Courses

Single Honours
BSc Chemical Physics
three years F320

MSci Chemical Physics
four years F322

MSci Chemical Physics with Industrial Experience
four years F323

Why study chemical physics at Bristol?

Chemical physics covers nanotechnology, surface science, laser spectroscopy, atomic and molecular structure, materials, and all those subjects that lie at the interface between chemistry and physics. If you enjoy the physical and mathematical aspects of chemistry and are interested in the atomic and molecular applications of physics, this is the subject for you.

Our chemical physics courses are integrated programmes of study taught jointly by the School of Chemistry and the School of Physics. Both schools are among the largest in the UK and have superb reputations for the quality of their teaching and research. The School of Chemistry is home to the UK’s only Centre for Excellence in Teaching and Learning devoted to chemistry, while the School of Physics houses the Centre for Nanoscience and Quantum Information (NSQI) – the ‘quietest building in the world’ for atomic scale measurements.

Research plays an important part in ensuring that we can offer our undergraduate students the best teaching. Our students benefit from our outstanding research facilities. Indeed, for many of our undergraduates the highlight of their studies is the chance to perform a final-year research project or scientific dissertation.

‘I enjoy the quality of the labs in both the chemistry and physics departments and the wide range of experiments they offer. The practical skills I’m gaining will definitely give me an advantage when I enter the world of work.’

Sanmi (MSci Chemical Physics with Industrial Experience)
We understand that your interests may change and develop as you study at university, so our degree courses are designed to be as flexible as possible. Our three-year BSc course will provide you with a fundamental knowledge of chemical physics, while our four-year MSci courses will enable you to develop a deeper understanding.

During your first year, transfer between different chemical physics courses is possible, as well as to courses in chemistry or physics. The structure of the first year is the same for all of our chemical physics degree courses. You will take units in chemistry, physics and maths. In subsequent years, you will study units in chemistry and physics that will allow you to build upon your fundamental knowledge and develop a deeper understanding of applications in chemical physics. The aspects of both chemistry and physics that are not relevant to chemical physics are gradually phased out after the first year, so you will no longer take courses such as organic synthetic chemistry, nuclear physics and electronics. Instead, you will take units on nanophysics, quantum mechanics, structure and bonding of molecules, kinetics, thermodynamics, semiconductors and superconductors.

Practical work is an important part of all of our science degree courses. Our chemistry and physics teaching laboratories have recently been refurbished to create facilities that would not be out of place in a research environment.

The final year of all our degree courses includes a research project in which you will work with a member of academic staff and their research team on a current scientific problem. You can choose from projects offered in both chemistry and physics. You will have access to labs containing state-of-the-art research equipment. Indeed, it is not uncommon for a final-year student to operate equipment worth many millions of pounds. For many students this is the highlight of their undergraduate studies, and some have their work published in internationally renowned journals.

Assessment is primarily through examination, although practical work and some coursework are continually assessed. This gives you time to think about the subjects that you are studying, without the pressure of regular assessment deadlines. You will benefit from the superb facilities available within both schools. Our teaching laboratories are among the best in the world and we have well-equipped lecture theatres and rooms for small group teaching. Computer rooms are available for teaching and private study. You will have access to excellent libraries in both schools, stocked with recommended course books and more specialist texts and equipped with IT facilities.

If you choose the MSci Chemical Physics with Industrial Experience you will spend your third year working as a paid employee in an industrial or commercial environment. Not only will you develop excellent technical skills, but you will also gain a valuable insight into how chemical physics works in practice.

Our excellent reputation for research means that we have strong links with many companies in the UK and abroad, and in many areas of pure and applied science. Placements are available in a range of environments, from multinational companies such as AkzoNobel and Pfizer to more specialised enterprises such as Renishaw and the DSTL and companies in the USA.

97% of students agree the course is intellectually stimulating.

National Student Survey 2016, BSc Chemical Physics
A degree in chemical physics will open the door to careers in both scientific and non-scientific sectors. Your expert knowledge and superb technical skills will be highly sought after by employers in many areas of science and technology.

Employers value the unique understanding and knowledge that chemical physics students possess. You will be ideally placed to take advantage of the opportunities available in the developing areas of nanotechnology and materials science. You will also develop essential transferable skills that employers in non-scientific sectors value so highly. While many chemical physics graduates choose careers in science, your opportunities will not be limited to this sector.

The University of Bristol has an excellent reputation with employers and our graduates enjoy a wide range of enjoyable, financially rewarding career opportunities.

Careers and graduate destinations

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Making your application

Typical offer for BSc Chemical Physics* Visit bristol.ac.uk/ug18-chemphys for other qualifications.

A-levels AAA (contextual ABB†) including Chemistry, Physics and Mathematics.

IB Diploma 36 overall (contextual 32†) to include 18 points at Higher Level (contextual 16†) with 6, 6, 6 (contextual 6, 6, 5†) at Higher Level in Chemistry, Physics and Mathematics.

English Language Profile C††

GCSEs Grade C in Mathematics and English.

†For information on contextual offers, visit bristol.ac.uk/ug-apply/#typical-contextual-offers.

††For details of English language profiles, visit bristol.ac.uk/ug-language-requirements.

Selection UCAS or Common Application.

Deferred entry Welcomed.

*The typical offer is indicative only and the University accepts a wide range of qualifications. The information is correct at the time of printing (June 2017); however, we recommend you check the University’s website for the most up-to-date information: bristol.ac.uk/ug-study.

We welcome applications from academically able and well-motivated students from all backgrounds both from the UK and abroad. Competition for places is strong and Bristol students are some of the best in the country.

The four-year MSci courses are designed for those students who wish to continue with a scientific career, either in academia or industry. These MSci courses cover the subject in more depth and have longer research projects. The BSc course is suitable for those students who want the benefits of a scientific degree, but who may want to go into non-scientific careers such as finance, IT, teaching or management. If you are unsure, we recommend you apply to one of the MSci courses, as it is easy to transfer to the BSc at a later date.

Further information

Find out more about the School of Chemistry at bristol.ac.uk/chemistry, and the School of Physics at bristol.ac.uk/physics.

To find out more about Fusion and Chaos, the University of Bristol’s Chemical and Physics Societies, please visit bristolsu.org.uk/activities/societies.

Royal Society of Chemistry: www.rsc.org.

Institute of Physics: www.iop.org.

The University of Bristol has one of the best employment records in the UK. We are rated sixth in the UK in the QS Graduate Employability Rankings 2016/17 and are the third most targeted university by top UK employers (High Fliers Research, 2017).
Contact us

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If you have any questions about courses, applications or any aspect of being a UK or international student at Bristol please contact the Enquiries Team.

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University guide to the city of Bristol
bristol.ac.uk/citybristol

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