Join Chemistry in the School of Life Sciences

Life Sciences brings together biology, chemistry, ecology, neuroscience, biochemistry, biomedical science, genetics and zoology. Our lecturers are world-class collaborative researchers and bring their leading expertise to teaching on all our degrees.

The importance of chemists

Many areas including new medicines to treat and cure diseases, new sustainable energy resources, nanotechnology, chemical biology, material science and renewable technologies are advancing rapidly and are at the forefront of many of the challenges we face as a society.

Our aim is to train you to become chemists who are knowledgeable problem solvers, competent across a broad range of chemical disciplines, but at the same time offering you topical specialities and transferable skills that will help shape your future career.

Chemistry is the basis of the most economically important industries in the world. All of these industries are dependent on a continuing supply of high quality graduate chemists; for example, the chemical and pharmaceutical industries are one of the UK's largest manufacturing industries in terms of employment. There will always be a range of careers and employability for chemists.

Sussex graduates’ employment

Your degree will equip you with skills that will enable you to go on to a range of careers in science or scientific research. Recent examples include Analytical Researcher at Procter & Gamble, product characterisation scientist at Lonza Biologics Plc, and forensic casework examiner at Orchid Cellmark. Many of our graduates join other professions, including teaching, and a high proportion of our students choose to enter research and further study.

Frank’s perspective

I chose to study at Sussex because I felt that the chemistry department offered a high standard of teaching and yet maintained a relaxed, friendly atmosphere amongst students and faculty members. Throughout my time at university, this feeling has never left me and it remains one of the most enjoyable aspects of learning at Sussex.

I have been inspired by modules in all three disciplines; Chemistry allows you to study a wide range of subject areas and learn many transferable skills. My classmates who graduated last year have gone into various careers including finance, sales, and journalism. I’ve had the chance to inspire local school and college students through the Outreach programme run by the student chemical society C60, which arranges teaching events on and off campus. Several of my course mates have found these to be highly beneficial in gaining experience to pursue a career in teaching.

Why Chemistry at Sussex

Top ranked chemistry department

Our highly supportive chemistry community, ranked 1st out of all chemistry departments in the UK, ensures you fulfil your potential. (Guardian University Guide 2016)

Fantastic career prospects

Our chemistry graduates are in high demand and their graduate level employment prospects are ranked equal 3rd highest out of all UK chemistry departments. (Complete University Guide 2016)

Teaching excellence

Our knowledge and teaching inspire your studies which is one reason why chemistry students rate their experience so highly with 97 per cent overall satisfaction. (National Student Survey 2015)

Undergraduate research

Here you don’t just read about world changing research, you can get involved, from year one, with those who conduct it.

Faculty teach at all levels; we offer an open door policy, and you have the opportunity to undertake summer research placements in our labs (with competitive funding available via University Junior Research Associate bursaries or RSC/Nuffield Foundation undergraduate research bursaries).

Highly supportive chemistry community

Our departmental community ensures you fulfil your potential by providing you with individual support to meet your needs with 100 per cent of students able to contact staff when needed. (National Student Survey 2015)

Great networking opportunities

Sussex Chemistry is more than just lectures the department and student Chemical Society C60 help you network through events, trips and other activities.

World-leading research

All our academics are at the forefront of their research with 97 per cent considered world-leading, internationally-excellent or internationally-recognised. (Research Excellence Framework 2014)

Our research mission (supported by a multi-million pound investment in 2011-12) centres around two main themes:

- Clean energy: addressing the globally transformative issues of climate change and energy sustainability
- Medicinal chemistry and drug discovery: including the development of new drugs for an ageing society prone to neurodegenerative diseases and cancers.

Our MChem in Chemistry and Drug Discovery has been carefully designed to fit with employer demand, putting you in a great position when you graduate.

Learning from chemists who have worked at the forefront of the biotech and pharmaceutical industries, you’ll develop the specialist knowledge and skills for a career in this sector while gaining a big advantage in a competitive job market.

If you’re considering a research career, our MChem (Summer Research Placements) takes you further. This course will provide you with a unique, hands-on opportunity to gain cutting-edge laboratory experience and to deepen your knowledge in specialist topics at the forefront of chemical research.
Degree courses

We offer four-year MChem and three-year BSc Chemistry degrees. The first two years are core to all our degrees, and so there are several opportunities, up until the beginning of the third year, to transfer from the BSc to the MChem (providing you achieve a minimum grade threshold) or from the MChem to the BSc. This gives you a great deal of flexibility, enabling you to specialize and take your studies as far as you wish.

Studying at a research-led university means that you are in an environment where lecturers are pre-eminent in their field, performing research at the frontiers of chemical knowledge. This impacts on the teaching you receive as often we use examples from our latest research to exemplify fundamental chemistry concepts in years 1 and 2; year 3 involves lectures on our specialist topics and in year 4 you have a chance of contributing to that new research by working in one of our research labs.

Our BSc/MChem Chemistry and MChem (with an industrial placement year) are accredited by the Royal Society of Chemistry (RSC). Accredited courses satisfy the academic requirements for the award of Chartered Chemist (CChem).

Chemistry
(UCAS codes: MChem F103 or BSc F100)
The standard chemistry degrees are our most popular courses and should appeal if you have a passion for chemistry as an intellectual discipline. We have designed them to encourage curiosity, to nurture your ability to subject a problem to sustained and disciplined analysis, and to develop your capability to amass critical knowledge from a variety of sources. The MChem provides you with a further year, which is strongly research-oriented and encourages problem-solving and creativity through devising experiments. Both provide ideal training for a career in chemistry and other disciplines or vocation. Should you wish to continue to PhD, the MChem is now the standard path.

Professional placement/Year abroad
All students can take a sandwich year in which they do a placement after the second year. All students can take a sandwich year in which they do a professional placement after the second year. Students can also

MChem (with an Industrial Placement Year)
(UCAS code: MChem F102)
If you want to experience the chemical industry during your degree, you can spend up to a year working on an industrial placement. Placements are made in internationally prestigious chemical companies many of which have close ties with the faculty at Sussex. Normally such placements are made either in the UK or mainland Europe. To ensure that you are equipped with the chemical knowledge to undertake the fourth-year modules, distance-learning modules will be provided during your year in industry. As this is a demanding course, students must achieve a minimum of 60 per cent in their first-year exams to be eligible to apply during their second year to spend their third year in industry.

MChem Chemistry and Drug Discovery
(UCAS code: MChem F151)
Chemistry and Drug Discovery equips you with both a solid grounding in chemistry and high-level skills which will enable you to work successfully in the medicinal chemistry and drug discovery industries. Sussex has unique expertise in this area, led by the scientists working in the Translational Drug Discovery team, who work closely with industry experts in discovering drugs. Two intensive years of study in chemistry is followed by two years of specialist study, which includes participation in a live drug discovery project on-going in the University.

MChem (Summer Research Placements)
(UCAS code: MChem F107)
This exciting and challenging degree is particularly valuable to those considering a career in research. This course provides a unique opportunity for you to work as a member of one of the Department’s research teams during a summer research placement every year, and you will receive a stipend to cover living expenses. It is available in conjunction with the syllabus of either the MChem Chemistry or the MChem Chemistry and Drug Discovery. Students must achieve a minimum of 70 per cent in the end of year exams to secure a placement for the following summer.

Course structure

<table>
<thead>
<tr>
<th>Year</th>
<th>Term 1</th>
<th>Term 2</th>
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<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td><strong>Term 1</strong></td>
<td><strong>Term 2</strong></td>
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<tr>
<td>Inorganic</td>
<td>Structure, Bonding and the Periodic Table</td>
<td>Reactivity of the Elements</td>
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<tr>
<td>Organic</td>
<td>Introduction to Organic Chemistry</td>
<td>Functional Group Chemistry</td>
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<tr>
<td>Physical</td>
<td>Maths and Data Analysis for Chemists</td>
<td>Reaction, Energetics and Kinetics</td>
</tr>
<tr>
<td>Applied Chemistry</td>
<td>Introduction to Materials</td>
<td>Symmetry and Simulation</td>
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<tr>
<td><strong>Year 2</strong></td>
<td><strong>Term 1</strong></td>
<td><strong>Term 2</strong></td>
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<tr>
<td>Inorganic</td>
<td>Coordination Chemistry</td>
<td>Organometallic Chemistry</td>
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<tr>
<td>Organic</td>
<td>Organic Reaction Mechanisms</td>
<td>Strategy in Organic Synthesis</td>
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<tr>
<td>Physical</td>
<td>Bonding and Spectroscopy</td>
<td>Phases, Change and Rates</td>
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<tr>
<td>Applied Chemistry</td>
<td>Atmospheres and Interfaces</td>
<td>Applications of Organic and Bioinorganic Chemistry</td>
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<td><strong>Year 3</strong></td>
<td><strong>Term 1</strong></td>
<td><strong>Term 2</strong></td>
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<tr>
<td>Core modules</td>
<td>Instrumental Analysis</td>
<td>Third Year Project</td>
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<td>Chemical Principles</td>
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<tr>
<td>Option modules*</td>
<td>Bioorganic Chemistry</td>
<td>Computational Chemistry</td>
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<td>Chemistry of the Non-transition Elements**</td>
<td>Surface Analysis Techniques**</td>
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<td>Organometallic Chemistry 2</td>
<td>Protein, Form and Function</td>
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<tr>
<td>Synthesis and Reactions of Polymers</td>
<td>Synthetic Methods in Organic Chemistry**</td>
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<tr>
<td><strong>Year 4 (MChem only)</strong></td>
<td><strong>Term 1</strong></td>
<td><strong>Term 2</strong></td>
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<tr>
<td>Core modules</td>
<td>Chemistry Advanced Project</td>
<td>Chemistry Advanced Project</td>
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<tr>
<td>Two options from:*</td>
<td>Advanced Inorganic Chemistry</td>
<td>Advanced Inorganic Chemistry</td>
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<td>Advanced Organic Chemistry</td>
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<tr>
<td>Advanced Physical Chemistry</td>
<td>Advanced Physical Chemistry</td>
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<tr>
<td>Advanced Medicinal Chemistry and Drug Design</td>
<td>Principles and Practice: Drug Discovery and Development</td>
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* MChem Chemistry and Drug Discovery course students will be required to take specific medicinal chemistry and drug discovery modules in year 3 (not listed) and to take the Advanced Organic and Advanced Drug Discovery modules in year 4, along with a medicinal chemistry/drug discovery advanced research project.

** Taken as distance-learning modules by MChem (with an industrial placement year) students.
Teaching, learning and assessment

**Assessment** – takes a variety of forms, to enable you to demonstrate your excellence, including:
- practical work
- problem sets
- traditional examinations
- individual and group presentations
- literature reviews
- experimental design
- major project and dissertation.

**Academic support**
When you arrive at Sussex you are assigned an academic advisor. This is one of your chemistry lecturers and they are there to help you with any problems that may affect your academic performance throughout your time here. Additionally, you will have access to a wide range of expert support and advice services should you need them, including student mentors – undergraduate chemists from the years above – and the Student Support Team, available for issues of a more personal nature.

**Rachel’s perspective**
‘One of the things I love the most about studying Chemistry at Sussex is the small class sizes – you get to know and make friends with the people on your course quite easily, and lecturers and tutors get to know you as well – you’re not just a face in the crowd.
‘I have found my academic advisor, the Student Life Centre and chemistry mentoring very useful whilst being at Sussex. My academic advisor has been helpful on personal matters as well as chemistry-related ones, and is someone I feel I can talk to if I ever need support. The chemistry mentors have also been very useful, pointing me in the right direction when I’m struggling to understand a chemistry-related concept or question.’

Rachel Wynn
MChem student

What our graduates say

**Becky Donovan**
MChem Chemistry (with an industrial placement year)
Material Technologist, D3O Lab

‘I’ve been working for an impact protection company called D3O in Portslade and I’m absolutely loving it!
‘The company owns innovative polymers which provide protection upon impact. We provide impact solutions for a wide range of markets, most notably the motorcycle, snow sport and military.
‘I mainly work with the materials, developing new formulas, maintaining equipment, and quality control, but I also spend a lot of time impact testing our products and working closely with our designers to develop new offerings and solutions.
‘Chemistry at Sussex prepared me for a professional environment – the year in industry was most beneficial. I really can’t convey just how much I learnt from being in a professional, working atmosphere, working to tight deadlines, dealing with customers from around the world and knowing that you are part of something new and exciting. Doing a 9-5 on top of third year was pretty intense, but more than worth it!’

**Sarah Gardiner**
BSc Chemistry
Merchandiser for BHS

‘I am now a merchandiser for BHS, in the Arcadia Group. Although I have not directly gone into chemistry, the skills I gained from the course and my experience at Sussex were essential for me getting the job. My job is very analytical, logical and evidence based, all skills I learnt in the lab and from producing projects. The confidence in myself and in what I am capable of doing is also essential in my job and is something I also gained from my three years at Sussex, I loved my time at Sussex, the faculty, my course friends, learning something new and exciting everyday and my whole university experience.
‘I thank Sussex for helping and enabling me to find a job I love.’

**Fran Stokes**
MChem Chemistry
PhD Cambridge

‘Sussex is endowed with an exceptional teacher-student ratio, and I feel that I benefited enormously from the wealth of knowledge and expertise of the teaching staff.
‘My experiences at Sussex provided me with not just the abilities, but also the confidence to pursue a career in academia and I would certainly recommend this course to anyone who is interested in continuing their studies to PhD level.’

More questions
See our on-line prospectus at www.sussex.ac.uk/study/ug for more information, including the latest on:
- our typical offer
- how to apply
- fees, scholarships, bursaries and other financial support
- how to arrange to visit us.

See www.sussex.ac.uk/lifesci/chemistry to find out more about Sussex Chemistry, including:
- latest news
- recent highlights (including staff and student awards)
- video.