

Neuroscience



Undergraduate study

Courses

Single Honours

BSc Neuroscience

three years B140

MSci Neuroscience with Study in Industry

four years*

*Entry by transfer from B140

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 neuroscience at Bristol?

Neuroscience is the study of the nervous system and is a rapidly growing discipline. You will learn about discoveries that are transforming our understanding of the brain and contributing to the development of new treatments for disorders affecting millions of people.

Our neuroscience degrees are run by the School of Physiology, Pharmacology and Neuroscience. The quality of teaching within the school is excellent; we have been recognised as a Centre for Excellence in Teaching and Learning (CETL), and we continue to innovate in our teaching. We have developed an online dynamic lab manual, eBiolabs (bristol.ac.uk/ebiolabs), to support our practical teaching and have pioneered the use of human patient simulators in practical teaching.

There is a wealth of research in neuroscience carried out at Bristol, and students studying neuroscience benefit enormously from being taught by staff who are leaders in their field of research. Our final-year BSc and MSci teaching is almost entirely research led.

Neuroscience research that contributes to our teaching includes studying the ways in which the brain and spinal cord control eye and limb movements, for example in patients with motor disorders such as Parkinson's disease; investigation of the neural circuitry and neurochemistry associated with the sensation of pain, and how the brain may modify our perception of pain; and how plasticity of synaptic transmission underpins the mechanisms of learning and memory.

'Though it sounds like a cliché, my time at the University of Bristol really was some of the best of my life so far. It was in Bristol that I met some of my best friends, learned how to be independent and ultimately got a qualification that I am proud of. The course was interesting and stimulating, and I learned skills that I use now on a daily basis in my current role. The staff are very helpful, approachable and friendly... If I could go back, I would do it all again.'

Beth (BSc Neuroscience)

What will you study?

The objective of the course is to provide a broad base in the sciences that underpin investigations of the nervous system. You will start specialist neuroscience teaching from day one, and there will be an increasing emphasis on specialisation as the course progresses.

Teaching will include lectures, interactive sessions, tutorials and practical classes. Practicals are supported by an innovative dynamic online laboratory manual.

Year one

You will take units that introduce you to the basics of neuroscience, covering topics such as how neurones generate action potentials and how they form connections with other neurones or effector cells. You will spend time studying human brain specimens to understand how the structure of the nervous system relates to function. You will also start to consider how the brain performs higher cognitive functions and the mechanisms underlying the effects of diseases on the nervous system. These will be studied alongside units that cover the structure and function of mammalian body systems, including neuronal control mechanisms. A pharmacology unit will introduce you to how drugs interact with

receptors to alter cellular function. You will also choose an optional biomedical sciences unit in a topic such as biochemistry, pharmacology or psychology.

Year two

You will take the Techniques in Neuroscience unit, which introduces some of the important methods that have enabled advances in understanding function and dysfunction of the nervous system. Another unit covers aspects of neuropharmacology and deals with drugs that interact with the central nervous system. The Neurophysiology unit covers the physiology of central and peripheral nervous systems, special senses, higher mental functions, control of movement, biophysics and synaptic mechanisms.

The Biomedical Sciences Skills unit covers topics including data interpretation, data analysis, presentation skills and an introduction to understanding scientific literature. You will also choose an optional unit. Recent optional units have included: integrative physiology, biochemistry, pharmacology, cellular and molecular medicine, or an open unit, such as philosophy or a language.

In years one and two you will attend nine lectures a week supplemented by up to nine hours of practical work or workshops depending on the units chosen. Ample opportunity is provided to discuss lecture material and to deal with individual problems. Tutorials that help to guide understanding are also provided.

Final year

In your final year staff will lead seminars in selected areas of neuroscience related to their research. This allows you to study at the frontiers of knowledge in topics such as pain, sensory neuroscience, brain and movement, synaptic transmission and plasticity, learning and memory, and neuropsychiatric disorders.

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 your degree course you will receive training in transferable skills, including use of IT, communication and teamwork, and the ability to interpret and critically evaluate scientific data and manuscripts.

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 and your final examinations.

If you are studying towards the MSci, you will submit a dissertation following your industrial placement and will complete a research grant application project in your final year.



Careers and graduate destinations

Neuroscience graduates have a high rate of employment and progression to postgraduate study (master's and PhDs). Of the students who enter employment after graduation the career paths are varied and include health and social work, education, finance, publishing, retail, the public sector, IT and media.

Other graduates take some time out to travel or pursue other interests before finding employment. Of those who continue to higher degrees, many then continue into scientific research, either in universities or in the pharmaceutical sector.

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 BSc Neuroscience*

Visit bristol.ac.uk/ug19-neuroscience for other qualifications.

A-levels AAA or A*AB including a core science/mathematics subject and another science-related subject (contextual ABB including AB (in any order) in a core science/mathematics subject and another science-related subject[†]).

IB Diploma 36 points overall (contextual 32[†]) with 18 at Higher Level (contextual 16[†]), including 6, 5 (in any order) at Higher Level in a core science/mathematics subject and another science-related 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.

You should demonstrate a clear desire to study neuroscience. This may take the form of wider reading in areas of interest that are not necessarily covered in school work. Neuroscience-related work experience is not necessary, but any involvement in science-based work experience or other science activity would be helpful. You will be invited to attend a visit day after an offer has been made.

Further information

Find out more about the School of Physiology, Pharmacology and Neuroscience:

bristol.ac.uk/phys-pharm-neuro.

Learn more about eBiolabs:

bristol.ac.uk/ebiolabs.

Contact us

Enquiries Team

Tel +44 (0)117 394 1649

Email choosebristol-ug@bristol.ac.uk

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

Tel +44 (0)117 954 6640

Email accom-office@bristol.ac.uk

bristol.ac.uk/accommodation

Disability Services

Tel +44 (0)117 331 0444

Email disability-services@bristol.ac.uk

bristol.ac.uk/disability-services

University guide to the city of Bristol

bristol.ac.uk/citybristol

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Tel +44 (0)117 394 1573

Email ug-publications@bristol.ac.uk

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Dan Rowley

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