University of BRISTOL

Biomedical Sciences

Undergraduate study

Courses

Single Honours

BSc Biomedical Sciences
three years B900

This leaflet contains information for students planning to start university in autumn 2019. We have made every effort to ensure all details are correct at the time of going to press (June 2018). However, since this information is subject to change, you are advised to check the University's website, **bristol.ac.uk/ug-study**, for the latest updates.

Why study biomedical sciences at Bristol?

The BSc Biomedical Sciences is an exciting course at Bristol, which will provide you with a firm foundation in biochemistry, cell and cancer biology, genetics, immunology, microbiology, molecular biology, neuroscience, pharmacology, physiology and virology.

You will learn what it is like to be involved in biomedical research and how to think like a scientist, developing critical and analytical skills highly valued by employers in the field.

We offer:

- a range of stimulating first-year units that will introduce the various subject areas and provide practical laboratory training;
- teaching by internationally recognised experts and research scientists, as well as clinicians;
- the flexibility to choose optional units that will lead to more specialist units in the final year;
- an excellent foundation for careers in biomedical sciences in academia or industry, science communication or medicine;
- innovative educational resources and facilities such as the dynamic laboratory manual eBiolabs (**bristol.ac.uk/ebiolabs**), designed to prepare you for practical classes by demonstrating concepts and experiments through animations, videos and pre-lab quizzes, as well as a human patient simulator and online histology virtual microscope;
- excellent teaching labs where you will receive hands-on experience in advanced techniques throughout your degree;
- a £5 million Centre for Excellence in Teaching and Learning (CETL) in Applied and Integrated Medical Sciences;
- a real taste of applying research skills in your final-year project, in the laboratory, on the computer working on a bioinformatics project, or perhaps researching the scientific literature.

'I've enjoyed the way our lectures are taught, their content and how they supplement and support our practical sessions. The use of eBiolabs for pre- and post-lab work has enabled me to make the most of every lab session. The number of lab hours that we get every year has provided me with an excellent base to not only thrive in my final year lab project, but also in future opportunities such as a master's research programme.'

Rema (BSc Cellular and Molecular Medicine)

What will you study?

All students on the BSc Biomedical Sciences will take a broad, common first year.

Year one
Your first-year units will introduce you to the following subject areas:
- biochemistry: cellular composition and cellular processes;
- cell biology of normal and tumour cells;
- medical microbiology and infectious diseases;
- pharmacology;
- physiology of body systems.

Year two
Building on the broad foundation of year one, in the second year you will take two core units: Recombinant DNA Technology and Biomedical Research, Employability and Enterprise Skills. You will have a guided choice fof optional units, which currently include:*
- Molecular Cell Biology
- Gene Expression and Rearrangement
- Infection and Immunity
- Cellular and Molecular Pathology
- Integrative Physiology
- Neurophysiology
- Pharmacology of the Nervous System and of Body Systems.

Other optional units* may include Anatomy or foreign language units.

In years one and two you will learn in lectures, tutorials, workshops and practical sessions, and will have time for independent study. Assessment is via coursework and written examinations.

You will develop skills in bioinformatics, statistics, scientific writing and oral presentation, as well as an awareness of the ethical implications of studies in biomedical sciences. You will also gain an awareness of the importance of innovation and enterprise, and will work in a group to prepare a research proposal.

Year three
In the final year you will have guided choice of four lecture units (subject to timetabling constraints and having taken appropriate second-year units) and will pursue a research project in a related discipline. We currently offer the following units in these subject areas.

Biochemistry units
- Advanced Cell Biology
- Cellular Information.

Cancer units
- Cancer Mechanisms and Therapeutics
- Developmental Genetics and Embryonal Cancer.

Stem cell units
- Haemopoietic Stem Cell Transplantation
- Regenerative Medicine.

Immunology units
- Advanced Immunology
- Immunopathology and Applied Immunology.

Infection units
- Medical Microbiology
- Frontiers in Infectious Diseases
- Medical Virology.

Physiology units
- The Heart in Health and Disease
- Physiology of the Urinary Tract
- Cardiovascular System in Health and Disease.

Neuroscience units
- Brain and Behaviour
- New Horizons in Medicine
- Synaptic Plasticity
- Neurological and Psychiatric Disorders
- Neuroscience of Pain
- Sensational Neuroscience
- Synaptic Cell Biology.

Pharmacology units
- Pharmacology of Ion Channels and Synaptic Transmission
- Receptor Signalling and Non-Drug Therapy
- Pharmacology of the Nervous System.

Students in the Faculty of Biomedical Sciences really enjoy their studies; they find that the staff are supportive and are good at explaining things and that the lectures are inspiring and intellectually stimulating. Graduates of the faculty are well prepared to present their work to others, including future employers. They have the confidence to tackle unfamiliar problems and many become confident scientists ready to move on to the next stage in their careers.

*Options can vary according to current subject developments, staff expertise and viability.

Careers and graduate destinations

The QAA Biomedical Sciences Benchmark Statement (November 2015) states: 'The employment market for graduates in the biomedical sciences is buoyant.' This degree will provide access to a wide variety of graduate-entry career paths, including further study.

A significant number of graduates from the Faculty of Biomedical Sciences go on to study for a PhD as the first step in a research career. Others go on to postgraduate degrees in a wide range of subjects, including applied neuropsychology, cancer biology, clinical neuroscience, epidemiology, exercise physiology, genetic counselling, human and applied physiology, immunology, nutrition, science communication, transfusion and transplantation sciences and virology, as well as areas such as management. Others have gone on to study medicine, dentistry or veterinary science, or have taken a Postgraduate Certificate in Education (PGCE) or joined Teach First and gone into teaching.

Other graduates go straight into employment using their practical research skills in industrial or academic biomedical research posts. Our courses provide a broad subject knowledge appropriate for careers in biotechnology, the pharmaceutical and food industries, biomedical research and patent examination. Alternatively, some graduates go into education, finance, law, health and social work, management, manufacturing and journalism.

Over the last three years we have invited several alumni back for a careers evening. This provides an excellent opportunity for current students to hear from our graduates about their career pathways: **bristol.ac.uk/biomedical-sciences/news/2017/careers-evening-2017.html**.

'The research facilities provided by my faculty are amazing, and allow you to benefit from knowledge of current biochemical research and gain valuable practical experience. Being a biomedical student from the University of Bristol certainly helped me to gain recognition from employers and supervisors when I was searching for internships'.

Rachel (BSc Cancer Biology and Immunology)

Making your application

Typical offer for BSc Biomedical Sciences*

Visit **bristol.ac.uk/ug19-biomedical** for other qualifications.

A-levels AAA including Chemistry and another core science/mathematics subject (contextual AAC including AA in Chemistry and another core science/mathematics subject, or ABB including A in Chemistry and B in another core science/mathematics subject†).

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

English Language profile E††

GCSEs No specific subjects required.

†For information on contextual offers, visit **bristol.ac.uk/contextual-offers**.

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

Selection UCAS or Common Application.

*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 2018); however, we recommend you check the University's website for the most up-to-date information: **bristol.ac.uk/ug-study**.

We are interested to know about you, why you are interested in a degree in biomedical sciences, and your aspirations for your future career. We welcome applications from those who are also applying to medicine. 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 biomedical sciences, and your personal statement should demonstrate your intellectual curiosity by, for example, showing that you have read beyond your school syllabi.

Applicants who receive an offer will be invited to a visit day. This will involve a talk about the programme, a chance to meet current students and staff and to get a feel for the facilities and the opportunities on offer.

Further information
Find out more about the Schools contributing to the delivery of BSc Biomedical Sciences:

School of Biochemistry:
bristol.ac.uk/biochemistry

School of Cellular and Molecular Medicine:
bristol.ac.uk/cellmolmed

School of Physiology, Pharmacology and Neuroscience:
bristol.ac.uk/phys-pharm-neuro.

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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