Courses

Single Honours
BSc Biochemistry
three years C700
BSc Biochemistry with Medical Biochemistry
three years C720
BSc Biochemistry with Molecular Biology and Biotechnology
three years C790
BSc Biochemistry with Study in Industry
four years
MSci Biochemistry
four years*
MSci Biochemistry with Medical Biochemistry
four years*
MSci Biochemistry with Molecular Biology and Biotechnology
four years*

*Entry is by transfer at the end of year two.

Why study biochemistry at Bristol?

Studying a degree in biochemistry will give you a unique insight into life at a molecular level and will prepare you for a career in any of the major biosciences.

Biochemistry is the study of life at a molecular level. It spans all aspects of cellular biology and chemistry including: the forces controlling molecular 3D structure; the metabolic pathways that are essential for life; the molecular control of DNA replication, expression and repair; the signalling pathways acting between and within cells; and how the cytoskeleton governs the behaviour and function of organelles within cells and of cells within living tissues.

The School of Biochemistry at Bristol has an excellent international reputation and is one of the best biochemistry departments in the UK. We focus on several areas of major challenge in biochemical research: biomolecular structure and mechanism; dynamic cell biology; and synthetic biology. These themes include studies related to: biotechnology, neuroscience, cardiovascular disease, immunology, and cancer.

Research also covers the complex interactions between biological molecules, including computer-aided protein modelling and drug design. Our school hosts researchers active at the forefront of these areas and their research directly informs teaching, ensuring the very latest biochemical discoveries are covered within our courses.

‘The School of Biochemistry is one of the most friendly and well-organised schools in the University. The breadth of the course allows one to engage with a range of aspects of science. Above all, you will be taught by passionate lecturers at the forefront of research in their field, who are always available to provide extra help and advice.’

Lavanya (BSc Biomedical Sciences 2016)
What will you study?

Year one
During your first year, you take two biochemistry units, Cellular Composition and Cellular Processes, which provide a comprehensive introduction to the subject. In addition, you will study two chemical biology units, Molecules of Life and Powering Biomolecular Interactions, which will provide the necessary foundation for your future studies. You will also have a choice of other units such as those listed below.

BSc Biochemistry C700
• Anatomy; Microbiology; Cellular Pathology; Pharmacology I or Physiology I.

BSc Biochemistry with Molecular Biology and Biotechnology C790
• Microbiology or Cellular Pathology.

BSc Biochemistry with Medical Biochemistry C720
• Pharmacology I or Physiology I.

In each unit you attend lectures and practicals and most include small-group tutorials where you can discuss essays, practise numerical questions, share problems, give presentations and develop a range of transferable skills. Practical teaching takes place in our well-equipped teaching laboratories and is supported by the online dynamic laboratory manual, eBiolabs. This innovative, web-based system allows you to engage fully with the practical teaching and develop your experimental skills.

Year two
In your second year you study two biochemistry units: Macromolecular Structure, Dynamics and Function, and Molecular Cell Biology, and two molecular genetics units: Recombinant DNA Technology, and Gene Expression and Rearrangement. You also study a unit called Biomedical Research, Employability and Enterprise Skills, which delivers important transferable skills training. You will also have a choice of optional units such as those listed below.

BSc Biochemistry (C700)
• Cellular and Molecular Pathology
• Infection and Immunity
• Neurophysiology
• Pharmacology I or II
• Physiology I or II
• Mathematics.

BSc Biochemistry with Molecular Biology and Biotechnology (C790)
• Cellular and Molecular Pathology
• Disease and Defence
• Infection and Immunity
• Pharmacology II
• Neurophysiology
• Mathematics.

BSc Biochemistry with Medical Biochemistry (C720)
• Cellular and Molecular Pathology
• Infection and Immunity
• Pharmacology II
• Neurophysiology.

In many cases you can choose from a range of other units (eg modern languages), provided that they can be timetabled. The range of optional units you can choose from will depend on which units you have taken during year one. As in the first year, you will attend lectures, tutorials and practicals in your second year.

Final year (BSc)
You will take core lectures in advanced biochemistry, comprising: Advanced Cell Biology; Dynamic Proteome; and Cellular Information. You will have the opportunity to study a number of specialist areas, which include currently: Synthetic Biology; DNA-Protein Interactions; Protein Science in Neurobiochemistry; Cardiovascular Disease; and Cancer.

In addition, you will carry out a research project for about eight weeks, where you will conduct original, cutting-edge research under individual guidance from a member of staff in a research laboratory (a range of other project types are also available). This work is presented as a report. You will also undertake a library-based literary project where you write an extended essay on a biochemical topic. There is a wide choice of topics available for both the practical and the literary projects.

Year in industry
You may apply to spend a year on an industrial or research institute placement. This placement takes place at the end of your second year of study and you will spend one year as a paid employee of the host organisation. At the end of the year you will be required to submit a report which will be assessed.

Throughout the degree you will be assessed through both written exams and coursework.

Biochemistry MSci
Students transferring on to our MSci degree follow a third year that is very similar to the BSc final year (see above), the key difference being that MSci students undertake a Research Training module in place of the research project. This prepares students for a fourth year during which they carry out an extended, 16-week individual research project in the laboratory of one of our research groups. MSci students also take a Science and Society unit, and are able to select two optional units. Unit options in the current academic year include: Cell Biology of Development and Disease; Protein Assemblies and Molecular Machines and Synthetic Biology. Teaching is delivered in the form of lectures, workshops and student-led assignments.
We aim to produce graduates with the best possible training in biochemical science with skills that can be marketed to a wide range of employers. You will develop analytical, problem-solving and teamwork skills, and will be able to communicate effectively, both orally and in writing. Biochemistry is a research-based subject and those students who achieve a good Honours degree have an excellent chance of following a career in bioscience research, with many of our graduates progressing on to a PhD or master's degree.

Biochemists are in demand in the biotechnology and pharmaceutical industries and some work in medical research establishments or in the scientific and medical publishing fields. Graduates may use their biochemistry knowledge by teaching science in schools and some join graduate-entry medicine courses. Alternatively, some students find our degree a good preparation for a number of non-scientific careers in IT, management or finance.

Careers and graduate destinations

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You will need a strong background in chemistry and at least one other science (typically biology) or mathematics. You will need to be interested in and committed to the study of biochemistry and your personal statement should demonstrate your intellectual curiosity by, for example, showing that you have read beyond your school syllabi or have undertaken relevant work experience.

Selection UCAS or Common Application.

Deferred entry Welcomed.

Making your application

Typical offer for BSc Biochemistry*

Visit bristol.ac.uk/ug18-biochem for other qualifications.

A-levels AAA (contextual AAC*) including AA in Chemistry and science/mathematics subject.

IB Diploma 36 overall (contextual 32*) with 18 points at Higher Level (contextual 16*) including 6,6 at Higher Level in Chemistry and a mathematics/science subject.

English Language profile E††

GCSEs Grade A in Mathematics or C in AS-level Mathematics or Physics, plus grade C in English Language.

†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.

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Our degree courses require independent work and so your personal statement and reference should show that you are self-motivated and work hard. The personal statement should show that you can communicate effectively and write clear and correct English.

Further information

Find out more about the School of Biochemistry: bristol.ac.uk/biochemistry.

In August 2018 the School of Biochemistry will become part of the new Faculty of Life Sciences.

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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