

# Physiological Science



**Undergraduate study**

# Courses

## Single Honours

### **BSc Physiological Science**

three years B120

### **MSci Physiological Science with Study in Industry**

four years\*

\*Entry by transfer from B120

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](http://bristol.ac.uk/ug-study), for the latest updates.

## Why study physiological science at Bristol?

Physiology is the study of animal (including human) function and can be investigated at the level of cells, tissues, organ systems and the whole body. The underlying goal is to explain, in biochemical, physical and quantitative terms, the mechanisms that operate in a living organism, how they are controlled and how they interact.

The quality of teaching within the School of Physiology, Pharmacology and Neuroscience is excellent; we have been recognised as a Centre for Excellence in Teaching and Learning (CETL) and continue to innovate in our teaching. This is demonstrated by the development of our online dynamic lab manual, eBiolabs, which supports lab-based teaching, and the pioneering use of human patient simulators in our practical teaching.

Research in physiology involves studying biological function, from the level of specific genes encoding proteins to that of the whole body. This demands study at the molecular, cellular and systems levels of organisation, and the use of a corresponding diversity of experimental techniques.

Physiology students benefit enormously from being taught by staff who are leaders in their research field, primarily in the fields of cell physiology, neuroscience, and cardiovascular and respiratory physiology, and our final-year BSc and MSci teaching is almost entirely research-led. We have a regular programme of research seminars, which final-year undergraduates are encouraged to attend.

**'After graduating I completed an internship at an investment bank and have been offered a full-time contract. Analysing data, giving presentations, communicating complex ideas and thinking about the strength of evidence are skills that are in demand, and having done lots of these activities during my physiology course gave me an advantage over other interns. I feel that the rigour of the physiology course, particularly in the third year, has given me an excellent grounding for anything that I might like to do.'**

Rosanna (BSc Physiological Science)

# What will you study?

## Years one and two

In the first year you will study units on understanding body function, which will give you a broad coverage of mammalian cellular and systems physiology, alongside an introduction to pharmacology. In these mandatory units you will attend lectures, regular small-group tutorials and weekly practical classes. Practicals involve a variety of human and animal tissue experiments, giving you first-hand experience and insight into physiological and pharmacological methods, including the use of computers for experimental control, data display and analysis. Optional units in the first year may be chosen from a range of biomedical units such as anatomical science, pharmacology, neuroscience, biochemistry and psychology.

In the second year, mandatory units cover aspects of physiology in greater depth.

- Neurophysiology, which examines in particular the central nervous system;
- Developmental and Cellular Physiology of the Specialised Cell, which highlights aspects of how cells develop into highly specialised cells, for example neurones;

- Integrative Physiology, which includes a number of topics such as exercise, temperature regulation, stress, ageing and the way the body adapts to extreme environments.

Illustrations of dysfunction in some of these processes and the disease states that result are included. Some practical classes extend over several weeks to allow you to develop your own ideas and experimental expertise.

A unit in biomedical science skills covers aspects of data interpretation, data analysis, presentation skills and an introduction to understanding scientific literature.

There is a wide range of optional units to choose from. Popular choices currently include anatomical science, pharmacology, human anatomy and molecular genetics, or you may choose an open unit from another faculty, such as modern languages units, Big Ideas in Science, or philosophy.

In years one and two you will typically attend nine lectures a week supplemented by up to nine hours of practical work, depending on the units chosen. You will have ample opportunity to discuss lecture material and to deal with individual problems. Tutorials that help to guide understanding are provided in both years.

## Final year

In your final year you will study physiology full time. Staff lead seminars in selected areas of physiology related to their research. This allows you to study at the frontiers of knowledge in topics such as pain, the cardiovascular system, genes and function, brain and movement, synaptic transmission, and the molecular biology of ion channels.

You will carry out a final-year research project supervised by a member of academic staff. A wide variety of options is offered and you may choose a project based in a research laboratory, a literature-based project, or an education-based project, perhaps in collaboration with local schools.

Throughout the course you will receive training in transferable skills that will be valuable in many future careers. These include use of IT, communication and teamwork, and the ability to interpret and critically evaluate scientific data and manuscripts.

## Assessment

In the first two years, assessment depends on coursework and marks from unit examinations. Final-year assessment is based on library-based and research projects, as well as your final examinations.



## Careers and graduate destinations

Graduates in physiological science have a high rate of employment and many go on to further study. Each year around 45 per cent of our graduates enter further study, either for higher degrees or postgraduate medicine, veterinary or dental training. Some students pursue master's degrees in areas such as physiotherapy and bioengineering or in other subject areas, such as law.

Physiological science is an excellent first degree from which to apply for graduate entry medicine, dentistry and veterinary science, and our graduates have a high rate of acceptance on such courses. Some of our graduates undertake a PGCE and become biology or science teachers.

Around half of our students enter employment on graduation. Their career paths are varied and include roles in health and social work, the pharmaceutical industry, government research establishments, education, finance, journalism and publishing, retail and the public sector, and property-based activities. Other graduates take some time out to travel or to pursue other interests before seeking employment or going on to further study.

**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 2018 and are the fourth most targeted university by top UK graduate employers (High Fliers Research 2018).**



## Making your application

### Typical offer for Physiological Science\*

Visit [bristol.ac.uk/ug19-physiology](http://bristol.ac.uk/ug19-physiology) for other qualifications.

**A-levels** AAB (contextual ABC<sup>†</sup>) including AB (in any order) in a core science/mathematics subject and another science-related subject.

**IB Diploma** 34 points overall (contextual 31<sup>†</sup>) with 17 at Higher Level (contextual 15<sup>†</sup>), including 6, 5 (in any order) at Higher Level in a core science/mathematics subject and another science-related subject.

**English Language profile** E<sup>††</sup>

**GCSEs** No specific subjects required.

<sup>†</sup>For information on contextual offers, visit [bristol.ac.uk/contextual-offers](http://bristol.ac.uk/contextual-offers).

<sup>††</sup>For details of English language profiles, visit [bristol.ac.uk/ug-language-requirements](http://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](http://bristol.ac.uk/ug-study).

Applicants should demonstrate a clear desire to study physiology; this may take the form of wider reading in areas of interest that are not necessarily covered in schoolwork. Physiology-related work experience is not necessary, but any involvement in science-based work experience or other scientific activity would be helpful.

We will invite you to attend a visit day after we have made you an offer.

We particularly welcome applications from local schools and from mature students. We also welcome applications from international candidates and candidates with suitable non-standard qualifications.

### Further information

Find out more about the School of Physiology, Pharmacology and Neuroscience: [bristol.ac.uk/phys-pharm-neuro](http://bristol.ac.uk/phys-pharm-neuro).

Learn more about eBiolabs: [bristol.ac.uk/ebiolabs](http://bristol.ac.uk/ebiolabs).

# Contact us

## Enquiries Team

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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.

## Accommodation Office

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## Disability Services

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[bristol.ac.uk/disability-services](http://bristol.ac.uk/disability-services)

University guide to the city of Bristol

[bristol.ac.uk/citybristol](http://bristol.ac.uk/citybristol)

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## Photography

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