

Chemistry

Essentials

What chemistry degrees are there?

MChem degrees

Chemistry
Chemistry (with a sandwich year)

BSc degree

Chemistry

What A levels/IB scores do I need?

(For other qualifications information, refer to pages 125-129)

Typical A level offer for MChem degrees: AAB

Typical A level offer for BSc degree: ABB

A levels (or equivalent) must include Chemistry, grade B

Typical IB diploma offer for MChem degrees: 36 points including 6 in Higher Level Chemistry

Typical IB diploma offer for BSc degree: 34 points including 5 in Higher Level Chemistry

What else do I need?

GCSE (or equivalent) Mathematics and either Chemistry or Double Science, all grade B

Fees

Refer to pages 137-138 for information on fees

English language requirements

IELTS 6.5 overall and not less than 6.0 in both the Listening and Writing sections. Internet-based TOEFL with 90 overall, including at least 24 in Speaking and 25 in Writing. For alternative English language requirements, refer to page 130

Foundation year for non-EU students

If your qualifications (including English language) do not yet meet our entry requirements for admission direct to the first year of these degree programmes, we offer an international foundation year entry route. Refer to pages 26 and 131 for details

How do I find out more?

For more information, contact:

E lifesci@sussex.ac.uk

T +44 (0)1273 678057

Department of Chemistry and Biochemistry,
University of Sussex, Falmer, Brighton BN1 9QJ, UK

www.sussex.ac.uk/chemistry

When can I visit?

We welcome visitors to the Department of Chemistry and Biochemistry. Contact us at the address above to arrange a date and time

Our Open Day dates for 2011 are 11 June and 8 October. We also run regular campus tours. Please book online at www.sussex.ac.uk/visitors or call 01273 876787

Why chemistry?

Chemistry is fundamental: it is the enabling science for many technologies and has played an integral role in many of the advances made by modern society, from genetics to human health, and from environmental control to information technology. Studying chemistry will enable you to understand these developments and allow you to contribute to them in the future.

Chemistry is challenging: developing your understanding of the very fabric of matter is both stimulating and rewarding. By studying chemistry you will gain the confidence to attack and solve problems both in chemistry and in other areas.

Chemistry provides you with transferable skills: a chemistry degree prepares you for jobs in the chemical industry, education, and related fields. More fundamentally, it develops your ability to solve problems, to think critically, and to communicate your ideas. These are transferable skills that will make you attractive to any potential employer.

Why chemistry at Sussex?

- Chemistry at Sussex ranked 5th in the UK in *The Guardian University Guide 2011*.
- In the 2008 Research Assessment Exercise (RAE), 95 per cent of our chemistry research was rated as recognised internationally or higher, and over half rated as internationally excellent or higher.
- Strong employment record.
- All our degree programmes are recognised by the Royal Society of Chemistry (RSC) and incorporate the most up-to-date scientific advances. Sussex and the RSC have strong links with the local community and beyond.
- Our MChem degree programme is accredited by the RSC. Accredited degree programmes satisfy the academic requirements for the award of Chartered Chemist (CChem).
- As an MChem student, you will be a member of a research team exploring the frontiers of chemical knowledge.
- World-leading research (the Department has had two Nobel laureates on its faculty in the recent past).
- The optional sandwich year will allow you to experience a year working in industry, and will equip you with a range of transferable and laboratory skills, enhancing your employability.
- Our staff are dedicated to excellence in both teaching and research, and we have an active student chemical society called C₆₀.

Aidan's perspective

'I chose to study at Sussex because I felt that at Sussex I'd have the opportunity to know all of the chemistry teaching staff personally and to feel a part of a team, and I've found this to be the case. One lecturer even remembered me from the initial Open Day! An intimate environment like this can really help you get the most out of your degree. I'm currently in the final year of my MChem degree, which is proving to be very exciting. I'm working both individually and collaboratively on a genuine research project, while further developing my knowledge with a couple of advanced lecture courses. This has been a fantastic opportunity to really get to grips with the reality of being a research scientist and, along with the great sense of satisfaction that brings, it's also an excellent way to prepare for the world of opportunities available after graduation.'

Aidan Ashton-Griffiths
MChem in Chemistry



Mike's career perspective

'I've always had a fascination with chemistry, which has only grown as I've discovered how the science has a part to play in almost everything that we do. At Sussex, I was able to explore and build on that knowledge and enthusiasm. During the first few terms you're taught the fundamental skills you'll need to succeed both at Sussex and beyond, and then you progress to specialise in the areas that hold the greatest interest for you. In my third year, I took a sandwich placement, during which I was able to apply what I'd been taught at Sussex in my work for Procter&Gamble (P&G). I learnt a host of new skills that – along with the ongoing support of the team at Sussex – really helped me to succeed in my final year. Having now graduated, I'm back at P&G working on future Gillette and Olay products. I'm continuing to grow as a scientist and still daily putting into practice much of what I learnt while at Sussex.'

Mike Goffe
Analytical
Researcher,
Procter&Gamble



What sort of career could I have?

- Direct employment in the chemical industry, including pharmaceutical companies such as GlaxoSmithKline, Pfizer, British Biotechnology, or the materials sector, working on plastics, electronics or paints.
- Many of our graduates go on to carry out research in chemistry to PhD level before entering employment in the chemical industry.
- About 10 per cent of our graduates go on to teach, training the next generation of chemists.
- Transferable skills gained during the chemistry degrees enable our students to go on to careers such as accountancy, administration, advertising, charity work, computing, finances, law, marketing and sales.

How will I learn?

You will learn through a variety of methods, including workshops, laboratory work, lectures and small-group presentations. Our selection process ensures that you will be among other dedicated students, and the relatively small class size permits the lecture to be delivered at an appropriate pace. The Department is a friendly place and lecturers are happy to answer questions both inside and outside the lecture room.

You will put theory into practice in the laboratory, carrying out experiments that provide you with the research skills you will need to undertake advanced research projects.

You are actively encouraged to work in small groups. Extra support is provided via academic advisors, student mentors, student advisors and the student support team.

What will I achieve?

- a degree that is professionally recognised by the Royal Society of Chemistry
- a comprehensive base of chemical knowledge and practical skills, as well as an awareness of the current challenges at the forefront of chemical research
- an enthusiasm for chemistry and an appreciation of its economic and environmental importance
- the ability to apply your chemical knowledge and skills to the solution of theoretical and practical problems in chemical research
- proficiency in a range of transferable skills, valuable in a variety of careers.

MChem and BSc

At Sussex we offer a four-year MChem degree and a three-year BSc in Chemistry.

The MChem programme is aimed at students who wish to become professional chemists and specialise in particular areas of the subject. It has been designed to offer you flexibility during your study at Sussex, while ensuring your qualification as a professional chemist. An MChem degree provides the academic basis for professional chartered chemist status. Our BSc programme is designed for students who wish to study the full breadth of the subject as a route to a range of other careers.

The first three years are core to both degrees. The fourth-year courses and year-long research projects allow you to deepen your knowledge in specialist topics at the forefront of chemical research.

Applicants unsure about whether to do an MChem or BSc are strongly advised to opt initially for an MChem programme. If your eventual A level grades meet the offer level for a BSc but not an MChem, we will automatically offer you a place on the BSc programme. Subject to satisfactory progress, it is then possible to opt for the MChem programme at the end of Year 1 or Year 2. Students on MChem programmes can opt to transfer to the BSc at the end of the first or second year.

**Degrees****Chemistry**

MChem (Hons), 4 years UCAS Code: F103
MChem (Hons), 4 years (with a sandwich year)
UCAS Code: F102

BSc (Hons), 3 years UCAS Code: F100

Students following the MChem and BSc programmes take the same chemistry courses for the first three years, but make the final decision between BSc and MChem at the end of the second year.

In Year 3, you will choose your courses from a range of options, allowing you either to start specialising or to maintain a broad interest. If you opt for the MChem programme, you will select options to best prepare you for your advanced work in Year 4.

In Year 4 of the MChem programme you can specialise further, usually taking options that best support your research project. You will have the opportunity to take part in the Department's programme of research seminars and you will also be offered professional skills training in areas such as communication.

Chemistry with a sandwich year

While studying for your degree in chemistry it is possible for you to spend up to one year away from the University, as a sandwich year. Industrial placements are made in many internationally prestigious chemical companies, many of whom have close ties with the faculty at Sussex and sponsor their research programmes. Such placements are normally made either in the UK or mainland Europe.

You may choose to spend a year at another university as an exchange student. You will then take courses at a university located in Europe, North America, Australia or Asia. For European and Asian universities it is possible to select a host institution where chemistry is taught in English.

Core courses

You will take some or all of the following courses

Courses currently include:**Year 1****Chemical Energetics**

- Experimental Data Handling for Chemists
- Functional Group Chemistry
- Introduction to Biochemistry
- Introduction to Materials
- Introduction to Medicinal Chemistry and Chemical Biology
- Introduction to Organic and Bio-organic Molecules and Reactions
- Introduction to Reaction Kinetics
- Introduction to Structure and Bonding
- Mathematical Symmetry
- Numeracy Skills for Natural Scientists
- Periodicity, Redox and Electrochemistry

Year 2

- Atmospheric Chemistry
- Bonding and Spectroscopy
- Chemical Kinetics
- Coordination Chemistry
- Heterocyclic Chemistry
- Inorganic Mechanisms
- Interface Chemistry: Surfaces and Heterogeneous Chemistry
- Medicinal Chemistry
- Metal Ions in Biochemistry
- Organic Reaction Mechanisms
- Organometallic Chemistry I
- Strategy in Organic Synthesis
- States of Matter

Year 3

- Bio-organic Chemistry
- Chemical Principles
- Chemistry of the Non-Transition Elements
- Chemistry Project
- Computational Chemistry
- Instrumental Analysis
- Modern Materials
- Organometallic Chemistry II
- Protein Form and Function
- Synthesis of Pharmaceutically Important Molecules
- Synthetic Methods in Organic Chemistry

Year 4**Professional Skills for Chemists, Advanced Project**

- Two options from: Advanced Inorganic Chemistry
- Advanced Organic Chemistry
- Advanced Physical Chemistry

