University of BRISTOL

Intercalated degrees

2019/20 entry

for medical, veterinary and dental students

What is intercalation?

An intercalated award is an additional undergraduate degree (BSc or BA) or master's level programme (MRes or MSc) that you complete in an intensive year away from your normal medical, dental or veterinary studies. You can study a BSc or BA after two or more years of study on your professional programme. You need to complete at least three years of your professional programme for entry on to our master's level programmes.

What can I study?

Why intercalate at Bristol?

How to apply

Please apply directly to us using our online application form at **bristol.ac.uk/intercalate/apply**

Teaching and research excellence

Bristol is a top ten UK university according to the QS World Rankings 2019, and was placed joint fifth with the University of Oxford for research intensity in the UK's latest Research Excellence Framework (REF 2014). This means that the vast majority of our teaching staff are active researchers, so you will study with experts who bring the latest research developments into the lecture theatre, the seminar room and the laboratory.

Accommodation

Students who intercalate from other institutions are guaranteed an offer of accommodation under the terms of Bristol's accommodation agreement for first-year undergraduate students.
bristol.ac.uk/accommodation/undergraduate/intercalating-students

Benefits of intercalation

Pausing your studies to intercalate with us provides a whole host of benefits for your career and personal development including the chance to:

- delve deeper into a subject or specialism that interests you;
- study something completely different from your current subject;
- explore current trends in cutting-edge research alongside international experts;
- focus on a research project, which will provide you with an excellent grounding in research methods;
- present your research at an academic conference or as a journal publication;
- develop career-enhancing transferable skills, such as critical scientific thinking, evidence evaluation, literature research and academic writing;
- improve your career prospects in a competitive graduate market;
- make new friends away from your professional programme;
- experience life as a student away from your clinical programme and its extensive timetable.

Support while you intercalate

Student services and support

Choosing to intercalate is a significant decision and there is a lot to consider before you apply.

For example, you will need to think about the additional costs of another year at university, how you will deal with different teaching and assessment methods, and how you will feel about rejoining your professional programme a year behind your peers.

We want our students to have the very best experience with us, so to help you with any concerns, the University offers a wealth of support services including the Student Funding Office, a comprehensive range of study skills sessions and Student Services, whose staff are on hand to offer plenty of support and advice should you need it.
bristol.ac.uk/study/undergraduate/student-life/wellbeing

Fees and funding

Please check our online course finder for the current tuition fees for your chosen intercalated degree.
bristol.ac.uk/study/undergraduate/search

Funding for intercalation varies depending on where you live and our Student Funding Office can provide you with up-to-date information about the financial support available.
bristol.ac.uk/fees-funding/undergraduate/intercalation

'I have been fantastically well supported at Bristol. I lived in halls of residence, where administrative and pastoral staff were on hand to help me settle in and help with any issues throughout term. I was also allocated a personal tutor from within the Medical School, who looked out for me in my studies and could be contacted with any academic or personal queries.'

Patrick (MBChB Medicine)

Student life in Bristol

The city

Our students always say how much they love the city of Bristol – from its friendly people and fantastic music scene to its vibrant harbourside, green spaces and buzzing centre. Bristol combines the tradition of a historic port city with the atmosphere of a fast-paced, dynamic and modern metropolis. Its flourishing cultural life reflects the diversity of its population, which represents at least 187 countries of birth. Considered to be the capital of south-west England, our cosmopolitan city has a strong, independent spirit.

The city holds a number of prestigious accolades. Bristol was voted the best place to live in the UK by *The Sunday Times* in 2017. Bristol is one of only six UK science cities and was named Europe's best small city of the future by influential business publication *fDi Magazine*. Best of all, Bristol is the perfect size, offering all the excitement of a big city packed into an area you can easily explore on foot or by bike.

The University

Alongside Bristol's impressive city credentials, the University plays host to many sports clubs, societies and volunteering opportunities.

Our excellent sports and fitness facilities will help you stay on top of your game, with over 60 sports clubs, ranging from gliding to volleyball. The University of Bristol Students' Union co-ordinates a huge range of activities for you to get involved in and is home to more than 300 student groups, ranging from wine to tea appreciation and hot air ballooning to photography. Our students also contribute an impressive 100,000 hours each year volunteering on projects such as painting the homes of older Bristol residents or working in local primary schools.

If you choose to intercalate with us, you will quickly discover that Bristol is an exciting and vibrant place to spend your intercalation year. **bristol.ac.uk/study/undergraduate/student-life**

International intercalators

The Bristol experience

We welcome applications from overseas students who would like to intercalate. Bristol is a truly international university and is a highly supportive environment, where we encourage personal as well as academic growth.

Bristol is one of the most popular and successful universities in the UK. We continually invest in our facilities, training and technology to give you the best opportunity to succeed. Welcoming students and staff from over 120 countries with an exciting diversity of backgrounds makes for a stimulating and dynamic community.

Bristol is situated in south-west England, surrounded by countryside, but only 90 minutes from London by train. It is well connected by a major road and rail network hub and has a busy international airport. The region is known for its engineering, IT and creative industries and the city is home to scientists, engineers, academics and artists.

Advice for international students and families

As well as accessing the full range of support services available to all students at the University, you will be able to benefit from the support offered by the International Office, for example if you are bringing your family to the UK, and when adjusting to UK systems.

Our International Student Visa Advisers can offer practical support for your visa application, helping to ensure that you understand your visa conditions. They are qualified experts and are here to make sure your visa arrangements are sorted, allowing you to focus on your studies.

A warm welcome

The University runs an Arrivals Service at four different arrival points, including London Heathrow and Bristol International Airport, to make your arrival into the UK as easy as possible.

'Clinical Sciences has been particularly great because it's so immersive and heavily practical. It's almost as if you learn on the job, which I believe will set us up so well for doing research in the future.'

Georgia (MBChB Medicine)

Biochemistry (BSc)

'I've had an unforgettable year and have learnt so much both theoretically and practically, which I hope to transfer to medicine. I now appreciate the frustration and excitement of research.'

Florence (MBChB Medicine)

Biochemistry is a fascinating discipline which allows you to explore the molecular basis of biological systems. Bristol is one of the best places to study biochemistry in the UK, and the school has over 50 years of teaching and research excellence.

This course combines lectures, workshops, small-group tutorials, reading of primary literature and research projects. You will be supported throughout by a personal tutor.

Intercalators leave the course with a strong grounding in basic science and its application to disease states. You will also gain excellent communication skills developed through oral and written presentations, and the ability to critically evaluate experimental data and the conclusions drawn from them – skills that are highly valued by the medical sector and industry.

What will I study?

Advanced Cell Biology covers topics such as: cell migration during wound healing and cancer; the mechanisms by which molecules are moved within and between cells; and techniques for imaging these behaviours.

Cellular Information covers topics such as damage and repair of DNA; regulation of gene expression; and the role of signalling pathways in cancer and diabetes.

The Dynamic Proteome examines how proteins are built, folded into intricate 3D shapes and assembled with other components to form molecular machinery that conducts the chemistry of life.

Advanced Options in Biochemistry may include options in neurobiochemistry, cancer, molecular basis of disease, synthetic biology, DNA-protein interactions, and protein science in therapy and technology.

Research projects

A highlight of the year is your practical project, during which you will conduct original research in one of our world-class research laboratories. In addition to a wide range of wet-lab based projects, we also offer computer-based projects for students who wish to gain experience in the analysis of the large bodies of genetic and proteomic data being generated by modern high-throughput biological techniques.

Our students have produced projects in areas such as:

- insulin-like growth factors and cancer;
- investigating the cellular uptake of nanoparticles;
- the VPS35 (L774M) mutation in Parkinson's Disease.

Students also write a literature review in which they consider current scientific literature and write a report in a specialist area.

Contact: School of Biochemistry

Tel: +44 (0)117 331 2167
Email: **bioc-office@bristol.ac.uk**

Bioethics (BSc)

'The intercalated BSc Bioethics was arguably the most important and certainly the most enjoyable part of my undergraduate medical training, and has provided me with skills I use on a daily basis in my career as a GP.'

Ruth (MBChB Medicine)

One of the first intercalated courses in healthcare ethics and law offered by a UK university, this course has been run by Bristol's Centre for Ethics in Medicine since 1998. The centre is an internationally recognised leader in research and teaching in bioethics. Our track record of success means that you will study with expert tutors from across the field of bioethics and, in particular, experts in philosophical ethics and medical law.

As an intercalating student you will:

- learn about the major trends, theories and arguments in bioethics and medical law;
- develop your ability to think through the issues for yourself;
- improve your skills in researching, writing and presenting;
- present and write about ideas that interest you, in assessments that you propose and develop.

The course is delivered through staff-led seminars, lectures and tutorials, plus student presentations and individual supervision. We also encourage student-directed study throughout the course.

Intercalating students use this course to inform and develop their clinical practice, with some going on to become members of ethics committees, such as clinical ethics advisory groups. Others go on to contribute to scholarship in the field, conducting research and publishing in leading journals and books.

What will I study?

The course comprises four units and a substantial dissertation:

- Introduction to Bioethics
- Introduction to Medical Law
- Medicine and Law – taught in the Law School
- Ethics – taught in the Department of Philosophy
- Dissertation.

Contact: Centre for Ethics in Medicine

Tel: +44 (0)117 331 4521
Email: **brms-ethicsinfo@bristol.ac.uk**

FOR 2019/20 ONLY While we expect to run this programme in the academic year 2019/20, we can only do so if we recruit sufficient numbers of students. We will notify you by 31 March 2019 if we are unable to run the course. We may also offer you a place on another intercalation programme of your choice at the University.

Cancer Biology and Immunology (BSc)

'Intercalation will help me when I go back to dentistry because I have learnt so much from it in terms of managing my time and learning how to find information elsewhere other than what has been given to me. I'm working with a supervisor who has managed to find a dental focus for my research project.'

Pamela (BDS Dentistry)

Embedded within the internationally recognised School of Cellular and Molecular Medicine, this unique course offers a fascinating insight into this field as well as an opportunity to explore the scientific background to a possible area of specialisation in your future career.

What will I study?

The course comprises four units plus a research skills unit which includes a substantial research project. Students choose at least three of the following four lecture units.

Developmental Genetics and Embryonal Cancers outlines how critical molecules, pathways and mechanisms regulate cell growth and development. You will learn how defects and diversions in normal growth control can lead to developmental diseases and cancer.

Cancer Mechanisms and Therapeutics shows how cancers develop and which key genes and growth signalling pathways become defective and lead to the development of common adult cancers. You will discover how a knowledge of defective signalling pathways can reveal novel measures to prevent, detect and treat cancer.

Advanced Immunology is at the cutting edge of research; this in-depth unit explores the cellular and molecular events that drive immune responses. It illustrates the development and differentiation of immune cells, how the immune system processes and recognises antigens and how immune cells home to the tissues of our body where they are needed and highlights the consequences of their communications. It demonstrates that the immune system needs control and shows how this is achieved to avoid disease.

Immunopathology and Applied Immunology provides you with a comprehensive knowledge of diseases which develop because of inappropriate immune responses or deficiencies in the immune system. It also introduces you to disease processes and how this knowledge is used to manipulate the immune system through vaccination and other immunotherapies to fight infection, allergy, autoimmunity and tumour development.

You can opt to take an alternative fourth unit from the following:

- Regenerative Medicine
- Haemopoietic Stem Cell Transplantation
- Medical Virology
- Frontiers in Infectious Diseases
- Medical Microbiology.

Research skills

The research skills unit includes training in data handling and a substantial laboratory or literature-based project, which could see you publishing your work for the first time.

Contact: School of Cellular and Molecular Medicine

Tel: +44 (0)117 331 2050
Email: **enquiries-cellmolmed@bristol.ac.uk**

Cellular and Molecular Medicine (BSc)

'I really enjoyed my year in the School of Cellular and Molecular Medicine. The course structure means you get to pick things that you find interesting and explore them in much more depth than there is time for in medicine.'

Tom (MBChB Medicine)

At the School of Cellular and Molecular Medicine we aim to inspire you with our mission to turn science into medicine. As an intercalating student you will join our current third-year undergraduates learning what it is like to be involved in biomedical research and how to think like a scientist. You will develop critical and analytical skills which will benefit you enormously in your future career as a doctor, dentist or vet.

Bristol is a powerhouse of research expertise in the field of cellular and molecular medicine. The UK's Research Excellence Framework 2014 placed Bristol first for the impact of our research in clinical medicine, which incorporates this discipline. As a result, we can offer outstanding teaching by active researchers who bring the latest developments into the lecture theatre and laboratory.

What will I study?

The course comprises four lecture units and a research skills unit which includes a substantial research project. Students choose four from the following nine lecture units:*

- Regenerative Medicine
- Haemopoietic Stem Cell Transplantation
- Developmental Genetics and Embryonal Cancers
- Cancer Mechanisms and Therapeutics
- Advanced Immunology
- Immunopathology and Applied Immunology
- Medical Virology
- Frontiers in Infectious Diseases
- Medical Microbiology.

Some combinations of units will lead to the award of one of our other degree courses, that is, Cancer Biology and Immunology, Medical Microbiology, or Virology and Immunology. Students can transfer freely between any of our degree programmes.

Research skills

The research skills unit includes training in data handling and a substantial laboratory- or literature-based project. Lab-based research will see you working as part of a world-leading research group either at the School of Cellular and Molecular Medicine or in a local hospital. A literature-based project could involve data analysis or a literature review supervised by one of our experts.

Students have researched projects such as:

- The role of stem cells in the pathology and treatment of osteomyelitis (lab based);
- Tissue-engineered cartilage grafts for the treatment of osteoarthritis (lab based);
- The role of stem cells in breast cancer progression (literature based).

Contact: School of Cellular and Molecular Medicine

Tel: +44 (0)117 331 2050
Email: **enquiries-cellmolmed@bristol.ac.uk**

Childhood Studies (BSc)

'Intercalating has taught me a different way of learning, developing an inquisitive and intellectual approach to solving a problem. The course really encourages discussion surrounding the most recent research, and you have relative freedom to pursue the topics you find particularly interesting. The course co-ordinators were really lovely and willing to help, as were the other Childhood Studies students.'

Hannah (MBChB Medicine)

This course explores the social factors that underpin many key aspects of childhood, including health and development. It will benefit intercalating students who are considering a career working with children and young people or their families, and those interested in developing a holistic approach to their future practice.

This interdisciplinary subject combines theoretical understandings from areas such as psychology, sociology, education, policy studies, law, health and social care, anthropology and history. It brings these perspectives to an understanding of children and young people from birth to 19 years of age, and of the political, economic and social environments in which they grow up.

You will explore the subject with internationally recognised academics whose work is focused on children and families, developing your understanding of childhood from diverse perspectives. You will become an active researcher through research projects and your dissertation.

Studying in a friendly, supportive community at the School for Policy Studies, you will join our undergraduates on their final year of the course.

What will I study?

You will complete either a substantial research-based dissertation and four taught units, or a smaller, guided independent study project and five taught units, selected from a range of options such as:

- Play and Creativity
- Youth, Sexualities and Gendered Violence
- Therapeutic Work with Children
- Family Support
- Child and Adolescent Psychology
- Changing Families and the State
- Youth Policy and Social Welfare
- Language and Literacy
- Children and Young People in the Law
- Inter-professional Working
- Youth Justice
- Children in a Global Context
- Education, Schooling and Diversity
- Child Nutrition, Activity and Health.

Contact: School for Policy Studies

Tel: +44 (0)117 954 5561
Email: **nadia.aghtaie@bristol.ac.uk**

Clinical Sciences (BSc)

'Intercalating in Clinical Sciences has confirmed to me that I would enjoy pursuing an academic clinical career, especially as I enjoyed gaining first-hand laboratory experience in a really supportive environment. It has also been interesting learning about the latest medical research findings, as well as gaining the skills to be able to interpret these findings for ourselves.'

Anna (MBChB Medicine)

This course offers intercalating students the opportunity to study the underlying scientific basis of disease and how this can transform clinical practice.

You will learn how research discoveries at the bench can turn into bedside practice in a broad range of systems including musculoskeletal disease, metabolic disorders, renal medicine, cardiology, respiratory medicine and neuroscience.

Bristol was ranked among the top five UK universities for research in the most recent Research Excellence Framework (REF 2014). The University was also placed first for research impact in clinical medicine, public health, health services and primary care.

Our students learn in small groups in lectures, seminars, tutorials and workshops, which are situated in excellent teaching and research facilities such as the Dorothy Hodgkin Building and Southmead Hospital's Learning and Research Building. We welcome medical, veterinary and dental undergraduates.

What will I study?

The course consists of the following units:

- Introduction to Research in Health Sciences
- Laboratory Research Methods
- Clinical Research Methods in Chronic Disease
- Molecular Basis of Disease
- Diseases of the Nervous System
- Research Dissertation.

Your dissertation is a chance to embark on an area of basic or clinical research in greater depth supported by expert supervision and based in the world-class laboratories of the University of Bristol and hospitals across the city of Bristol.

Students have undertaken research projects such as:

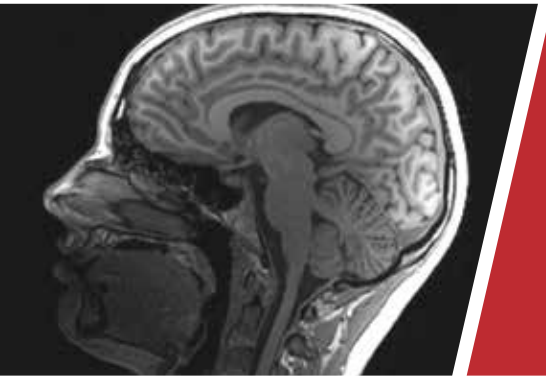
- Development and evaluation of a cognitive-motor system for an objective and quantitative measurement of fatigue in Multiple Sclerosis with functional MRI
- Understanding osteoarthritis: how does weight-bearing influence the development of osteoarthritis in extreme high bone mass?
- Deciphering Foxo1-Clover signalling dynamics in kidney podocytes
- Assessment of sleep problems using actigraphy in children
- The endothelial glycocalyx in health and disease in cats and dogs.

Contact: Bristol Medical School

Tel: +44 (0)117 331 1427
Email: **bsc-in-clinical-sciences@bristol.ac.uk**

FOR 2019/20 ONLY While we expect to run this programme in the academic year 2019/20, we can only do so if we recruit sufficient numbers of students. We will notify you by 31 March 2019 if we are unable to run the course. We may also offer you a place on another intercalation programme of your choice at the University.

Functional and Clinical Anatomy (BSc)



'By the far the most incredible experience was the dissection sessions coupled with the MRI; this was thoroughly enjoyable. I am also very happy with the breadth of learning I have achieved in many different fields; the freedom to read in areas without the tunnel vision of the medical curriculum was very fulfilling.'

(BSc Functional and Clinical Anatomy student, 2018)

The Functional and Clinical Anatomy intercalated course provides students from professional programmes with a detailed knowledge of human anatomy that is related to function and, ultimately, dysfunction. A major component of the degree is dissection. This programme was instigated in response to student demand and is designed to complement pre-clinical basic science teaching. It also utilises the excellent resources available with the Centre for Applied Anatomy.

What will I study?

In small groups, you will dissect a cadaveric subject and be expected to investigate anatomical variations, pathologies and evidence of procedures present in their subject, building this into an extensive research portfolio. This work will be supported by integrated functional and clinical seminars for each of the regions of the body.

Advanced Dissection and Research Portfolio

This unit underpins the entire course and dictates which body region is discussed in the associated seminar. Over 24 weeks, you will dissect your subject in small groups, taking note of evidence of clinical intervention – often surgical, pathological and anatomical variation. Each cadaveric subject will be scanned prior to dissection and the MR images will be available to the group as part of preparation for sessions. Findings (both dissection and MR) will be investigated and may form all or part of the dissertation. In addition to the thorough exploration of diverse themes, such as anatomical variation and pathology, and ethics and law relating to body donation, this unit fosters transferable skills, such as manual dexterity and haptic sense.

Functional and Clinical Anatomy

This unit comprises seminars led by a range of basic scientists and clinicians, and integrated with timetabled dissection sessions to give an advanced perspective on the structural, functional and clinical anatomy of a given body region.

Methods, Communication and Translation

In addition to critical thinking abilities, this unit will provide you with a basis in research skills ranging from design to communication. Ultimately, many of the skills taught will be translatable and aptitude for a number of key outcomes, such as lay articles, posters and so on, will be assessed and feedback provided. This unit provides support for the research dissertation.

Contact: Centre for Applied Anatomy

Tel: +44 (0)117 928 8929
Email: **student-admin-southwell@bristol.ac.uk**

Global Health (BSc)

'I intercalated in Global Health this year. It has been a wonderful year and I enjoyed it thoroughly. The lecturers were amazing and inspiring, and the course definitely broadened my perspectives.'

Priya (MBChB Medicine)

Globalisation requires tomorrow's doctors to be aware of global health issues and have a broad knowledge of disease as well as an understanding of both the social determinants of disease and cultural responses to illness.

This exciting course was developed in response to this need, taking full advantage of Bristol's multidisciplinary research expertise in this area and attracting students who are passionate about global health issues. In fact, our students have been involved at every stage, helping to develop it into a popular intercalated course.

The course will introduce you to the importance of global health issues to medical practice around the world. It will also develop your ability to critically evaluate and think strategically about these issues.

We use a range of student-centred approaches to teaching and learning which are designed to reflect the working environment of multidisciplinary global heath settings. Self-directed learning underpins the course and you can expect to actively contribute throughout.

Each week, you will complete preparatory work before teaching sessions. Following structured tuition, you will work, typically in small groups, and participate in presentations and discussions. For instance, a session may commence with learning about the epidemiology and evidence-based interventions relevant to an important health issue. After this, you might work through a range of scenarios tackling the issues you could face when addressing the problem in a developing country in a non-governmental organisation.

What will I study?

The course consists of the following taught units and a dissertation:

- Global Burden of Disease
- Health Policy in an International Context
- Inequalities in Health
- Anthropology and Global Health
- Gender, Conflict, Migration and Human Rights
- Global Dimensions of Disability
- Global Child Health.

Your dissertation is an opportunity to explore an area of interest in depth, with some of our students choosing to finance a dissertation project outside the UK.

Contact: Centre for Child and Adolescent Health

Tel: +44 (0)117 428 3076
Email: **bsc-globalhealth@bristol.ac.uk**

FOR 2019/20 ONLY While we expect to run this programme in the academic year 2019/20, we can only do so if we recruit sufficient numbers of students. We will notify you by 31 March 2019 if we are unable to run the course. We may also offer you a place on another intercalation programme of your choice at the University.

Global Wildlife Health and Conservation (MSc)

'I enjoyed the variety in the topics that were taught to us. Coming from a background where I knew little about issues concerning species, I am now confident I have relevant skills in this area to demonstrate to future employers.'

Annabel (MSc Global Wildlife Health and Conservation)

This innovative programme aims to give you the knowledge, skills and practical training needed to work with wildlife, with special emphasis on its health and conservation at the global scale.

The programme is based at Bristol Veterinary School on our Langford campus in Somerset, providing convenient access to Exmoor National Park and the rich wildlife habitats of south-west England. Many lectures and practical sessions take place at Bristol Zoo, allowing you to gain hands-on experience of exotic animal care while working behind the scenes in a modern zoological garden.

A special feature of this MSc is the large number of lectures, workshops and seminars that are delivered by leading researchers, conservationists and wildlife veterinarians from outside the University.

By the end of the course you will have gained the skills and knowledge to deal with a variety of practical situations that professional wildlife biologists face on a day-to-day basis.

What will I study?

Cutting-edge topics include animal capture and handling techniques; the assessment, stabilisation and transportation of injured animals; methods for improving the welfare of captive animals; concepts in behavioural ecology; endangered species breeding programmes; the reintroduction of captive populations to the wild; practical conservation strategies; and the management of protected areas. The curriculum also delivers a comprehensive introduction to wildlife disease ecology, surveillance and control.

A research element from May to August provides an opportunity to carry out a project on a wildlife topic of interest to you and present your results as a written report suitable for publication.

Careers

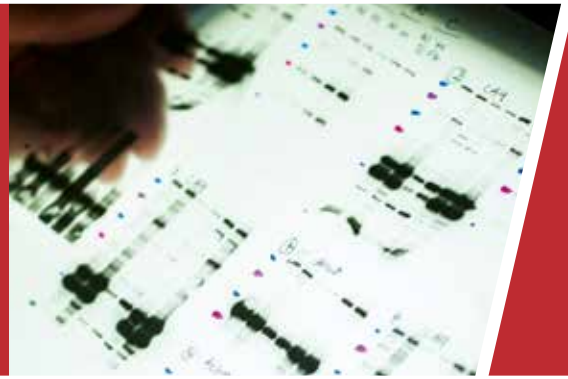
This course has been carefully designed for those aspiring to a career in wildlife health, conservation and management. Potential employers include national parks, zoological gardens, animal rescue centres, wildlife hospitals, environmental NGOs, conservation charities and government agencies with statutory wildlife responsibilities, both in Britain and overseas.

Previous students have gone on to work for a range of employers, including the Environment Agency, Cheetah Conservation Botswana, Chester Zoo, the Sloth Institute Costa Rica, the World Wide Fund for Nature, Frontier, Ecofieldtrips Singapore and Natural England. Our graduates are now spread across the world, working on wildlife conservation in Europe, North America, South America, Asia and Africa.

Contact: Bristol Veterinary School

Tel: +44 (0)117 928 9653
Email: **andrew.kennedy@bristol.ac.uk**

Health Sciences Research (MRes)



'Intercalation was great for me because it allowed me to develop my knowledge of an area I found interesting. It is also a great opportunity to use that innovative side of yourself that is often neglected in medicine because of the large workload. On this course you are given the opportunity to be creative scientifically and develop your own ideas.'

Andrew (MBChB Medicine)

This programme is suitable for medical, veterinary and dental intercalators after three years of their clinical programmes, and offers an excellent grounding in biomedical research by equipping you with the skills to understand, critically analyse and conduct clinically relevant research. Under the guidance of an expert, you will carry out a novel research project in your field of interest.

Bristol offers a dynamic and challenging environment. We are ranked among the UK's top five universities for research, and placed first for impact in clinical medicine, public health, and primary care (Research Excellence Framework 2014).

You will be taught and guided by research-active scientists and clinicians in small group lectures, seminars, tutorials and practical classes.

What will I study?

The core of the programme is an eight-month research project in an area that inspires you. This could be either a fundamental bioscience project, translational research, or an epidemiological population health study.

You will be based within one of our internationally recognised health science research groups, with opportunities to immerse yourself in both laboratory and clinical-based environments.

Taught units deliver intensive research training covering scientific writing, critical appraisal of scientific literature, presentation skills, experimental design, statistics and grant writing, giving you the key skills to be a successful researcher:

- Introduction to Research in Health Sciences
- Further Research Methods
- Project Proposal
- Research Club
- Research Project.

Students with a particular interest in cardiovascular medicine can study the **MRes Health Sciences Research (Translational Cardiovascular Medicine)**. In addition to the units listed above (except Project Proposal), you choose two of the following:

- Coronary Artery Disease I
- Coronary Artery Disease II
- Heart and Valve Disease
- Paediatric Heart Disease
- Aneurysm, Peripheral Vascular Disease and Stroke.

Examples of previous research projects include:

- Alteration of pericytes in the bone marrow stem cell niche of patients with type 2 diabetes mellitus
- Modification of titanium dioxide nanofeatures with lysozyme for antimicrobial biomedical implants
- Kinematic and genetic analyses of canine degenerative myelopathy.

Contact: Faculty of Health Sciences

Tel: +44 (0)117 342 3582
Email: **healthsciences-mres@bristol.ac.uk**

Medical Humanities (BA)

'The philosophy unit on Death, Dying and Disease really made me reconsider my own beliefs and views and challenged my basis for them. It was refreshingly non-medical and yet very relevant to medicine, so I could think about how I might deal with dying patients and their fears about death and disease.'

Ellie (MBChB Medicine)

Grounded in the disciplines of English literature and philosophy, this course demonstrates how the humanities can be used to illuminate the practice of medicine and medical research. We aim to inspire the next generation of doctors, dentists and vets to be emotionally and cognitively intelligent, culturally aware and philosophically inquiring.

You will learn some of the key skills of literary and philosophical analysis and use these to broaden your understanding of the suffering individual, their medical care and carers, and the historical and epistemological basis on which that care is delivered.

Studying the humanities involves a considerable amount of self-directed learning and independent reading. Compared with medicine, dentistry and veterinary science, you can expect to participate more actively during seminars and spend more time preparing for them in advance.

To ease the transition between these two learning styles, we provide a wealth of support for our intercalating students including:

- access to the Oakhill Study Group, run by practising and academic medical staff, to support your study and place the experiences of this year in the context of your past and future medical career;
- introductory seminars in English and philosophy;
- initial reading to prepare you before you start the course.

What will I study?

Learning alongside current arts students for most of your course, you will study units in Philosophy and History of Medicine, Critical Issues, Literature and Medicine, and Death, Dying and Disease.

You will also write a supervised, semi-independent dissertation which explores a particular aspect of the medical humanities course and demonstrates advanced research and writing skills.

Dissertations from 2017-18 included:

- A case for race-based medicine within the clinical encounter: scientificness, racism, and racial identity
- Madness and suicide in women: Shakespeare's *Hamlet* and Birch's *Anatomy of a Suicide*
- Medical humanitarianism and biocitizenship: South Africa's struggle with HIV/AIDS.

Contact: Department of Philosophy

Tel: +44 (0)117 954 6050
Email: **sart-ibamhadmin@bristol.ac.uk**

FOR 2019/20 ONLY While we expect to run this programme in the academic year 2019/20, we can only do so if we recruit sufficient numbers of students. We will notify you by 31 March 2019 if we are unable to run the course. We may also offer you a place on another intercalation programme of your choice at the University.

Medical Microbiology (BSc)

'The lecture content included a good selection of scientific and clinically relevant topics which interest me. I've been impressed with how friendly and approachable all my lecturers have been. It's also been noticeable how well organised the course is; and when I've had any particular queries or requests these have always been swiftly answered by friendly administrative staff.'

Charlie (MBChB Medicine)

At the forefront of some of the most challenging aspects of global health, this degree will equip you with clinically relevant knowledge and an invaluable insight into the research that is happening at the frontline of medical microbiology.

What will I study?

The course comprises four lecture units and a research skills unit which includes a substantial research project. You will take the following three compulsory lecture units:

Medical Microbiology describes how bacteria and fungi become resistant to antimicrobial agents and investigates the genetic mechanisms involved in the spread of resistance. It covers the clinical problems caused by key drug-resistant bacteria in healthcare settings, and how changes in healthcare have exacerbated this problem. You will also study methods for tracking and controlling healthcare-associated infections and approaches to combatting drug resistance.

Medical Virology discusses how viruses are responsible for millions of deaths and countless episodes of ill health each year around the world. Effective vaccines exist to combat some viral infections, but in many cases good vaccines remain elusive. This unit examines these challenges, looking at the main viral diseases in humans such as HIV, hepatitis B and C, herpes, papilloma, influenza, measles and rotaviruses. It also reviews the increasingly sophisticated area of diagnostic virology.

Frontiers in Infectious Diseases reveals the key steps in pathogen life cycles and how these are dealt with at a molecular level by defence mechanisms in the host. It shows how this knowledge allows us to devise both prophylactic and therapeutic interventions and will help you develop an understanding of the key research methods that are currently used to study viral and bacterial pathogens within mammalian hosts.

Optional units

You will also choose a fourth unit from the following options:

- Developmental Genetics and Embryonal Cancers
- Cancer Mechanisms and Therapeutics
- Advanced Immunology
- Immunopathology and Applied Immunology
- Regenerative Medicine
- Haemopoietic Stem Cell Transplantation.

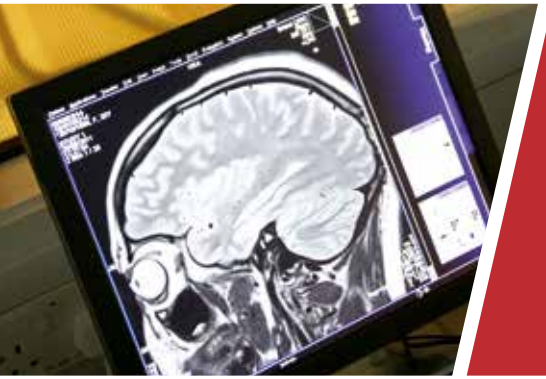
Research skills

The research skills unit includes training in data handling and a substantial laboratory- or literature-based project. This will develop the skills you need to carry out a research project in the field as well as the ability to read, analyse and interpret scientific data presented in the literature.

Contact: School of Cellular and Molecular Medicine

Tel: +44 (0)117 331 2050
Email: **enquiries-cellmolmed@bristol.ac.uk**

Neuroscience (BSc)



'If you're on the fence about intercalating, I would strongly advise you to take the plunge. As a Neuroscience intercalator from the veterinary course, it's one of the best decisions I ever made.'

Katherine (BSc Neuroscience)

Neuroscience is one of the fastest growing areas in biomedical sciences. You will join our final-year students and be introduced to discoveries that have transformed our understanding of the brain and the nervous system and helped to develop new treatments for disorders which affect millions of people. The course will develop your practical experience as well as your critical thinking and report-writing skills, all invaluable for your future career as a doctor, dentist or vet.

What will I study?

Mandatory units

All students take the Concepts and Skills unit, which is designed to help you further develop the key skills you will need to succeed on the course. There is a significant focus on statistics as well experimental design, data handling and how to tackle data interpretation questions. You will also learn to critically analyse, interpret and write about scientific papers.

You will also choose three further units from the following:

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

You can choose a unit from either the Pharmacology or Physiological Sciences courses as one of their three optional units if space and timetabling permit.

Research project

All students produce a substantial piece of original research, presenting the findings in a dissertation and an oral presentation. Options include:

- an experimental project, which may be based in the lab within an active research group, or may have a clinical or data-analysis focus, led by one of the school's academic staff;
- a literature-based project in which you will produce a detailed review that proposes a programme of further research;
- a teaching project in which you might assess current teaching methods and materials on the University's science courses, or develop a new teaching programme in partnership with science teachers at a local secondary school.

Contact: School of Physiology, Pharmacology and Neuroscience
Tel: +44 (0)117 331 1840
Email: **phph-studentadmin@bristol.ac.uk**

Pharmacology (BSc)

'Not only is the course content relevant to medicine, it also equips you with an understanding of scientific literature, drug discovery and the pharmaceutical industry. For me, the most enjoyable part of the year was the research project. I found it fascinating to be involved day-to-day in a laboratory, to work with lecturers and their research groups and to carry out and interpret experiments.'

James (MBChB Medicine)

Pharmacology is the study of the action of 'drugs' in the widest possible sense, encompassing many types of chemicals and medicines that affect body function.

In this course, spanning physiology, biochemistry, molecular biology and neuroscience, you will learn what drugs are, how they work and what they do. We will introduce you to approaches used to design and develop new drugs by investigating the effects of substances on single molecules, cells, organs and the whole body. This offers intercalating medical, dentistry and veterinary science students clinically relevant insights to take back into their training.

This research-driven course is based within the School of Physiology, Pharmacology and Neuroscience, which is internationally recognised for its teaching and research. Our research focuses on neuro and vascular pharmacology, especially receptor regulation and signalling.

You will learn about current and proposed therapeutic approaches to treating diseases such as Alzheimer's disease, schizophrenia, neuropathic pain and depression. We will introduce you to innovative experimental techniques through a series of advanced technical workshops.

This course delivers a rigorous training for many careers in bioscience and medicine, alongside transferable skills valued by employers beyond the scientific world. You will leave with skills in reading scientific papers, experimental design, data analysis, scientific writing, biomedical research, presenting and ethics, all of which will stand you in good stead for any career path you decide to take.

What will I study?

The course consists of five mandatory units:

- Concepts and Skills
- Pharmacology of Ion Channels and Synaptic Transmission
- Receptor Signalling and Non-drug Therapies
- Pharmacology of the Nervous System
- Research Project.

The final supervised research project allows you to explore an area of interest in much greater detail and is the highlight of the course. It is an opportunity to work full time in a research laboratory for 6-8 weeks to pursue a novel piece of research and will train you to design your own experiments and analyse the results. Some students opt for a project that interrogates the published scientific literature or carry out an in-depth analysis of experimental data. All projects are assessed by a dissertation and a poster presentation.

Contact: School of Physiology, Pharmacology and Neuroscience
Tel: +44 (0)117 331 1840
Email: **phph-studentadmin@bristol.ac.uk**

Physiological Science (BSc)

'I was worried when I began intercalating that it would be very difficult and would mean a year without any clinical placements. However, it was one of the best decisions I've made while at university. Not only did I get to know some great people, I now feel I have a much stronger science knowledge base and a better understanding of physiology, and I am no longer bewildered by articles and journals.'

Sam (MBChB Medicine)

Physiology is the study of animal (including human), function across cells, tissues, organ systems and the whole body. You will join our final-year students to study at the frontier of knowledge in topics such as pain, genes and function, brain and behaviour, cardiovascular disorders, and the biophysics of ion channels. The course will immerse you in real scientific research and offers a high level of clinical relevance to your medical, dental or veterinary science training. It will develop your critical awareness and provide you with a set of essential transferable skills which will enhance your career prospects.

What will I study?

All students take the Concepts and Skills unit, which comprises lectures, workshops and private study and is designed to help you further develop the key skills you will need to succeed on the course. There is a significant focus on statistics as well experimental design, data handling and how to tackle data interpretation questions. You will also learn to critically analyse, interpret and write about scientific papers.

You will also choose three further units from the following:

- Heart in Health and Disease
- New Horizons in Medicine
- Go With the Flow: The Urinary Tract from Beginning to End
- Cardiovascular System in Health and Disease
- Sensational Neuroscience
- Neuroscience of Pain
- Brain and Behaviour

Physiological Science students can choose a unit from either the Neuroscience or Pharmacology course as one of their three optional units if space and timetabling permit.

Research project

All students produce a substantial piece of original research, presenting the findings in a dissertation and an oral presentation. Options include:

- an experimental project, which may be based in the lab within an active research group, or may have a clinical or data-analysis focus, led by one of the school's academic staff;
- a literature-based project in which you will produce a detailed review that proposes a programme of further research.
- a teaching project in which you might assess current teaching methods and materials on the University's science courses, or develop a new teaching programme in partnership with science teachers at a local secondary school.

Contact: School of Physiology, Pharmacology and Neuroscience

Tel: +44 (0)117 331 1840
Email: **phph-studentadmin@bristol.ac.uk**

Transfusion and Transplantation Sciences (MSc)

'The course has given me the opportunity to study a fascinating area of science and medicine. It is well structured and teaching covers both science and clinical aspects of transfusion and transplantation.'

Lauren (MBChB Medicine)

This is an ideal programme for those considering haematology, transfusion or organ donation as a speciality. It is one of only a handful of specialist programmes in this area and encompasses a fascinating range of subject areas, such as molecular biology, genetics, biochemistry, microbiology, immunology, tissue engineering, clinical medicine and statistics. This is a continually developing area of healthcare science and has a major impact on patients' quality of life.

Accredited by the Institute of Biomedical Science, the programme is based at one of the largest transfusion centres in the world.

You will be taught by specialists from the University of Bristol, NHS Blood and Transplant and a range of NHS hospitals. Intercalating students join after year three or four of their professional programme.

What will I study?

Transfusion and Transplantation Science looks at the basics of haemopoiesis, blood group molecular genetics, the structure and function of platelets, haemostasis and HLA genes and proteins.

Pathology of Transfusion and Transplantation Science covers the basis of haematological diseases such as sickle cell disease and haemophilia.

Provision of Blood, Cells, Tissues and Organs reviews how materials are sourced and tested. It also covers how blood components are made and stored safely.

Clinical Transfusion and Transplantation covers organ transplantation, engineered tissues, stem cell transplants and clinical blood transfusion, as well as laboratory investigation and management of complications.

Transfusion and Transplantation in Practice (two units): these units comprise practical classes designed to expose students to many different types of technology used in transfusion and transplantation laboratories.

Biostatistics covers the principles of experimental design, including some advanced statistical methods required to interpret published data and to analyse new data generated from clinical and laboratory research.

Research and Laboratory Management provides an understanding of the manager's role in maintaining a quality system in a blood bank or blood establishment and how this is applied , as well as the manager's role in accreditation and licencing.

Research project

All students complete a final research project supervised by University or NHS research staff at the transfusion centre.

Contact: Faculty of Life Sciences

Tel: +44 (0)117 921 7344
Email: **fls-pg-admissions@bristol.ac.uk**
Apply via **bristol.ac.uk/study/postgraduate/apply.**

Translational Cardiovascular Medicine (MSc)

'The University of Bristol is well known worldwide and has an excellent reputation. Doing the MSc in Bristol had a major role in getting me accepted in an internal medicine residency programme at University of British Columbia to pursue my goal of becoming an interventional cardiologist.'

Ali (MSc Translational Cardiovascular Medicine)

This unique programme that aims to train the cardiovascular researchers of the future. You will be taught by internationally renowned clinicians and scientists from the University of Bristol and the Bristol Heart Institute – a world-leading centre for translational cardiovascular research and a leading academic cardiac surgery centre in the UK. This programme is aimed at medical, veterinary and dental intercalators as well as clinical and bioscience graduates.

What will I study?

You will study the following units:

- Coronary Artery Disease
- Heart and Valve Disease
- Paediatric Heart Disease
- Aneurysm
- Peripheral Vascular Disease and Stroke.

You will also be offered an excellent grounding in research methodology, clinical trials design and statistics as well as practical experience from tutorials, hands-on workshops and clinical and simulator sessions.

You will undertake an eight-week research project in a field that interests you. This could be either a literature review, a research proposal design or practical laboratory or clinical project. You will be based within one of the University of Bristol's internationally recognised cardiovascular research groups, with opportunities to immerse yourself in both laboratory and clinical-based environments.

Your research will culminate in a 7,000-word thesis. You will also present your findings at the final viva (oral exam). This research training will give you the opportunity to gain numerous skills including scientific writing, critical appraisal of scientific literature, presentation skills, experimental design, statistics and research grant writing, giving you the key skills to become a successful researcher.

Contact: Faculty of Health Sciences

Tel: +44 (0)117 342 3582
Email: **socscardiology-msc@bristol.ac.uk**

Virology and Immunology (BSc)

'I loved intercalating at the School of Cellular and Molecular Medicine. The project was my favourite part of the year. I was assigned two supervisors, one of whom was a PhD student, which was really helpful.'

Amy (MBChB Medicine)

It is difficult to overestimate the global impact of viruses on public health. Worldwide, they are responsible for millions of deaths and episodes of ill health each year. Effective vaccines exist to combat some viral infections, but in many cases good vaccines remain elusive.

This course introduces the many challenges that we face in this field, offering you key insights into principles and research methods that will be invaluable for your future medical, dentistry or veterinary training.

What will I study?

The course comprises four lecture units and a research skills unit which includes a substantial research project. All students take the following three compulsory lecture units:

Medical Virology reviews the general virology of the most important viral pathogens in terms of world health, including HIV, hepatitis, herpes, influenza and measles. You will study each virus in terms of its natural history, biology, molecular biology, immunology, pathogenesis and epidemiology.

Frontiers in Infectious Disease reveals the key steps in pathogen life cycles and how these are dealt with at a molecular level by defence mechanisms in the host. You will use this knowledge to devise both prophylactic and therapeutic interventions by developing an understanding of the key research methods that are currently used to study viral and bacterial pathogens within mammalian hosts.

Immunopathology and Applied Immunology provides you with a comprehensive knowledge of diseases which develop as a consequence of inappropriate immune responses, and as a result of deficiencies in the immune system. It also introduces you to disease processes and demonstrates how this knowledge is used to manipulate the immune system through vaccination and other immunotherapies to fight infection, allergy, autoimmunity and tumour development.

Optional units

You will also choose one of these optional units:

- Medical Microbiology
- Developmental Genetics and Embryonal Cancers
- Cancer Mechanisms and Therapeutics
- Advanced Immunology
- Regenerative Medicine
- Haemopoietic Stem Cell Transplantation.

Research skills

The research skills unit includes training in data handling and a substantial laboratory- or literature-based project.

Contact: School of Cellular and Molecular Medicine

Tel: +44 (0)117 331 2050
Email: **enquiries-cellmolmed@bristol.ac.uk**

Zoology (BSc)

'The facilities for our course are excellent, especially the Life Sciences Building, which is amazing to work in. Lecturers and supervisors are always keen to help you with their subject and are really excited to talk with someone who shares their passion. They really want you to do well.'

Chris (BSc Biology)

Our Zoology intercalated degree course is based around our traditional strengths in whole organism biology (that is, behaviour, parasitology and ecology), as well as excellence in cell and molecular biology.

We have an international reputation for the outstanding quality of our research, which underpins our commitment to teaching. Many of our staff are world leaders in their fields, giving you the opportunity to learn from those involved in shaping the latest advances in biology. Our passionate belief is that the big advances in biology come from interdisciplinarity and addressing problems on multiple levels. That breadth and ambition is reflected in our teaching. Our exceptional teaching standards have been rated as 'excellent' by the Higher Education Funding Council for England.

The Life Sciences Building, which houses the School of Biological Sciences, is located at the heart of the University campus, adjacent to other core science and medical schools. It couples central positioning with the best in sustainable design and energy efficiency. This iconic building forms a hub for interdisciplinary research, facilitating major advances across the sciences.

What will I study?

The intercalated year comprises two major elements: a 5,000-word literature review and a 12-week practical research project. In addition to three lecture units from a range of options found online, you will choose at least three of the following:

- Optimisation, Behaviour and Life Histories
- Sensory Ecology
- Host-Parasite Interactions
- Staying Alive
- Oceans.

Units may change from year to year, so please check the school website for up-to-date information: **bristol.ac.uk/biology/courses/undergraduate/course-structures/zoology**.

Studying zoology involves a considerable amount of self-directed learning and independent reading compared with veterinary science. This is particularly true of the research project, which, despite academic supervision, demands high levels of independence and self-organisation. Throughout the year you will also be encouraged to attend departmental research seminars on a diverse range of subjects.

Contact: School of Biological Sciences

Tel: +44 (0)117 394 1212
Email: **biologydept@bristol.ac.uk**

Entry requirements

Course title	Who can apply?	Additional requirements	Language requirement
Biochemistry (BSc)	D, M, V		Profile E
Bioethics (BSc)	D, M, V	Supplementary application form	Profile A
Cancer Biology and Immunology (BSc)	D, M, V		Profile E
Cellular and Molecular Medicine (BSc)	D, M, V		Profile E
Childhood Studies (BSc)	D, M, V	Supplementary application form	Profile B
Clinical Sciences (BSc)	D, M, V		Profile C
Functional and Clinical Anatomy (BSc)	D, M, V	Supplementary application form	Profile C
Global Health (BSc)	D, M, V	Supplementary application form	Profile A
Global Wildlife Health and Conservation (MSc)	V		Profile B
Health Sciences Research (MRes)	D, M, V	Supplementary application form	Profile B
Medical Humanities (BA)	D, M, V	Supplementary application form	Profile A
Medical Microbiology (BSc)	D, M, V		Profile E
Neuroscience (BSc)	D, M, V		Profile E
Pharmacology (BSc)	D, M, V		Profile E
Physiological Science (BSc)	D, M, V		Profile E
Transfusion and Transplantation Sciences (MSc)	D, M, V		
Translational Cardiovascular Medicine (MSc)	D, M, V	Students must have Hepatitis B immunisation to attend workshops in February	Profile E
Virology and Immunology (BSc)	D, M, V		Profile E
Zoology (BSc)	V		Profile E

D = dentists M = medics V = vets

The online application and supplementary forms (for those courses requiring one) are available from **bristol.ac.uk/intercalate**.

International applicants must demonstrate a certain level of English language proficiency to qualify for a place on their chosen course. Different courses require different levels of language skills. We refer to these skill levels as 'profiles'. The profile for your chosen course is shown above and full details of each profile are available at **bristol.ac.uk/study/language-requirements**.

Further information

How to apply

Please apply directly to us for intercalated degrees using our online application form. Visit our website for more details on how and when to apply.

bristol.ac.uk/intercalate

Accommodation for intercalating students

Students who intercalate from other institutions are guaranteed an offer of accommodation subject to the conditions of Bristol's accommodation agreement for first-year undergraduate students. Please check our website for more details.

bristol.ac.uk/accommodation/undergraduate/intercalating-students

bristol.ac.uk/intercalate

The information contained in this leaflet is correct at the time of printing (August 2018). For up-to-date information, prospective applicants should check the website: **bristol.ac.uk/intercalate**.