more about our programmes including module information.

Chemistry MChem

UCAS Code: F103

This four-year degree gives you a solid grounding in the fundamentals of chemistry with an emphasis on research.

The first two years of the course will focus on developing your understanding of how chemistry shapes our world. During the third and fourth years, there is a greater emphasis on analysis, synthesis and problem-solving.

In the fourth year, you'll undertake an extended research project, based within one of our academic research groups. You will also gain vital, practical experience in the lab, enhancing your research, mathematical and computational skills. There are no compulsory theory modules in year four, enabling you to specialise in your area of interest.

You can choose to add a year in industry or placement year abroad, providing you register your interest by the start of year two.

This programme is also available with the following options:

Chemistry with a Year in Industry MChem

UCAS Code: F104

Chemistry with a Placement Year Abroad MChem

UCAS Code: F102

Graduates are eligible for full membership to the Royal Society of Chemistry (MRSC) and may apply for the title of Chartered Chemist.

Student experience

Ensuring our students have the best possible experience is at the heart of what we do.

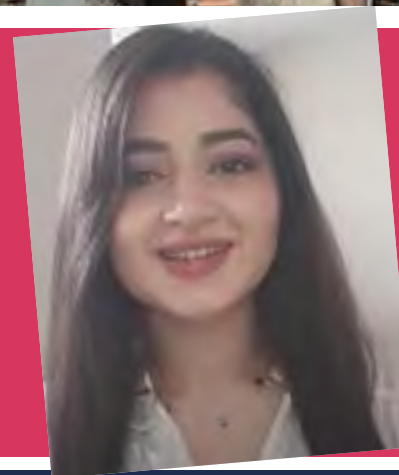
At the start of your studies, you'll be assigned a personal tutor who'll be your main contact for any academic and pastoral support. You'll meet regularly to review your academic progress and anything else you may need help with, and they can also help with your future plans.

Our student mentors help our first-year students adapt to university life, sharing advice on anything from new ways of learning and teaching to living away from home.

We also have an active Student Staff panel who are integral to shaping the student experience in our school.



Dr Emma Richards, our Director of Admissions and Recruitment, talks about student support in our school.



“I loved the building, I thought the labs were really cool, I thought the professors were very kind, very welcoming and very helpful. I heard a lot about the student life here and how everything is so fun and it ticks all my boxes. I loved being here and I enjoyed the four years of my degree very much.”

Fatma Hadi, MChem Chemistry



Studying with us

We aim to provide an exceptional learning environment and our undergraduate degrees reflect our current research strengths and interests, with final-year projects fully integrated into our research groups.

Teaching methods

You'll be taught through a series of lectures, small group tutorials, workshops and practical classes in the laboratory. The small group tutorials allow you to develop your communication skills while practising, discussing and analysing lecture material. Each tutorial group is assigned three academic staff members specialising in the areas of organic, inorganic and physical chemistry who lead the sessions.

In year one, your lab work focuses on basic techniques and simple but accurate recording of observations, progressing towards substantial experiments that need careful planning, analysis and interpretation of results, as well as professional standard reporting by the end of your degree.

We strongly encourage use of computing in our chemistry degree programmes and will teach you how to use the latest software and molecular modelling packages.

Assessment

You will be assessed through a combination of exams and coursework which includes practical work, workshops, and a research project. As well as these formal assessments, feedback and advice on your practical reports and other coursework will help you to progress through your course. Final degree classifications are based on the results of all years except the first and are weighted so that your final year assessments make the most significant contribution to your degree outcome.

Research project

All our courses have a major element of independent, supervised research.

In the final year of the BSc degrees, our students undertake a research project in an area of interest, supervised by an expert in the field.

Our MChem Chemistry students join a research group to carry out their extended research project, which, in the past, has led to some of our undergraduates co-authoring published papers in academic journals.

Facilities

Based within the historic Main Building, our school looks traditional from the outside, but our teaching spaces inside are anything but. We've transformed our learning spaces and our laboratories have been upgraded with significant investment. Main Building is home to the Science Library and Green Shoots Cafe, and opposite the new Centre for Student Life hub for student support and careers services, as well as the Students' Union*.

Our research facilities also include the Cardiff Catalysis Institute based in the state-of-the-art Translational Research Hub, which brings our academic and research scientists together with industry to solve complex global challenges.

Other research facilities include:

- Mass spectrometry and chromatography
- Nuclear magnetic resonance
- Electron paramagnetic resonance
- X-ray diffraction
- General spectroscopy (e.g., UV-Vis, Infra-red) and solid-state characterisation
- High-performance computing
- Scanning Electron Microscopy
- XPS surface analysis facility

*Cardiff University Students' Union was rated 2nd in the UK by 2022 WhatUni Student Choice Awards for Best Students' Union.



Careers in chemistry

Chemists play a vital role in tackling society's most urgent challenges – from biofuels and clean water to developing new pharmaceuticals. A degree in chemistry opens the door to a wide range of careers both inside and outside the lab.

Our graduates are sought after by a wide range of employers looking for people with excellent communication skills, experience in a lab environment, IT literacy and confidence in analysing varied information.

You will be able to use your knowledge to pursue a range of exciting research careers in areas such as the discovery of new medicines and vaccines, improving

understanding of environmental issues and the development of new chemical products and materials.

The skills gained in the lab can also provide a stepping-stone to roles in the manufacturing industry, where emphasis is currently on finding greener, cheaper and faster processes.

But chemistry careers don't begin and end in the lab. The logical and practical training you'll gain through your degree is highly valued in fields such as marketing, sales, management or finance. Scientific journalism, publishing and teaching are also potential career routes.

Graduate profile

I'm now working for Samsung Mobile in a strategy and innovation role.

There are so many different types of jobs available for those with scientific degrees. The analytical skills that you gain through the lab work and working on your final project are so useful and when you're in interviews you can talk so much about your transferable skills.

The careers department are really supportive in helping you whenever you want with your CV, interview prep and just deciding what you want to do with your life. You'll have a great time at Cardiff and it also looks great on your CV.

Emily Carey, BSc Chemistry with a Year in Industry



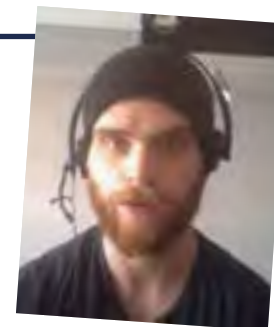
Cardiff University's **Careers and Employability service** is here to help and support you, offering everything from CV workshops, one-to-one advice, interview practice sessions and careers fairs with top employers.

Graduate profile

I work in the pharmaceutical industry as a research and development scientist for the Nurofen healthcare brand.

Straight after graduating, I worked at a small-scale research and development site and then moved on to Reckitt Benckiser, a larger multi-national which specialises in healthcare brands like Strepsils, Lemsip and Nurofen. My role is about product development, so I need to understand the chemical structure of the drug and all the other components and how they react with each other to create a safe and effective product.

Jonathan Marley, MChem Chemistry



94% of graduates

in employment and/or further study, due to start a new job or course, or doing other activities such as travelling, 15 months after the end of their course.*

*Based on UK-domiciled, full and part-time graduates at all levels of study Source: Graduate Outcomes 2020/21 survey results published by the Higher Education Statistics Agency (HESA). Copyright Jisc 2023. Jisc cannot accept responsibility for any inferences or conclusions derived by third parties from its data.



Hear more about Jonathan's career and time at Cardiff.

Applications



To be considered for entry onto one of our degree programmes you should apply online via the UCAS website using the 'UCAS Apply' facility.

To use this facility, you need to log on to: **www.ucas.ac.uk/apply**

The website will provide you with information on how to apply and explains the UCAS procedure.

Entry requirements

These typical requirements are for guidance. Please check our website for latest information.

A-level: Typical offers would be in the range of AAB-ABB to include a B Grade in Chemistry and pass in the practical element, where applicable.

We also accept the Welsh Baccalaureate qualification, but it must be in addition to two other A-level subjects, one of which must be Chemistry.

International Baccalaureate: Applicants will be expected to achieve 30-34 points, including a minimum of 5 in Chemistry at the Higher Level.

Other: Applications from those offering alternative equivalent qualifications are welcome, as are those who may have other relevant work/life experience.

Specific Subjects

A-level: Chemistry and ideally at least one other science or mathematical subject. General Studies and Critical Thinking are not accepted for entry.

GCSE Requirements (or equivalent):

- Maths at Grade C or Grade 4.
- English or Welsh at Grade C or Grade 4

Equality and diversity

We are committed to supporting, developing and promoting equality and diversity in all our practices and activities.

We aim to establish an inclusive culture free from discrimination and based upon the values of dignity, courtesy and respect. We recognise the right of every person to be treated in accordance with these values.

We are committed to advancing equality on the grounds of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion and belief (including lack of belief), sex and sexual orientation and to fostering good relations between different groups.

For further information, please visit: **www.cardiff.ac.uk/public-information/equality-and-diversity**

Applicants with Disabilities/ Specific Needs

All offers to study at Cardiff University are made solely based on academic merit. Where applicants have specific requirements that relate to a disability or medical condition, they are encouraged to discuss these with relevant staff in order that appropriate arrangements can be made to ensure the University provides an accessible environment.

Specifically, applicants are invited to contact the Disability Adviser who can provide information about the applications procedure, course delivery and access to the physical environment. Where appropriate, informal visits can be arranged in which applicants can view accommodation and meet academic staff.

For further information please contact the Disability Adviser:

Tel: **+44 (0)29 2087 4844**

Email: **disability@cardiff.ac.uk**

Open Days

University-wide Open Days are held throughout the year and provides the opportunity to visit all schools in addition to residences, the Students' Union and sports facilities.

For further information please visit our website at: **www.cardiff.ac.uk/opendays**

Deferred entry

The School has no objection to the possibility of deferred entry provided the intervening year is spent in a positive and worthwhile way. Application is made through UCAS in the usual way, although the UCAS application must show the deferred year of entry.

Admissions contacts

For information on applying and enrolling on an MChem or BSc programme, please contact:

The admissions tutor
School of Chemistry, Cardiff University,
Main Building, Park Place, Cardiff
CF10 3AT

Tel: **029 2087 4023**

Fax: **029 2087 4030**

Email:

chemistry-admissions@cardiff.ac.uk

Web: **www.cardiff.ac.uk/chemistry**

Student support

Whether or not you use student support services it's reassuring to know that they are available to you should you need them. Every student is assigned a personal tutor but should you need extra support we have a range of services available to you, such as:

- Disability and Dyslexia support
 - Email: **disability@cardiff.ac.uk**
Tel: **+44 (0)29 2087 4844**
 - Email: **dyslexia@cardiff.ac.uk**
Tel: **+44(0) 29 2087 4844**
- Counselling and Wellbeing Guidance
Email: **wellbeingandcounselling@cardiff.ac.uk**
Tel: **+44 (0)29 2087 4966**
- International student support
Email: **iss@cardiff.ac.uk**
Tel: **+44 (0)29 2087 6009**
- Student mentor scheme
www.cardiff.ac.uk/study/student-life/student-support

Tuition fees and financial assistance

The University charges an annual fee which covers all tuition fees, registration and examinations other than the re-taking of examinations by students not currently registered. Please note charges for accommodation in University Residences are additional.

Please see the following website for more information: **www.cardiff.ac.uk/fees**

Scholarships and bursaries

For more information please visit the following website:

www.cardiff.ac.uk/funding-ug

Useful websites for information about tuition fees and financial assistance:

Cardiff University website:

www.cardiff.ac.uk/fees

Student Support Centre website:

www.cardiff.ac.uk/financialsupport

Student Finance Wales:

www.studentfinancewales.co.uk

Student Finance England:

www.direct.gov.uk/studentfinance

Student Loans Company:

www.slc.co.uk





Important Legal Information

The contents of this brochure relate to the Entry 2024 admissions cycle and are correct at the time of going to press in October 2023. However, there is a lengthy period of time between printing this brochure and applications being made to, and processed by us, so please check our website at: www.cardiff.ac.uk before making an application in case there are any changes to the course you are interested in or to other facilities and services described here. Where there is a difference between the contents of this brochure and our website, the contents of the website take precedence and represent the basis on which we intend to deliver our services to you.

Your degree: Students admitted to Cardiff University study for a Cardiff University degree.



This brochure is printed on paper obtained from well managed sources using vegetable-based inks. Both the paper used in the production of this prospectus and the manufacturing process are FSC® certified. The printers are also accredited to ISO14001, the internationally recognised environmental standard.

Mae'r ddogfen hon hefyd ar gael yn Gymraeg. This document is also available in Welsh.

Cardiff University is a registered charity, no. 1136855

This prospectus can be made available in alternative formats, including large print (text), Braille and on audio tape/CD.

To request an alternative format please contact Laura Roberts:

Tel: **029 2087 4455**

Email: **RobertsL9@cardiff.ac.uk**

To find out more about the
School of Chemistry please visit
our website:

www.cardiff.ac.uk/chemistry

Contact us

Tel: **+44 (0)29 2087 4023**

Email: **chemistry-admissions@
cardiff.ac.uk**

School of Chemistry

Cardiff University

Main Building

Cardiff CF10 3AT, UK

Stay in touch



cardiffschoolofchemistry



@ChemistryCU



@cardiffchemistry

Student life

Got questions about student life?
Get them answered at:

**[www.cardiff.ac.uk/
studentbloggers](http://www.cardiff.ac.uk/studentbloggers)**

Want to know more about life at
Cardiff University? Our student
bloggers are recording their
experiences and are happy to
answer your questions.

Our student bloggers are real
students studying on a range of
courses. They are here to answer
any questions you have about life at
Cardiff University. What's a typical
day like? What clubs and societies
are there? Is Cardiff's music scene
any good? It can be almost anything.

