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If you have any questions about courses, applications or student life at Bristol, please contact the Enquiries Team.

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Physiological Science



Undergraduate study



Courses

Single Honours

BSc Physiological Science

three years B120

MSci Physiological Science

four years B122

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 2020. We have made every effort to ensure all details are correct at the time of going to press (May 2019). 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 physiological science at Bristol?

Physiology explores how the body works and is one of the key disciplines that underpins medicine. Body function can be investigated at the level of cells, tissues, organ systems and the whole body, with the underlying goal of explaining the mechanisms that operate in a living organism, how they are controlled and how they interact. For example: how does the body respond to different situations such as stress, high altitude or blood loss? How can we investigate what goes wrong in states such as cardiovascular disease so we can identify new targets for treatments?

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, which supports lab-based teaching, and the pioneering use of human patient simulators in our practical teaching. Transferable skills such as communication and data analysis are also a focus of our courses.

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, with which you will be engaged from your first year.

Physiology teaching at Bristol is built around ongoing research. You will benefit from being taught by staff who are leaders in their research field, primarily in the areas 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, giving you a broad coverage of mammalian cellular and systems physiology, alongside an introduction to pharmacology. In these mandatory units you will attend lectures, workshops, 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. You can choose from a range of optional 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 the role of the central nervous system in the control of body systems;
- Cellular Physiology, which highlights aspects of how cells develop into highly specialised cells and interact with each other;
- Integrative Physiology, which explores the integration of body systems when facing challenges such as exercise, temperature regulation, ageing and extreme environments.

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

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

Our wide range of optional units currently includes anatomical science, pharmacology, human anatomy and molecular genetics. You may choose an open unit from another faculty, such as modern languages, Big Ideas in Science, or philosophy.

In years one and two you will typically attend around 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 deal with any problems. Tutorials in both years help to guide understanding.



At Bristol, hands-on learning is at the forefront of your learning experience. Teaching takes place in purpose-built laboratories using online practical resources and state-of-the-art human simulators.

Final year

In your final year you study physiology full-time. Staff lead seminars in topics related to their research. This allows you to study at the frontiers of knowledge in topics such as the cardiovascular system, function of the urinary tract, pain, genes and function, synaptic transmission, and brain and movement.

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 from a wide range of laboratory, literature, public engagement of science or education-based projects.

If you are on the MSci course you will follow the same programme of study as the BSc, then in your fourth year you will undertake an extended research project alongside units to enhance your skills in communicating science and developing ideas that could be used to solve specific scientific challenges.



For MSci with Study in Industry, you will spend the third year on a placement with an industrial partner and will submit a dissertation afterwards. You will complete a research grant application project in your fourth year, alongside final-year BSc units.

Throughout all our courses, 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 unit examinations. Third-year assessment is based on projects, coursework and your final examinations. For the MSci programme your final-year assessment will include coursework, exams and the extended project.

For MSci Physiological Science with Study in Industry you are required to write a report following your year in industry and present a poster.

‘The facilities are amazing, and they cover many learning styles – from formal lectures to lab work supported by state-of-the-art equipment and online learning platforms.’

Melanie (BSc Physiological Science)

Careers and graduate destinations

Graduates in physiological science have a high rate of employment, and many go on to further study such as master's degrees or PhDs. 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 related 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.

Bristol is the second most targeted university by top UK employers.

High Fliers Research 2019



Graduate employers

BT
Vets4Pets
Public Health England
Rowan Dartington
Absolute Health



Career destinations

Finance Professional
Capital Gains Tax Assistant
Cardiac Physiology Technician
Management Trainee
Talent Acquisition Assistant

Source: Destinations of Leavers from Higher Education survey 2016/17. Find out more at bristol.ac.uk/careers/be-inspired.

Making your application

Visit bristol.ac.uk/ug20-physiology for more information about our courses.

Typical offer for BSc Physiological Science

A-levels AAB including two of the following subjects (contextual BBB or ABC including BB in two of the following subjects): Biology or Human Biology, Chemistry, Physics, Mathematics or Further Mathematics, Psychology.

IB Diploma 34 points overall (contextual 31) with 17 at Higher Level (contextual 15), including 6, 5 at Higher Level (contextual 5, 5) in two of the following subjects: Biology, Chemistry, Physics, Mathematics, Psychology.

Our contextual offer is a grade reduction of up to two grades below the standard entry requirements, made to applicants from under-represented groups. Find out more at bristol.ac.uk/contextual-offers.

GCSEs No specific subjects required.

Selection process UCAS.

For other accepted qualifications, and for our English language requirements, visit bristol.ac.uk/ug20-physiology.

Application advice for physiological science courses

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.

This information is correct at the time of printing (May 2019), but we recommend you check the University website for the latest information: bristol.ac.uk/ug20-physiology.



Read more about how we support you when you are here:

bristol.ac.uk/students