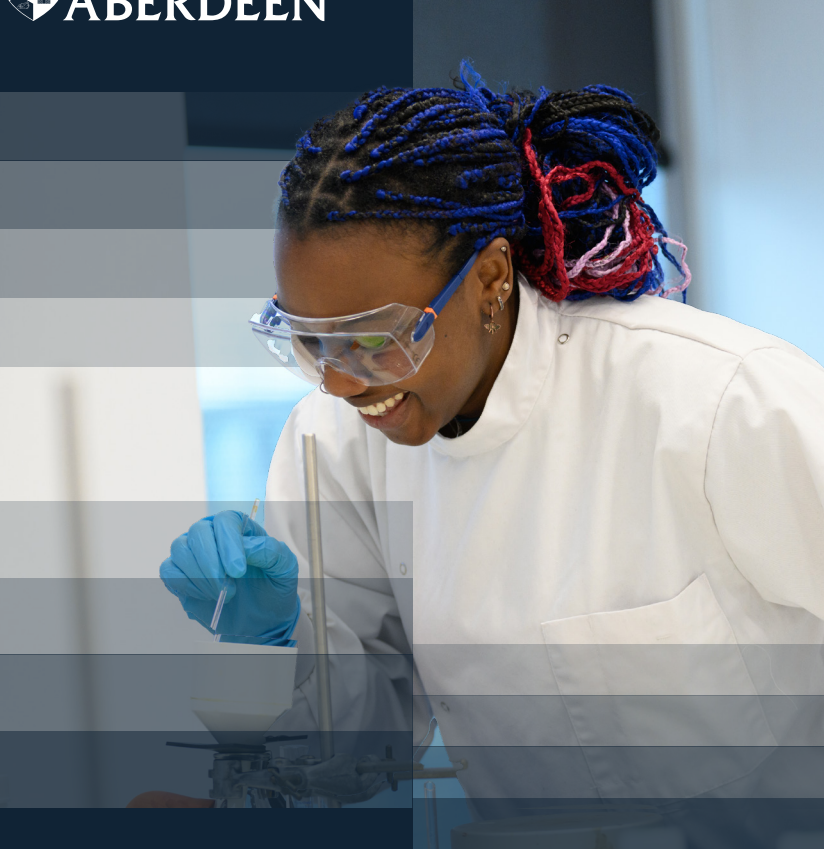


GO BEYOND BOUNDARIES



Chemistry

UNDERGRADUATE GUIDE



Science Teaching Hub

- Opened in 2022, the new Science Teaching Hub provides our students with the latest high-tech teaching labs and study spaces.
- The building is a fully digitalised space, designed to offer flexible laboratory spaces and an inspiring and engaging environment in which to learn. A paperless environment also integrates the virtual learning space with live laboratory demonstrations.
- Our modern, industry-standard instruments ensure that you gain knowledge and experience in a range of experimental methods.
- The advanced laboratory facilities also mean you gain experience using the same high-quality equipment found in an industry setting, providing you with invaluable experience and knowledge to take you into the world of work.

Why study Chemistry at Aberdeen?

At Aberdeen, you will be taught to use state-of-the-art instrumentation by internationally recognised experts in material, biomolecular and environmental chemistry to help create sustainable solutions to the many challenges we face today, such as food and water security, environmental protection, climate change and clean energy.

Chemistry at Aberdeen

Chemistry has been taught at the University of Aberdeen since 1793. With over 200 years of teaching and research experience, we produce graduates with a range of knowledge, skills, and attributes to prepare them for employment in the 21st century.

Degree Programmes

BSc Chemistry (4 years)

MChem Chemistry (5 years)

BSc or MChem?

We offer a four-year Bachelor of Science (BSc Hons) and five-year Master of Chemistry (MChem) degree. The four-year BSc Chemistry is the traditional route to a chemistry qualification. The five year-year MChem provides students with a wider range of research skills, leading to the professional qualification of Chartered Chemist.

The first two years cover the main areas of analytical, inorganic, organic, and physical chemistry. You will also choose some courses, outside of chemistry, during your first two years. This is known as Enhanced Study, and you can study other science subjects or languages, amongst other options. In levels 3-5, you will take more specialised courses, culminating in your research project, which will further develop your critical thinking and problem-solving skills.

Why Aberdeen?

- We are ranked 13th in the UK for Chemistry, Guardian University Guide 2024.
- Our Chemistry degrees are accredited by the Royal Society of Chemistry.
- 95% of Aberdeen's Chemistry research ranks as world-leading or internationally excellent (REF 2021).
- The new Science Teaching Hub provides our students with the latest high-tech teaching labs and study spaces.
- Our teaching is informed by cutting-edge research at the forefront of human health, clean energy technology and materials and we have a number of spin-out companies such as TauRx Pharmaceuticals, who specialise in Alzheimer's research.
- A feature of our MChem programme is a final year 4-month research project placement in the area of specialisation, usually at a university, research institute or industrial laboratory.
- The University of Aberdeen has a long history of excellence in Chemistry, with two Nobel Prize winners and an academic staff that includes some of the most experienced chemists in the UK.
- We pride ourselves on our sense of community, with students and staff collaborating on real-world research projects. The active student-run Chemistry Society also allows you to develop skills and make connections outside of the classroom.

Labs and Facilities

Practical lab classes are an important part of the degree programme, allowing you to learn specific laboratory techniques, use instruments, and also develop group working, problem solving, and data collection and analysis skills. The number of hours spent in the lab increases as you progress through your degree.

In first year, you will have a fortnightly 3-hour lab and a fortnightly 1-hour mini skills lab. In second year, you will normally spend 3-6 hours per week in the lab depending on the timetabling of different courses. In third year, you will have three or four 3-hour labs per week. Some of this may include computational (theoretical) chemistry or data processing and analysis in computer classrooms.

In fourth year, you will be doing either your BSc research project or the MChem group and individual projects.

You will normally be working in the department's research labs, supported by PhD and postdoctoral researchers. We would expect you to spend about 100 hours in the lab for the year.

In the MChem fifth year you will have a large research project in the second term. You will not have any timetabled taught classes that term but will be expected to be working full time on your research.

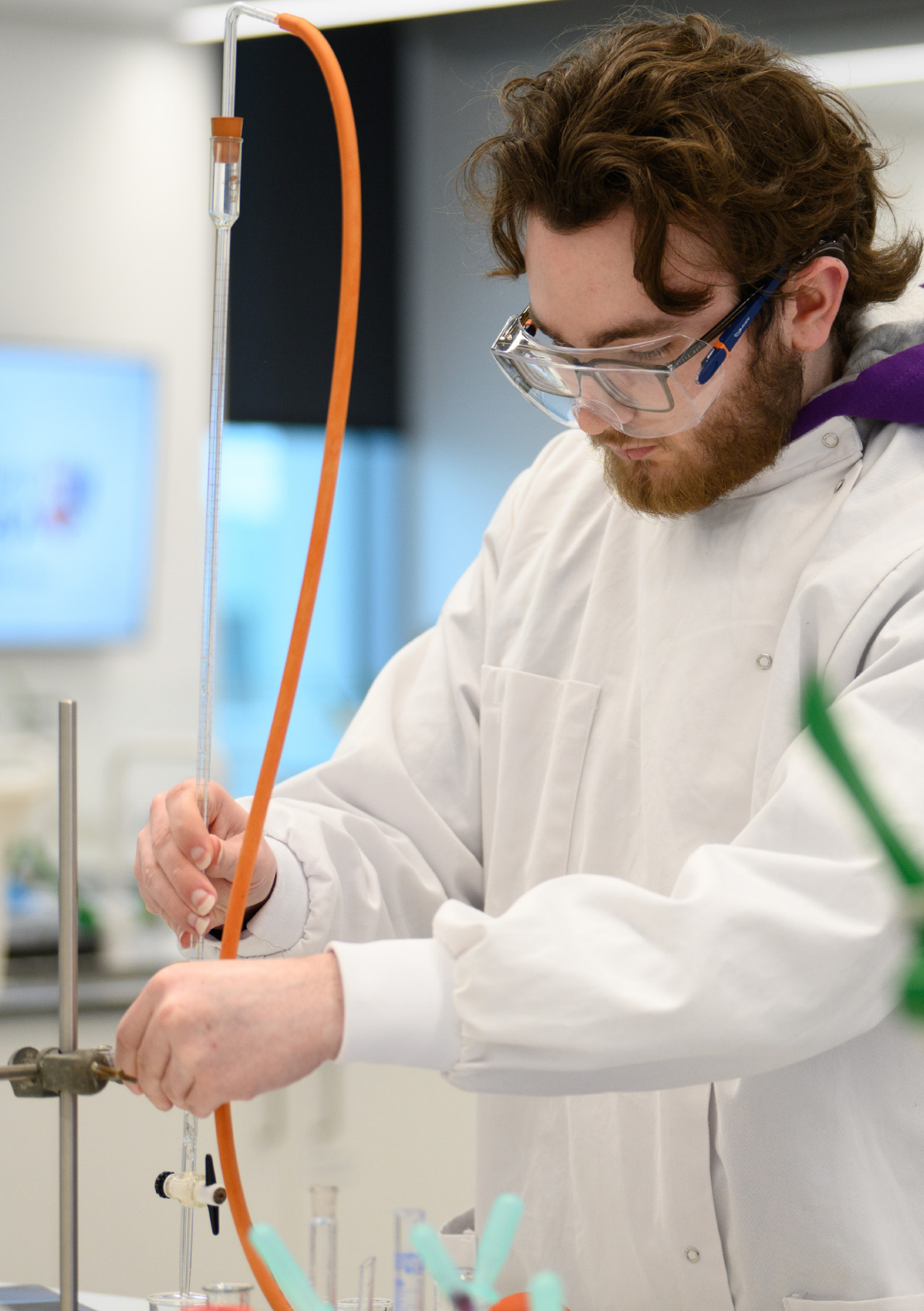
Chemistry Careers

A Chemistry degree from Aberdeen will prepare you for a career in the chemical sciences, but it can also be a stepping stone to many other opportunities. Chemistry graduates are very employable due to the breadth of career opportunities in many areas. As well as chemistry topics you'll have courses in IT and data analysis, programming, and careers and employability.

A degree in Chemistry will prepare you for a career in Chemistry, but it can also be a stepping stone to many other opportunities. Recent graduates have been employed in areas such as:

- drug development
- environmental protection
- food chemistry
- petroleum chemistry
- forensic science
- materials development
- business

Our chemistry graduates have found employment with a number of top companies, including Halliburton, Subsea 7, BP, Cairn Energy, Synergy Statoil, and Shell.



Student Life

Student Societies are a great way to meet students with similar interests, especially when you first arrive on campus.

The Aberdeen University Chemistry Society, known as "Chemsoc", is a very sociable society, with lots of fun events including quizzes and the ChemSoc Ceilidh as well as mystery lectures.

We encourage you to join societies (or start your own!) as it is important to remember that coming to University is not just about learning Chemistry facts and figures. Taking an active part in societies can help you develop skills and attributes which will help with your employability, and some society roles can be formally recognised on your graduation transcript.

Orlagh Fraser

MChem Chemistry



I have gained lots of knowledge about many branches of chemistry, some of which I wasn't aware of until I started my studies here. The staff are very knowledgeable and provide guidance and support through out. Lab work is an important part of all of the chemistry courses which is an excellent way to build and improve professional skills from day one.



Daniel Thompson

MChem Chemistry



There are a huge amount of skills, knowledge and experience I have gained from this degree. You get a very strong development of knowledge of each subject area that is taught at the University of Aberdeen. I felt that I was constantly challenged to not only just regurgitate facts, but to learn the information and be able to use the information in order to solve problems. I also have a broad range of experiences with different analytical and spectroscopic techniques which are invaluable skills for any future research in academia or industry.



Chemistry

BSc/Mchem

Chemistry is not just about chemicals in laboratories – chemistry touches every aspect of our daily lives. Chemistry is about understanding how matter changes and how these changes affect everything from the food we eat and air we breathe, to the medicines we take and the energy we use to power our homes, cars and phones.

Programme Overview

Chemistry is a core science that is not only the very essence of life, but is also concerned with the quality of life and its continuous improvement. It is often regarded as the central science, and a degree in chemistry provides a student with many key skills which can be used in many areas not necessarily restricted to the discipline.

Students who study chemistry at university go on to work in a wide range of highly rewarding careers, tackling the problems we face today in areas such as drug discovery, environmental protection, forensics, food and agriculture as well as academic careers in teaching or cutting-edge research.

Chemistry is also central to the transition to clean and sustainable energy and this programme will also provide you with the foundation for a career in developing battery and fuel cell technology, carbon capture technologies and also the hydrogen economy.

The BSc (Honours) degree is the traditional route to a qualification in chemistry. It involves four years of full time study (although direct entry into second year is possible for well qualified applicants, and all four years may be undertaken part time).

BSc (Hons) graduates with first class or upper second class honours are eligible to continue to postgraduate research degrees, although most choose from the wide variety of employment options available to chemistry graduates.

What You'll Study

Year 1

- Chemistry for the Physical Sciences 1 & 2
- Elements of Chemistry 1 & 2
- Plus further optional courses

Year 2

- Chemical Kinetics and Thermodynamics
- Analytical Chemistry and Spectroscopy
- Organic and Biological Chemistry
- Inorganic Chemistry
- Introduction to Materials

Year 3

- General Chemistry
- Inorganic and Solid State Chemistry
- Environmental Chemistry
- Organic and Biological Chemistry
- Molecular Structure and Reactivity

Year 4

- Honours Chemistry Research Project
- Advanced Chemistry Topics
- Integrated Chemistry

Year 5 (MChem Students Only)

- MChem Chemistry Applications
- MChem Project Placement

MChem Chemistry

The MChem degree at the University of Aberdeen is a 5 year programme accredited by the Royal Society of Chemistry (RSC) and leading to the professional qualification of Chartered Chemist.

The MChem degree was instigated at the request of employers and the Royal Society of Chemistry to provide graduates with a wider range of skills (including transferable skills and more research experience) than those in the BSc (Hons).

A feature of all of these programmes is a final year 4-month research project placement in the area of specialisation, usually at an overseas university, research institute or industrial laboratory. The MChem is seen as the flagship degree, and entry into the final two years is dependent on achieving at least an upper second class Honours level of performance in third year.

In the second half of Level 5, students gain research experience in a professional research environment, which could be in a laboratory on mainland Europe. These projects extend from January to April and students may obtain additional funding from study abroad schemes to cover the extra costs associated with living abroad. Students may undertake their placement further afield, for example in North America or Australia, or within Aberdeen, subject to individual circumstances.

Students undertake a comprehensive literature review on the topic of their project during the first half-session. Literature and communication skills are taught alongside practical lab skills and chemistry theory. The project placement is at the heart of the MChem and richly enhances employability.

Samuel Thamm

MChem Chemistry



I chose Aberdeen due to the great chemistry facilities that the university has. The staff were all very welcoming and made me feel like I was part of the university when I met them at the offer holders day.

Most of my chemistry knowledge has been enhanced through the degree so far and it has opened up the world of chemistry more so than I could ever have imagined. I have found particular interest in the organic chemistry courses, I found the topics fascinating and the lecturers engaging.





Meet your lecturer

I teach a whole range of courses which cover exciting topics such as nanomaterials, porous materials, environmental remediation, catalysis and biorenewable chemical production. I have always been intrigued by the world around us and love that by studying chemistry we can understand our world around us a little bit better. My research interests are in the area of catalysis with a strong emphasis on how catalysis (and chemistry in general) can help keep our planet healthy.

I think a degree in chemistry is a fantastic degree because you don't just learn facts, you learn practical skills and graduate with fantastic communication and problem-solving skills. This can then open up a whole range of possibilities beyond your degree!

Best tip for studying at the University of Aberdeen... always be willing to ask for help when you need it. Our staff are incredibly passionate about your education and really will go the extra mile to help support you on your educational journey.

Dr Alan McCue



Meet your lecturer

I'm Dr Rebecca Walker, UoAberdeen alumni and Lecturer in Chemistry since 2020. I teach on a variety of UG courses across all 5 years of the BSc/MChem program, spanning analytical, physical, materials and organic chemistry topics – a chemist of all trades, if you like!

I love the diversity of chemistry as a subject, and how it basically knits together different disciplines of natural and physical sciences.

During your time at Aberdeen, be sure to explore the diverse research themes of our Chemistry Department: you'll have the opportunity to learn from and work with world-leading experts in a number of exciting areas. But remember it's not all about work, join the departmental Chemistry Society to get to know your classmates and other students and staff in the Chemistry Department over a slice of pizza or a pub quiz!

Dr Rebecca Walker






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