

A microscopic image of plant cells, likely from a leaf, showing large, rounded cells with thick, wavy cell walls. Inside the cells, there are numerous small, green, oval-shaped chloroplasts. The overall color palette is dominated by shades of green and yellow, with some darker green areas where the chloroplasts are more concentrated.

CARDIFF
UNIVERSITY


PRIFYSGOL
CAERDYDD

School of Biosciences

Undergraduate Degree Programmes

www.cardiff.ac.uk/biosciences

Welcome



A top 2 UK
university for
Anatomy and
Physiology.

Source:
The Guardian University Guide 2019

93% of our
graduates are in
employment and/
or further study
six months after
graduating.

Source:
HESA 2016/17



25th in the
world and in
the UK top 5
for Biological
Sciences.

Source:
2018 Academic Ranking of World Universities

84% of
our submitted
research classed
as “internationally
excellent” or
“world-leading”.

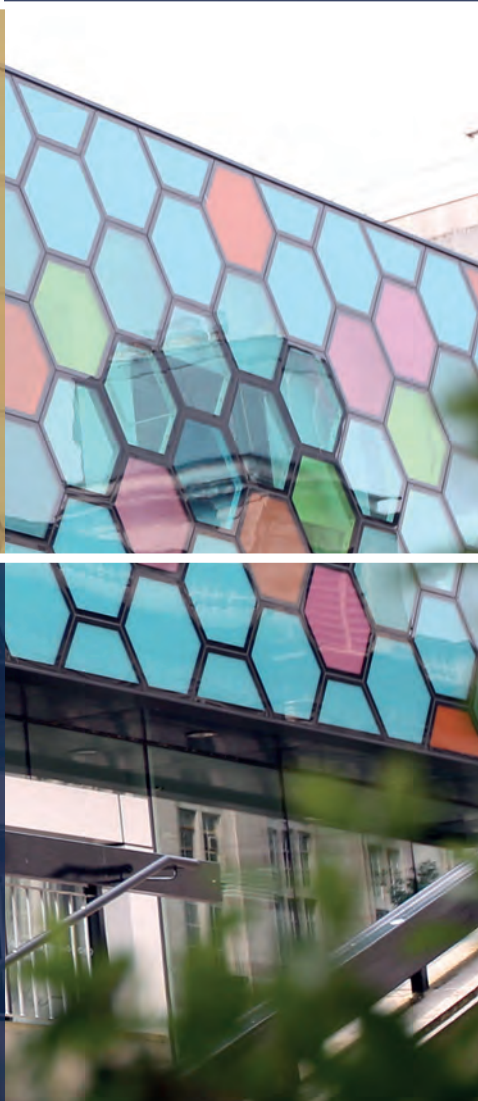
Source:
Research Excellence Framework 2014



Based in an enviable location that's just a stone's throw from the Students' Union and a short walk from Cardiff's lively city centre.

100% of respondents to the 2018 Welcome to Cardiff survey found the School of Biosciences to be welcoming to new students.

Plays a lead role in several University Research Institutes and runs a conservation-focused field centre in Borneo, Malaysia.

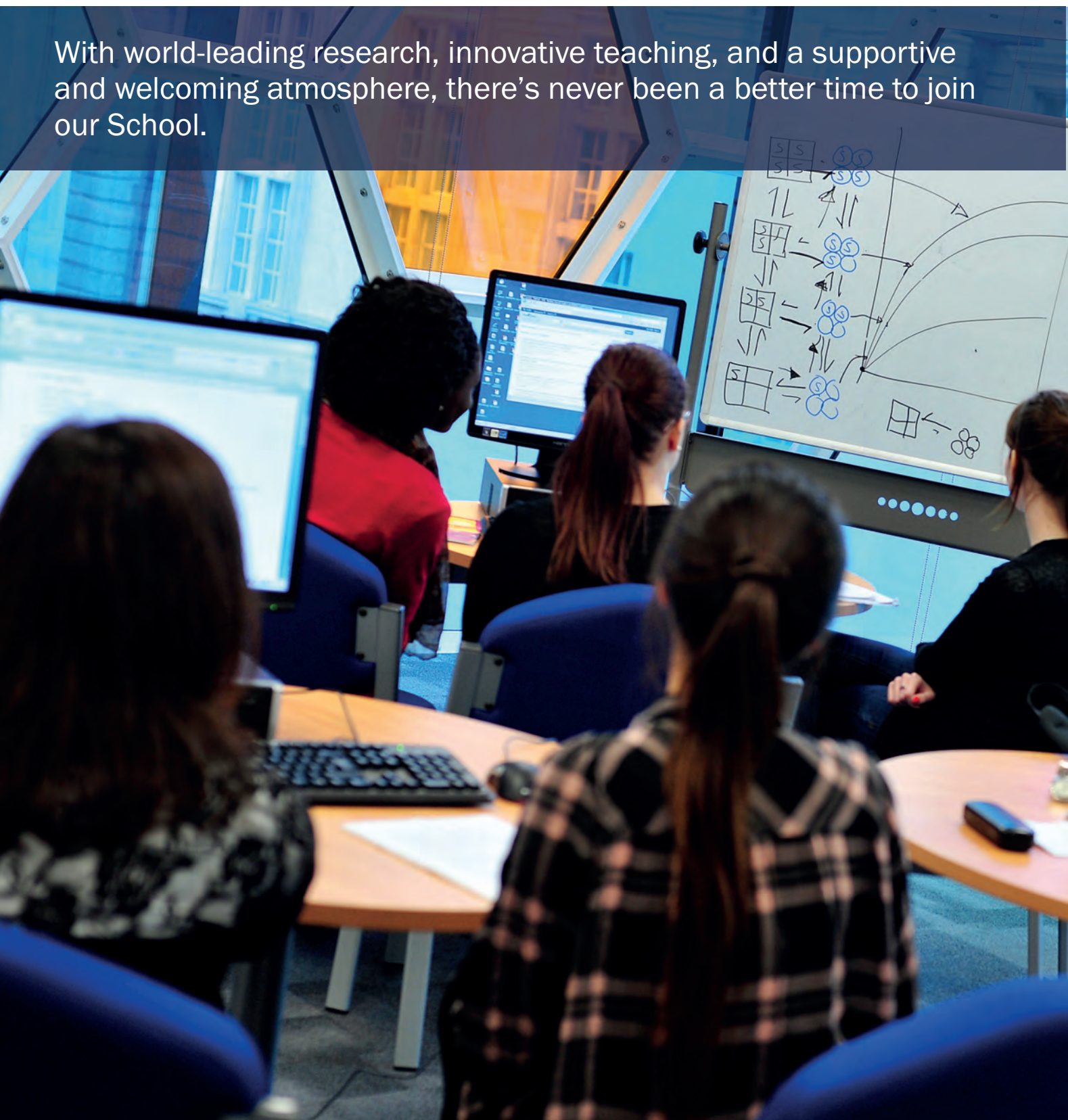


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Why study at Cardiff?

With world-leading research, innovative teaching, and a supportive and welcoming atmosphere, there's never been a better time to join our School.





The world today is facing a growing number of challenges.

We're living longer than ever before and this, along with continuing population growth, is placing ever-increasing demands on healthcare and global resources. At the same time, climate change, pollution and habitat loss are having a devastating impact on ecosystems around the world.

The biosciences have a crucial role to play in developing solutions to these challenges and, here at Cardiff, we are committed to developing innovative and adaptable scientists who have the skills, knowledge and experience to make a real-world difference.

We have an exciting range of BSc and integrated master's degrees on offer, all of which have strong relevance to modern society, and which we believe will provide a solid foundation for you to build a successful and rewarding career.

Our staff includes researchers who are leaders in their field, and all of our courses are informed by the wide breadth of research taking place within the School – from pioneering climate change research and developing conservation strategies for endangered species, to developing

new therapies for cancer and other diseases. As well as offering you the excitement of learning in an active research environment, this approach will also demonstrate how your studies can be translated into practical solutions that have a positive impact on society.

We are a warm and welcoming School in a fantastic location and, should you decide to study here, you can be sure that my staff and I are dedicated to providing you with the excellent tuition and friendly, supportive atmosphere which have become our hallmark in the exciting city of Cardiff.

Professor Jim Murray
Head of School, pictured



Choose your adventure

With our flexible courses, you can build a degree that matches your interests and career aspirations.



A proboscis monkey is fitted with a GPS tracking collar to gain a better understanding of the species' habitat use and movement within a degraded and human-modified forest landscape.

From gaining new insights into rare neurological conditions, to protecting the world's wildlife and natural habitats, bioscientists have a vital role to play in all areas of society.

Wherever your interests lie, a degree in the biosciences offers an exciting opportunity to study an important and wide-ranging subject area that has plenty of scope for innovation, discovery and adventure.

The choice is yours

One of the great things about studying at the School of Biosciences is that you have the freedom and flexibility to choose your own adventure and decide how your degree develops.

- Choose to maintain a wide breadth of interdisciplinary learning, or opt to specialise in a particular area.
- Gain valuable professional experience by taking a sandwich year, or prepare for a career in research with one of our integrated master's degrees.
- Practice your research skills in the laboratory, or explore the world's ecosystems with our project-based field courses.

Flexible courses

We offer eight degrees at BSc level:

- **Biochemistry**
- **Biological Sciences**
- **Biological Sciences (Genetics)***
- **Biological Sciences (Zoology)**
- **Biomedical Sciences**
- **Biomedical Sciences (Anatomy)****
- **Biomedical Sciences (Physiology)****
- **Neuroscience**

In addition, we run four undergraduate integrated master's degrees:

- **Biochemistry (MBiochem)**
- **Biological Sciences (MBiol)**
- **Biomedical Sciences (MBiomed)**
- **Neuroscience (MNeuro)**

* Can be studied via the BSc Biological Sciences, Biomedical Sciences or Biochemistry programme.

** Can be studied via the BSc Biomedical Sciences programme.

A common first year

All of our degree courses begin with a common first year. Everyone follows the same year one curriculum, which provides a firm foundation in core bioscience topics, as well as developing your scientific skills.

This holistic approach allows us to offer you a great deal of flexibility when it comes to your choice of degree. By studying a broad range of topics in year one, you can determine where your scientific interests lie, before you progress to more specialised areas of learning later in the course.

At the end of year one, you have the option of switching to one of the other subjects offered by the School of Biosciences. Your choice of modules in years two and three will determine your final degree title.

In years one and two, lectures and practical laboratory classes are supplemented by small-group tutorials and group project work. In the final year, teaching is delivered via seminars and lectures, with the opportunity for extensive discussion with experts in the field. You will also have the opportunity to develop your independent research skills by conducting your very own research project on a topic of your choice.

High-quality facilities

As a student at the School of Biosciences, you will enjoy access to well-equipped modern laboratories, and we attract substantial external research funding which will allow you to make use of the latest equipment, techniques and facilities in your project work.

Students can also benefit from a brand new, £1.9 million e-learning and e-assessment facility. With 165 new workstation computers, an interactive AV system, huddle working pods, multimedia communications, and imaging facilities, this resource increases opportunities for interactive teaching activities, enhancing the overall student learning experience.

Exciting training opportunities

Alongside the core curriculum, the School of Biosciences offers access to a wide range of exciting training opportunities, with a conservation-focused research centre in Borneo, the Wales Centre for Anatomical Education, and strong involvement in several of the University's flagship research institutes, including Sustainable Places, Water Research, Cancer Stem Cell Research, Medicines Discovery, and Neuroscience and Mental Health.

Personalised support

We pride ourselves on providing a welcoming and supportive environment for all of our students and, whatever degree pathway you choose, you can be sure that our experienced staff will be on hand to guide and support you through the process.

You will be assigned a personal tutor who you can meet with on a regular basis, and who will be available to offer support, advice and guidance on both academic and personal matters. We also have an established student mentor programme, where more experienced students offer support to those who are new to the University.

One of the highlights of the first year is the opportunity to study so many different topics within one degree programme, and the flexibility to specialise and change degree as you develop your interests and knowledge.

Choose your adventure *continued*

List of typical modules

At the School of Biosciences, your final degree title will be determined by the modules you choose in years two and three of your course. Our tutors will guide you through the process to ensure you graduate with a degree that reflects your interests and aspirations.

Year one	Year two
<p>All of our students follow a common first year, which comprises six 20-credit modules and provides a firm grounding in core bioscience subjects.</p> <ul style="list-style-type: none">• Skills for Science• Structure and Function of Living Organisms• Organisms and Environment• The Dynamic Cell• Biological Chemistry• Genetics and Evolution	<p>In year two, you will study three 40-credit modules. Please see the individual course listings for required module combinations.</p> <ul style="list-style-type: none">• Animal Diversity and Adaptation• Genetics and its Applications• Ecology and Conservation• Cell Biology• Biochemistry• Developmental and Stem Cell Biology• Molecular Biology of the Gene• Physiology• Concepts of Disease• Practical Anatomy• Brain and Behaviour• Fundamental Neuroscience
Year three	Year four
<p>In year three, you will undertake four 30-credit modules, including an independent research project (BSc students), or a module in Advanced Research Techniques (integrated master's students). Please see the individual course listings for required module combinations.</p> <ul style="list-style-type: none">• Plants for the Future: Frontiers in Plant Science• Ecosystems, Sustainability and Global Change• Evolution and Adaptation• Biodiversity and Conservation Biology• Infection Biology and Epidemiology• Systems Biology and Modelling• Current Topics in Development, Stem Cells and Repair• The 'omics Revolution (Bioinformatics and Functional Genomics)• Advanced Cell Biology and Imaging• Genes to Genomes• Synthetic Biology and Protein Engineering• Contemporary Topics in Disease• Cancer: Cellular and Molecular Mechanisms and Therapeutics• Advanced Musculoskeletal Biology and Tissue Engineering• Advances in Physiology and Pathophysiology• Neurobiology of Brain Disorders• Systems Neuroscience	<p>The final year of the integrated master's course includes an 80-credit research project, along with two additional 20-credit modules.</p> <ul style="list-style-type: none">• Advanced Research Methods• Frontiers in Biosciences

Don't just take our word for it ...

I really enjoyed the common first year. Having such a broad view of the topic meant that by the end of the first year I knew exactly what I liked and what I never wanted to study again. I actually ended up changing specialities because I fell in love with cell signalling, which I didn't know very much about before university.

Kudzai Chinjekure, Biological Sciences student

Please note that some module combinations may be unavailable due to space or timetabling restrictions.

Teaching excellence

We are committed to delivering high-quality, innovative teaching, so you can be sure that your education is in safe hands.



We have a strong commitment to teaching excellence. The continuous improvement of teaching and learning is a key focus for the School, with many of our lecturers enjoying an international reputation for their work in this area.

Alongside bioscience-related PhDs, several of our lecturers also hold master's degrees or doctorates in education and, within the School, many of our staff conduct research into learning and teaching-related areas. Some of these projects are run with, and for, students in order to enhance the overall experience.

The quality of our teaching has been recognised both within the wider University and externally, with our Director of Teaching being awarded a prestigious National Teaching Fellowship, and two of our lecturers winning the University's annual 'Excellence in Teaching' award. We also have staff members who play leading roles in the educational activities of the Physiological Society, Anatomical Society and Biochemical Society.

Innovative approaches

We use a variety of innovative approaches in our teaching, such as 'flipped classroom',

collaborative learning activities, and peer-teaching and assessment, for a dynamic and engaging learning environment that helps you to develop your self-critical abilities. We also encourage and support students to develop online and face-to-face peer-led learning communities, which run alongside the taught modules.

A large part of our teaching involves blended learning that incorporates eLearning activities with face-to-face contact. This is supported by a brand new £1.9M eLearning and eAssessment facility, which is used in both our teaching and examination activities.

We also use electronic resources to support our practical teaching, including 3D imaging of dissections in Anatomy, and one of the best digitised histology slide collections in the country. Later in the course we incorporate state-of-the-art analysis software into

bioinformatics, genomics, proteomics, and neuroscience teaching, as well as advanced microscopy and statistical modelling techniques.

Practical skills

Bioscience is a highly practical subject, and our courses are designed to actively develop your practical research skills, with weekly practical classes in year one, day-long practicals in year two, and an independent research project in your final year. We also hold week-long 'research experiences' in year two, which give you the opportunity to follow a research project in a field of your choice.

Research with impact

Learn from world-leading scientists who carry out cutting-edge research with global impact.



Bioscience research has an important role to play in helping find solutions to major global issues, and Cardiff School of Biosciences has an international reputation for carrying out high-quality research that can make a real difference to the world we live in.

World-leading researchers

We have a broad range of research expertise across four key areas – Molecular Biosciences, Neuroscience, Organisms and Environment, and Biomedicine, and all of our courses are informed by our research strengths.

As a student at the School of Biosciences, you will be taught by world-leading researchers who are working to find solutions to key global challenges – from developing strategies to

preserve endangered species, to discovering new ways to tackle cancer.

Develop your research skills

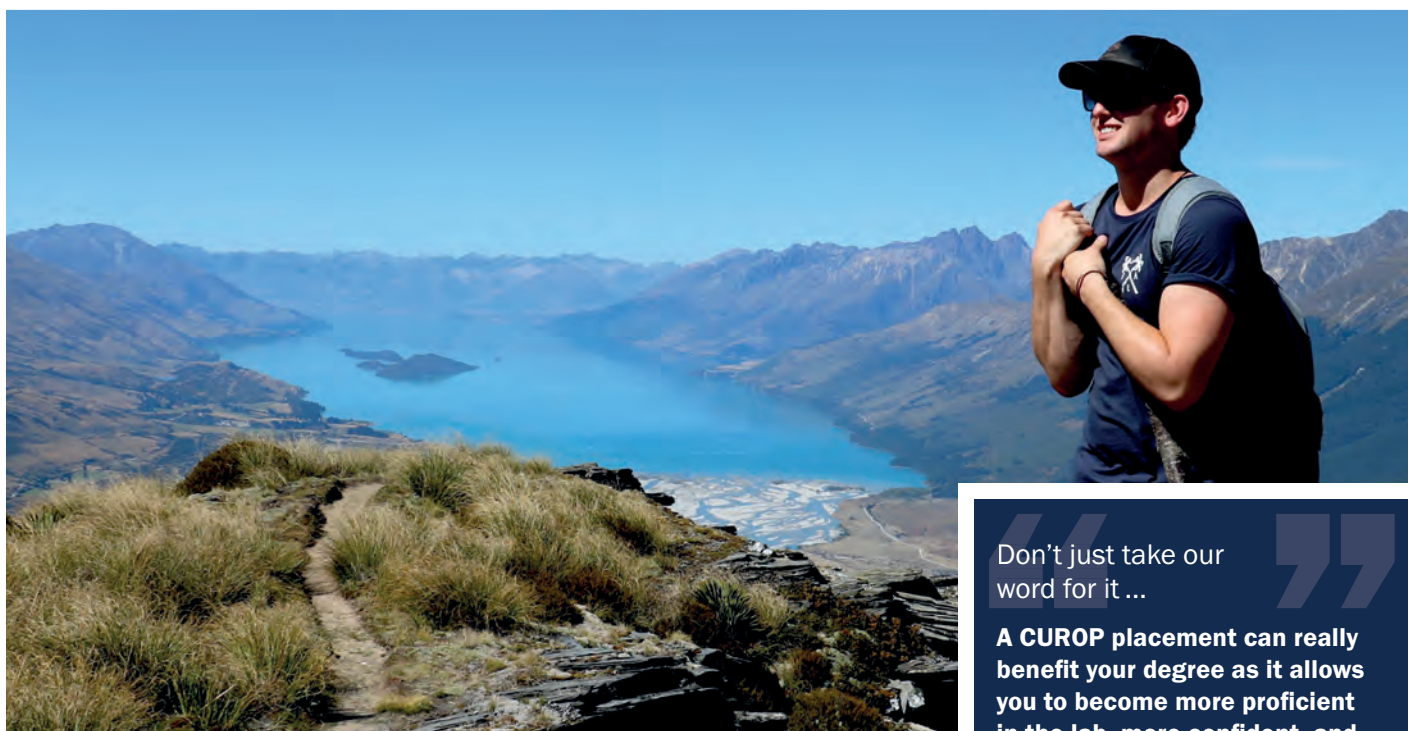
By linking our degrees to the research interests of our academic staff, we are able to offer you the excitement of learning in an active research environment.

You will also have the opportunity to develop your own research skills, with regular practical laboratory sessions, optional field courses

(see page 11) and an independent research project. Outside of the course, the Cardiff Undergraduate Research Opportunities Programme (CUROP) offers the opportunity to apply for a paid work placement supporting a research project within the University.

As a School, we attract substantial external research funding and this will allow you to make use of the latest equipment, techniques and facilities in your project work.

Enhancing your experience



Take advantage of everything the University has to offer and enjoy a well-rounded and fulfilling student experience.

There is so much more to university life than simply attending lectures, and we encourage all of our students to grab every opportunity and really make the most of their experience.

Spend time abroad

Working or studying abroad can be hugely beneficial, helping you to develop key skills, grow in confidence and gain valuable work experience. In addition to our field courses (page 11) and professional placements (page 10), our students can take advantage of a range of study, work and volunteering opportunities during the summer break.

These international opportunities take place in a wide variety of locations, and usually last a minimum of three weeks. Global Opportunities bursaries are available to help cover the costs of going abroad on short-term placements, and Erasmus+ funding may be available for 2-3 month summer research placements in the EU.

Research opportunities

The Cardiff Undergraduate Research Opportunities Programme (CUROP) is one of the University's flagship internal student placement schemes. It offers the opportunity to apply for paid work experience during the summer recess for up to eight weeks supporting research projects within an academic school.

These placements provide unique opportunities for you to experience live research projects, enhance your academic skills, build your confidence, and develop important transferable skills that are valued by a wide range of employers.

International competitions

As a student at the School of Biosciences, you may also have the opportunity to develop and showcase your research, engagement and presentation skills by taking part in the International Genetically Engineered Machine (iGEM) competition.

Don't just take our word for it ...

A CUROP placement can really benefit your degree as it allows you to become more proficient in the lab, more confident, and just a better scientist. The programme has been invaluable to me and I would definitely recommend CUROP projects to other students.

Ryan Coates,
Biological Sciences student

This international competition aims to find new applications for synthetic biological systems, and it involves many aspects, from molecular biology and modelling, through to public engagement and web design. In 2018, the Cardiff University team won gold at the international iGEM jamboree in Boston.

Clubs and societies

Our Students' Union is one of the top in the country, and is home to over 200 clubs and societies. These include a number of bioscience-related student societies, which cover a variety of topics, from neuroscience and ornithology, to biomimicry and marine conservation. These societies organise regular academic and social events and they are a great way to meet like-minded people and to get to know your fellow students.

Professional placement

Gain valuable research and employment experience with a Professional Training Year.

Gain professional experience

All of our courses can be taken with a Professional Training (or 'sandwich') Year in which your third year is spent working in a professional research environment away from the School.

This popular course option is a great way to gain valuable first-hand research experience which can stand you in good stead for the remainder of your degree and your post-university career.

Our students find placements in a wide range of organisations, including pharmaceutical and biotech companies, hospital laboratories, research institutes, museums, zoos, wildlife trusts and other environmental organisations, as well as UK and international universities. Many placements are in the UK but we have had an increasing number of placements in overseas locations such as Southeast Asia, South Africa, Germany, Italy, Australia, Madagascar and the USA.

Examples of recent placement organisations include GlaxoSmithKline, The Environment Agency, the Francis Crick Institute, Morvus Technology, the Game and Wildlife Conservation Trust, and the Roskamp Institute in Florida.

During your sandwich year, you will undertake all aspects of research – from experimental design and data acquisition, through to data analysis and presentation. You will also write a placement report, which will form part of your final degree assessment.

Finding a placement is a competitive process and success cannot be guaranteed. However, we are usually successful in placing the vast majority of students who wish to undertake a sandwich year, and our staff will provide support and guidance to help you find a suitable position that is relevant to your research interests and career goals.

Flexible options

As with other aspects of our degree programme, the Professional Training Year option offers a great deal of flexibility.

You can apply for a course with a Professional Training Year from the outset or, alternatively, you can decide to switch from the standard BSc or integrated master's programme before the end of your second year. Similarly, should a suitable placement not be available, or should you change your mind, you can switch from the degree with Professional Training Year to a three-year BSc or four-year integrated master's degree.

“Don't just take our word for it ...

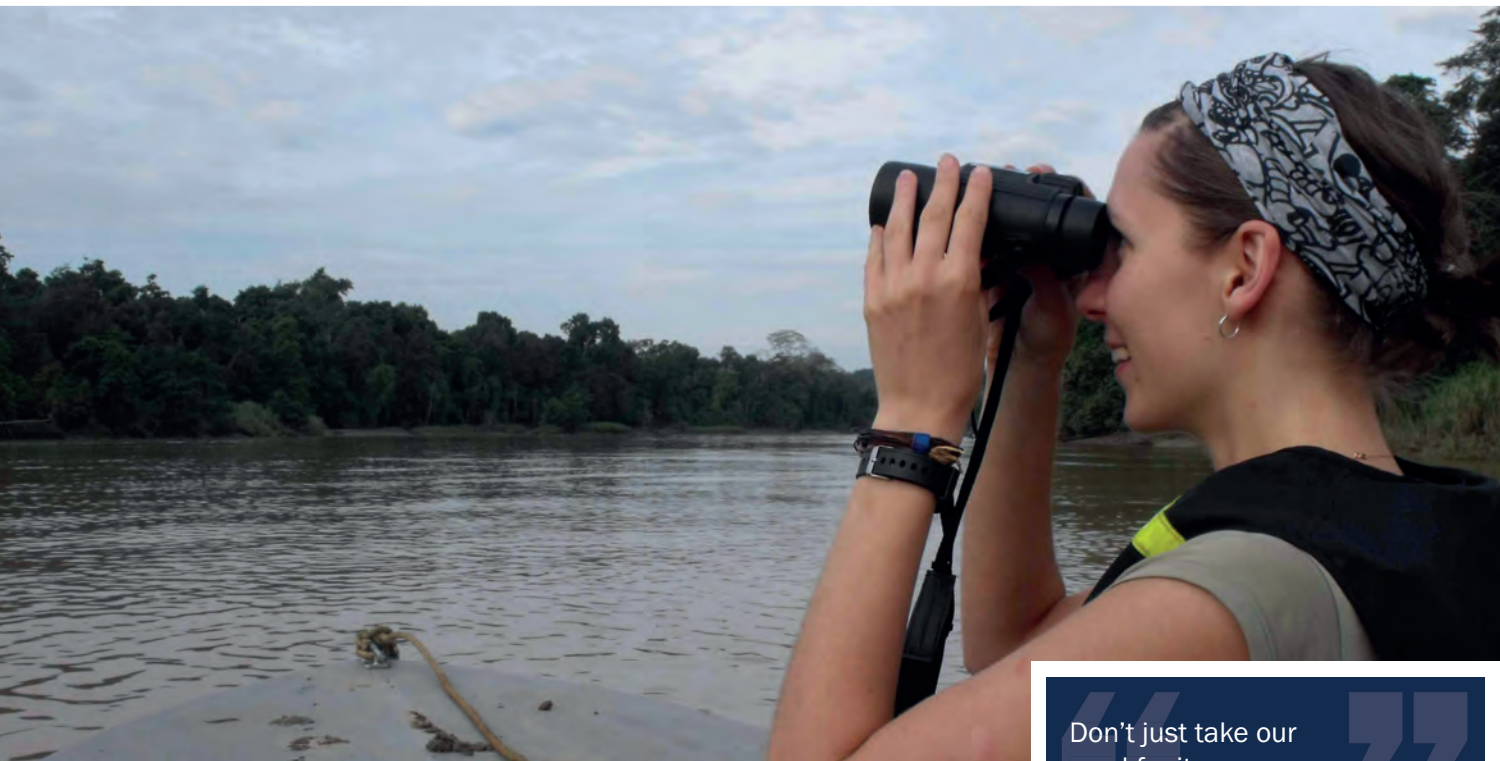
One of the best things about my placement at the Danau Girang Field Centre in Borneo is the experience of living in the middle of the jungle. I have also learned a number of new skills, including using VHF radio tracking, camera trapping and habitat surveying – I even got the opportunity to act as vet assistant on a clouded leopard collaring procedure.

Doing a sandwich year has been one of the best decisions I've ever made. It's given me an amazing opportunity to work on research that I can see is making a difference and to work as part of an organisation that has real conservation goals.

Elizabeth Witcombe, Biological Sciences (Zoology) student

”

Exploring our ecosystems



Gain experience of hands-on practical field work with our range of field courses in the UK and overseas.



Here at Cardiff University, we believe that gaining direct experience of plants, animals and microorganisms in their natural habitat is an important part of any biological scientist's training.

Our courses include plenty of opportunities for practical field work, enabling you to gain essential hands-on experience of modern techniques and practical skills in field biology, such as bird-ringing, microbial analysis, small mammal trapping, pit fall trapping and surveying for bats.

Students who take our second-year Ecology and Conservation module can also choose from several specialised, project-based field courses that run in a variety of locations around the world. Available courses typically include Tropical Ecology (Borneo, Malaysia), Marine Ecology (The Caribbean and Malaysia), River Ecology (Wales) and Woodland Ecology (Wales). All of our field courses include an independent research project, often involving the behaviour or ecology of animals.

Please note that the availability of individual field courses can be affected by travel constraints or staff availability. Residential field courses that take place outside of Cardiff incur additional costs, however, these are partially subsidised by the University.

“Don't just take our word for it ...”

In my second-year, I undertook a Marine Conservation field course to Gaya Island in Borneo, which is surrounded by thick rainforest and amazing wildlife. During the two weeks, I completed 22 dives on some of the most beautiful reefs in the world. I saw clown fish, zebra and honeycomb moray eels, long fin banner fish, blue and cushion sea stars, crocodile fish, sea cucumbers, pufferfish and lion fish.

I am currently applying for Master's courses in Conservation Biology and the experience and skills that I gained during this field course will be invaluable in this future study. As an aspiring marine conservation biologist, I could not have asked for a better course to prepare me for future marine conservation field work.

Hannah Cox,
Biological Sciences graduate

Your future career

We will support you to develop the scientific knowledge, hands-on experience, and transferable skills required by employers in today's global job market.



From cancer researchers to carnivore keepers, environmentalists to science bloggers, our graduates go on to enjoy a wide range of successful and rewarding careers.

A significant proportion of our graduates go on to study a PhD or Master's degree, while many others enjoy successful careers in science-related fields such as research and development, conservation, environmental management, medical research, scientific publishing, public health, and wildlife management, amongst many others.

A bioscience degree can act as a stepping-stone to further training in professional areas including teaching, medicine, dentistry, nursing, and veterinary science. Our graduates also have many transferable skills that are attractive to a wide range of employers in other industries.

Our students have an excellent reputation for finding employment after they graduate. Our most recent data, shows that 93% of our graduates reported they were in employment or further studies within six months of graduation.

Careers and Employability Service

The University offers a Careers and Employability Service that is open to students, postgraduate students and graduates, up to two years after graduation.

It offers a range of services to help you get the most out of your degree (and your future), including:

- employability masterclasses – CVs, covering letters and applications
- one-to-one advice sessions with qualified careers advisers
- the Cardiff Award employability scheme
- work experience schemes and advice
- careers fairs and employer-led events to enable networking with top graduate employers.

The Careers and Employability Service also offers daily drop-in appointments with employability advisers.
www.cardiff.ac.uk/careers



Don't just take our word for it...

Through my Cardiff undergraduate Zoology degree and subsequent PhD, I was essentially trained to be a well-rounded scientist – to critically evaluate the work of others and find gaps within the literature to develop interesting research hypotheses. The skills developed here enabled quick progression into my current role as a Senior Epidemiologist at Public Health England's TB Unit.

Mike Reynolds,
Senior Epidemiologist,
Public Health England



Our courses



Our research-led teaching means that you will be learning cutting-edge science and studying under world-renowned researchers, nurturing your talents to become the **next generation of scientists.**

Dr Helen Woodfield, Lecturer

Biochemistry



Biochemistry BSc

UCAS Code: C700

Biochemistry with Professional Training Year BSc

UCAS Code: C701

Biochemistry with Preliminary Year BSc

UCAS Code: C74C

Biochemistry with Preliminary Year and Professional Training Year BSc

UCAS Code: CR41

Biochemistry MBiochem

UCAS Code: 386N

Biochemistry with Professional Training Year MBiochem

UCAS Code: 873C

Enjoy extensive hands-on training and experience contemporary research in important new areas, such as genomics, synthetic biology and protein engineering.

Biochemistry is the study of the molecular basis of life, and it is a subject that has a rich history of scientific discoveries, from enzymology and metabolic pathways, to the discovery of genes and the structure of DNA.

Through this course, you will learn how biochemistry and biomolecular sciences contribute to advances in all biological disciplines, including medicine and biotechnology. You will receive extensive hands-on training in laboratory techniques, and gain practical experience of widely transferable skills in computing, statistics, data analysis and presentation.

From the second year, there is an emphasis on the experimental basis of biochemistry, and you will get to take part in practicals that cover modern research techniques such as recombinant DNA manipulation, protein purification and immunodetection.

Alongside modules in biochemistry and molecular biology, our Biochemistry course embraces important new areas, such as genomics and genome editing, synthetic biology and protein engineering. You will also have the opportunity to combine biochemistry-specific modules, with other modules on offer at the School of Biosciences, enabling you to tailor your degree to fit your interests. In addition to taught modules, your final year will include an individual research project, which enables you to investigate a topic of your choice in much greater depth.

Our Biochemistry degree provides an excellent foundation for careers within all areas of the biological and molecular sciences, and offers strong training for future research scientists.

Life-saving limpets

Our researchers are working with a Welsh bio-tech company to study two potentially life-saving biomaterials in slipper limpets. Slipper limpets contain proteins which could potentially be used for the treatment of breast and bladder cancer, and in regenerative therapies such as bone and nerve repair. Understanding the properties of these proteins, and how they can be best utilised within the field of medicine, is an exciting new area of research within Cardiff University.

Research with impact

What will I study?

Year one

Common First Year (see page 6)

Year two

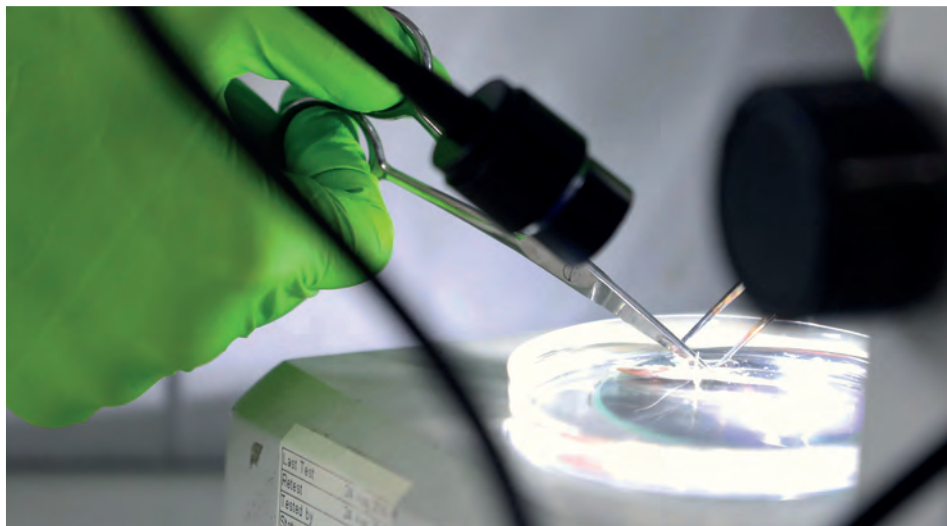
- Biochemistry
- Molecular Biology of the Gene
- An additional module of your choice (excluding Practical Anatomy)

Year three

- Final Year Project
- Genes to Genomes
- Synthetic Biology and Protein Engineering
- An additional module of your choice

MBiochem students will follow a modified course structure from year three – see page 32 for details.

See page 6 for a full list of available modules offered by the School of Biosciences.



“Don't just take our word for it ...”

The lecturers are very friendly so I know that if I ever need help with anything that I can just ask them at the end of a lecture or send them an email and they'll give me the help I need.

Michelle Chancellor,
Biochemistry student

Biological Sciences



Biological Sciences BSc

UCAS Code: C100

Biological Sciences with Professional Training Year BSc

UCAS Code: C101

Biological Sciences with Preliminary Year BSc

UCAS Code: C102

Biological Sciences with Preliminary Year and Professional Training Year BSc

UCAS Code: C103

Biological Sciences MBIol

UCAS Code: L9Y7

Biological Sciences with Professional Training Year MBIol

UCAS Code: 6FK9

The rich ecology of Wales provides the perfect environment to develop and hone your skills as a biologist.

Biological Science is the study of life itself – from the smallest living organism to the largest. It is a truly fascinating subject that will give you a greater understanding of the world around you and how it works.

Combining scientific theory with practical lab and field work, our research-led Biological Sciences degree provides the greatest possible choice and flexibility. You have the freedom to choose modules across virtually the whole breadth of subjects on offer at the School, including, but not limited to zoology; plant biology; ecology; evolution; genetics; disease; neuroscience; microbiology; biochemistry; and developmental and stem cell biology.

We also run a range of exciting field courses (page 11) both within the UK and overseas, including River Ecology in Wales, Tropical Marine Ecology in Tobago, and Rainforest Biodiversity in Malaysia.

With such a broad range of topics to choose from, you can decide how your degree

experience develops, opting to specialise in a particular area of biology, or maintaining a wide breadth of interdisciplinary learning.

The course starts with a common first year which gives you a firm foundation in all the biological disciplines and essential related areas. In years two and three, our wide selection of modules enables you to tailor your degree to fit your interests and aspirations, with a final year research project that allows you to investigate a topic of your choice in much greater depth.

The flexibility of this course offers up a wide range of career options, and our graduates have gone on to further study and employment in a number of different areas, including biological research, pharmaceuticals, science communications, marine biology, conservation, and environmental consultancy, as well as a whole host of non-scientific careers.

Plastics found in fifty percent of freshwater insects

Research led by the School of Biosciences has revealed that microplastics are widespread in insects from South Wales rivers – with microplastic fragments found in half of all insects at the sites sampled. Although people are increasingly aware of the damage caused to ocean wildlife from ingesting plastics, the potential problem of plastics in river ecosystems has been seriously overlooked. This study provides yet more evidence that we need a fuller assessment of the sources, movements and effects of microplastics as they are transported between the land and sea, along rivers.

Research with impact

What will I study?

Year one

Common First Year (see page 6)

Year two

- A free choice of any three modules offered by the School of Biosciences (excluding Practical Anatomy).

Year three

- Final Year Project
- A free choice of any additional three modules offered by the School of Biosciences (excluding Advanced Anatomy).

MBiol students will follow a modified course structure from year three – see page 32 for details.

See page 6 for a full list of available modules offered by the School of Biosciences.

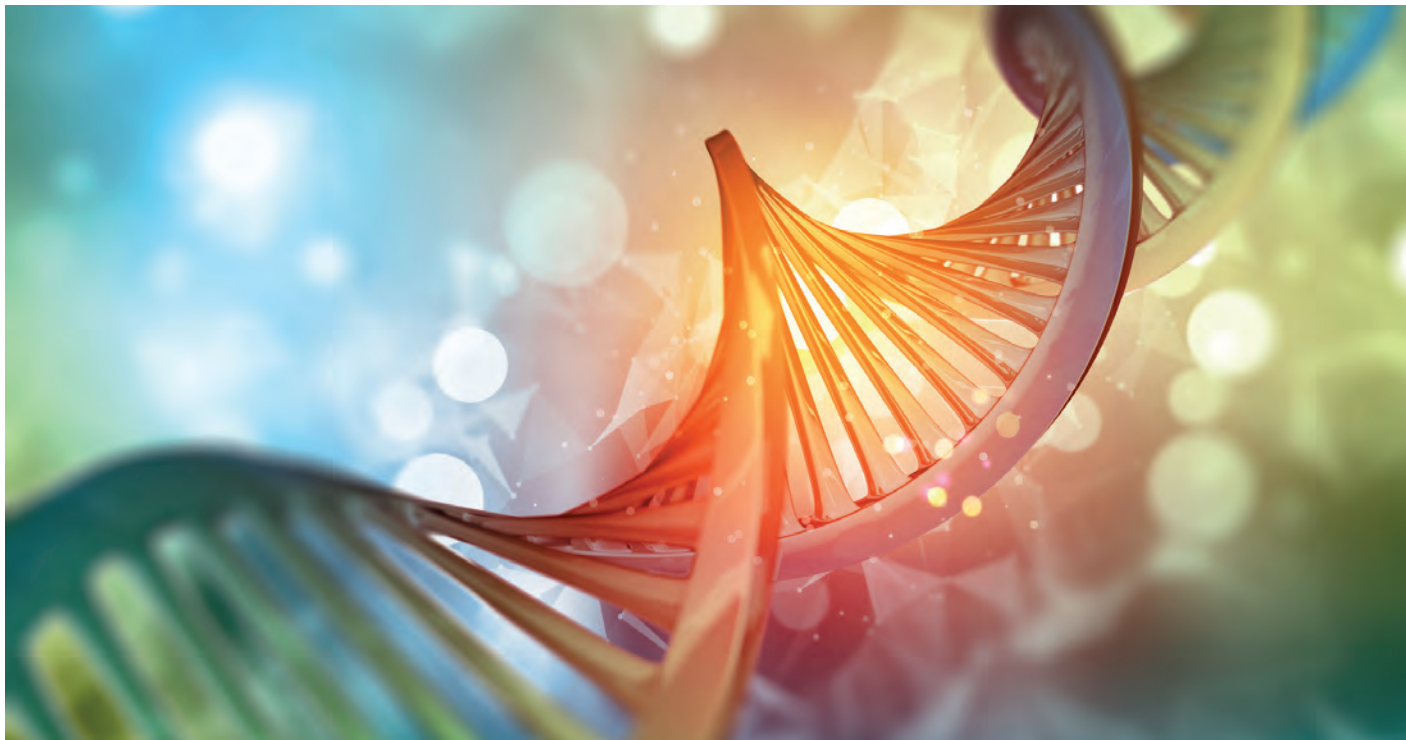


“Don't just take our word for it ...”

Cardiff is a really friendly city with loads going on, stunning nature on its doorstep, and a world class university. I had the best time, met some lifelong friends and it provided me with the skill set to get my dream PhD.

Guy Oldrieve,
Biological Sciences graduate

Biological Sciences (Genetics)



BSc Biological Sciences (Genetics)

BSc Biological Sciences (Genetics) with Professional Training Year

BSc Biological Sciences (Genetics) with Preliminary Year

BSc Biological Sciences (Genetics) with Preliminary Year and Professional Training Year

To study one of our BSc Biological Sciences (Genetics) degrees, please apply for Biological Sciences, Biomedical Sciences or Biochemistry (depending on where your interests lie). In years two and three you can then choose the appropriate modules to graduate with a genetics-specific degree.

Crack the code of life in this vibrant and fast-growing discipline that underpins all aspects of biological and biomedical sciences.

The appearance, function and behaviour of all living organisms is largely determined by their genes. Genetics is the study of the structure and function of these genes, and how this knowledge can be used to improve aspects of life.

It is an exciting area of study that has applications across the breadth of the biosciences, from biodiversity, conservation and crop improvement, to diagnostics and treatment of disease.

To what extent are different species genetically related to each other? How do genes affect an organism's structure and function? How is DNA organised, maintained and replicated? How do mutations affect genes and cause disease? These are all questions that you will explore as a genetics student at Cardiff University.

With modules in molecular genetics, bioinformatics and genomics, you will gain an in-depth understanding of core genetics principles, as well as having the opportunity to practice DNA engineering techniques. These core topics can be combined with other subject areas, such as conservation, evolution, stem cells, biomedical genetics, microbiology, and plant science, enabling you to build a degree that is tailored to your specific interests and career aspirations.

In your final year you will undertake an individual research project, which will enable you to investigate a topic of your choice in much greater depth. Students who select our second-year Ecology and Conservation module, can also choose from a range of exciting field courses (page 11) both within the UK and overseas, including River Ecology in Wales, Tropical Marine Ecology in Tobago, and Rainforest Biodiversity in Malaysia.

New hope for world's most endangered mammal

New genetic analysis of white rhino populations suggests it could be possible to rescue the critically endangered northern white rhinoceros from extinction, using the genes of its less threatened southern cousin.

Analysing genetic samples from 232 rhinos, researchers from Cardiff University and the University of Venda found that the northern and southern populations of white rhinos have occasionally shared genes during cold and arid periods. This discovery suggests that it may be possible to successfully rescue the northern white rhinoceros using southern white rhinoceros genes to create embryos.

Research with impact

What will I study?

Year one

Common First Year (see page 6)

Year two

- Genetics and Its Applications
- Molecular Biology of the Gene
- An additional module of your choice (excluding Practical Anatomy).

Year three

- Final Year Project
- The 'omics Revolution (Bioinformatics & Functional Genomics)
- Genes to Genomes
- An additional module of your choice (excluding Advanced Anatomy).

See page 6 for a full list of available modules offered by the School of Biosciences.



“ ”

Genes and how they function are central to our understanding of many aspects of biology, from biodiversity and evolution, through to gene expression and developmental biology, and the genetic basis of disease.

Studying Genetics at Cardiff offers you the opportunity to develop your interests and undertake hands-on research, guided by experts, across the breadth of this important discipline.

Dr Mike Taylor, Lecturer

Biological Sciences (Zoology)



**BSc Biological Sciences
(Zoology)** UCAS Code: C300

**BSc Biological Sciences
(Zoology) with Professional
Training Year** UCAS Code: C301

**BSc Biological Sciences
(Zoology) with Preliminary Year**
UCAS Code: C302

**BSc Biological Sciences
(Zoology) with Preliminary Year
and Professional Training Year**
UCAS Code: C303

Study the broad field of animal biology or specialise in a particular area with our flexible and interdisciplinary Zoology degree.

Zoology is the study of all kinds of animals, including their anatomy, physiology, genetics, and their adaptations for survival and reproduction in different environments. This is vital knowledge if we are to maintain healthy natural environments, control pests and diseases, conserve biodiversity and preserve endangered species.

This degree is aimed at anyone interested in the broad field of animal biology. It is a truly interdisciplinary course that draws on the research strengths found throughout the School. As well as covering the evolution, diversity, and behaviour of the main animal groups, you will also have the opportunity to select from a number of other modules on offer at the School, including ecology, physiology and genetics,

enabling you to build a degree course that truly reflects your zoological interests. In your final year, an individual research project will enable you to investigate a topic of your choice in much greater depth.

Our Zoology degree also includes plenty of opportunities for practical field work, enabling you to develop valuable field research techniques. Students who select our second-year Ecology and Conservation module can choose from our specialised, project-based field courses (page 11) in the UK and further afield, including River Ecology in Wales, Tropical Marine Ecology in Tobago, and Rainforest Biodiversity in Malaysia. The University also has its own conservation-focused field centre in Borneo, which offers access to exciting training opportunities.

New great ape species uncovered in Indonesia

An international team, including researchers from Cardiff University, has discovered a new orangutan species within Indonesia. The Tapanuli Orangutan was found in the three Tapanuli districts of North Sumatra after close analysis of the ape inhabitants of the Batang Toru Ecosystem. With no more than 800 individuals, the new species of orangutan is now considered the most endangered species of great ape on the planet.

Research with impact

What will I study?

Year one

Common First Year (see page 6)

Year two

- Animal Diversity and Adaptation
- Genetics and its Applications
- An additional module of your choice (excluding Practical Anatomy, Synthetic Biology and Protein Engineering, and Advanced Cell Biology and Imaging).

Year three

- Final Year Project
- Evolution and Adaptation
- Biodiversity and Conservation Biology
- An additional module of your choice (excluding Advanced Anatomy).

See page 6 for a full list of available modules offered by the School of Biosciences.



We have a unique opportunity in Wales, as it's the perfect place for you to develop your field skills as a scientist. Within twenty minutes of the city centre, you can be in rural countryside or by the beautiful welsh coast – we even have peregrine falcons nesting on campus! The rich ecology of Wales provides the perfect environment to develop and hone your skills as a field researcher, and you can then take these skills with you around the world.

Dr Rhys Jones, Lecturer



Biomedical Sciences

BSc Biomedical Sciences

UCAS Code: BC97

BSc Biomedical Sciences with Professional Training Year

UCAS Code: BC9R

BSc Biomedical Sciences with Preliminary Year

UCAS Code: B900

BSc Biomedical Sciences with Preliminary Year and Professional Training Year

UCAS Code: B901

MBiomed Biomedical Sciences

UCAS Code: 51T8

MBiomed Biomedical Sciences with Professional Training Year

UCAS Code: 52G9

Explore the science that underpins all medicine and medical research, and receive training in contemporary topics and techniques.

Biomedical Science underpins all medicine and medical research, and our Biomedical Sciences degree gives you the opportunity to study a wide range of subjects, including human physiology; human anatomy; disease processes and their treatment; biochemistry; genetics and microbiology.

The curriculum is informed by the extensive range of biomedical research undertaken within the School of Biosciences and at the nearby University Hospital of Wales, enabling you to receive training in contemporary topics such as cancer biology, stem cells, tissue engineering, gene therapy and neurodegenerative diseases.

Following a common first year, your second and final years will have a greater emphasis on independent learning and you will have the freedom to study the topics that interest you in greater depth, including an independent research project on a topic of your choice. Compulsory modules on disease, physiology and pathophysiology can be

combined with other modules from across the School of Biosciences, enabling you to follow a personalised degree pathway that is tailored to your interests and aspirations.

The School is home to the Welsh Centre for Anatomical Education, and our specialist Anatomy modules involve human dissection under the direction of skilled experts. We also play a lead role in the University's European Cancer Stem Cell Research Institute and Medicines Discovery Institute, allowing access to a wide range of exciting training opportunities.

The skills and knowledge that you develop on this course will provide a solid foundation for further study, or for a broad range of careers within the biomedical sciences. As one of the recognised 'feeder' degrees for Cardiff University's Graduate Entry to Medicine programme, our Biomedical Sciences degree also offers a potential pathway into medicine.



Potential new treatment for advanced cancers

A potential treatment for therapy-resistant breast cancer patients has been uncovered by researchers at Cardiff University. The University's European Cancer Stem Cell Research Institute has repurposed a current cancer therapy, TRAIL, to find a new treatment for advanced cancers that are resistant to anti-hormone therapy. Although there is more research to do before this new drug gets into clinic, TRAIL represents a very promising therapy for a population of patients who currently have very few treatment options.

Research with impact

What will I study?

Year one

Common First Year (see page 6)

Year two

- EITHER Physiology OR Concepts of Disease
- A free choice of any additional two modules offered by the School of Biosciences (excluding Ecology and Conservation).

Year three

- Final Year Project
- EITHER Contemporary Topics in Disease OR Advances in Physiology and Pathophysiology
- An additional two modules of your choice (excluding Ecosystems, Sustainability and Global Change)

MBiomed students will follow a modified course structure from year three – see page 32 for details.

See page 6 for a full list of available modules offered by the School of Biosciences.



Don't just take our word for it ...

I originally entered Cardiff University on the Biological Sciences course, but switched to Biomedical Sciences after the first year as I realised I preferred human-based biology. Studying at Cardiff has moulded me into a more complete student, taught me how to learn and live independently and has prepared me for my further studies to become a vet. I'd recommend Cardiff University to anyone; it's a great place to live as well as learn.

Henry Finnigan,
Biomedical Sciences graduate

Biomedical Sciences (Anatomy)



BSc Biomedical Sciences (Anatomy)

BSc Biomedical Sciences (Anatomy) with Professional Training Year

BSc Biomedical Sciences (Anatomy) with Preliminary Year

BSc Biomedical Sciences (Anatomy) with Preliminary Year and Professional Training Year

To study Biomedical Sciences (Anatomy), please apply for one of our BSc Biomedical Sciences entry degrees. In years two and three you can then choose the appropriate modules to graduate with an anatomy-specific degree.

Gain hands-on anatomy experience with an innovative degree programme that blends traditional approaches with modern digital techniques.

Anatomy is the study of the structure and function of the body, from the sub-cellular to the whole organism, and it is an essential building block of modern medicine.

Our anatomy degree blends traditional approaches with modern digital techniques to provide you with a stimulating, interactive and up-to-date degree programme. You will study practical and advanced human anatomy alongside, musculoskeletal science, stem cell biology and tissue engineering. You will also have the opportunity to select additional modules on offer at the School of Biosciences,

enabling you to tailor your degree to fit your interests and career aspirations.

In your final year, you will carry out an individual research project which will enable you to investigate a topic of your choice in much greater depth.

Cardiff University is home to the Wales Centre for Anatomical Education. We are the only university in Wales (and one of just a small number in the UK) to allow students to undertake full body dissection under the direction of skilled anatomical and educational experts, offering you the rare opportunity to gain hands-on surgical skills.

Understanding joint degeneration

Patients with mal-aligned knees often develop osteoarthritis. Researchers at Cardiff University investigated the clinical, biological and functional changes demonstrated by patients undergoing joint realignment surgery, and found that biomarkers of pain, inflammation and bone turnover vary after surgery. These changes in the joint indicate new biological mechanisms underlying joint degeneration that we may be able to target with therapeutics, helping to improve the quality of life for patients suffering from osteoarthritis.

Research with impact

What will I study?

Year one

Common First Year (see page 6)

Year two

- Developmental and Stem Cell Biology
- Practical Anatomy
- A choice of EITHER Physiology OR Concepts of Disease

Year three

- Advanced Anatomy
- Advanced Musculoskeletal Biology and Tissue Engineering
- Final Year Project
- An additional module of your choice (excluding Ecosystems, Sustainability and Global Change)

See page 6 for a full list of available modules offered by the School of Biosciences.

Please note: there is a limited number of spaces on anatomy modules. Interested students will need to complete an application process in order to obtain a place.



“Don't just take our word for it ...”

I have always had an interest in the human body; both its structure and the way it functions amazes me. I knew that I wanted my future career to be focussed on this, so I did lots of research and found that Cardiff University provides excellent resources, support and teaching to their anatomy students.

We are taught anatomy in an integrated fashion by combining it with clinical scenarios, allowing us to understand the in-depth anatomy and functioning of the human body. It has been an absolute privilege to study anatomy at Cardiff University.

Ashleigh Wood, Anatomy student

Biomedical Sciences (Physiology)

**BSc Biomedical Sciences
(Physiology)**

**BSc Biomedical Sciences
(Physiology) with Professional
Training Year**

**BSc Biomedical Sciences
(Physiology) with Preliminary
Year**

**BSc Biomedical Sciences
(Physiology) with Preliminary
Year and Professional Training
Year**

To study Biomedical Sciences (Physiology), please apply for one of our BSc Biomedical Sciences entry degrees. In years two and three you can then choose the appropriate modules to graduate with a physiology-specific degree.

Explore how the human body works in this experimental subject that is a fundamental building block of modern medicine.

Physiology is the study of how the body works, exploring the interacting mechanisms that control and regulate the normal functioning of the human body.

Physiology is a discovery science that is unique in offering an integrated study of molecular, cellular, systems and whole body function in health and disease. Although there is constant interaction between clinical research and physiological science, most physiological research is undertaken by scientists rather than clinicians.

On this course, the core physiology module you study in year two will provide you with a thorough grounding in physiology. You will learn how the body responds and adapts to the challenges of everyday life and what can

go wrong in disease. There is strong emphasis on the experimental basis of the subject, and you will become familiar with scientific developments and their impact. In your final year, you can take modules that reflect our expertise in the areas of cell physiology, neurophysiology and pathophysiology.

These topics can be combined with other modules on offer at the School of Biosciences, enabling you to build a degree programme that is tailored to your interests. In your final year, you will also carry out an individual research project which will enable you to investigate a topic of your choice in much greater depth.



Finding a new treatment for asthma

Over 300 million people live with asthma worldwide, and current conventional treatments are ineffective for around 10% of these patients. Researchers at Cardiff University discovered that an existing drug, originally developed to treat osteoporosis, has the potential to be repurposed and used as an effective treatment for severe asthma and other inflammatory lung diseases. Pending clinical trials, this research could pave the way for a revolutionary new treatment that could transform the lives of millions of people across the globe.

Research with impact

What will I study?

Year one

Common First Year (see page 6)

Year two

- Physiology
- Two additional modules of your choice (excluding Ecology and Conservation)

Year three

- Final Year Project
- Advances in Physiology and Pathophysiology
- Two additional modules of your choice, to include at least one of the following:
 - Contemporary Topics in Disease
 - Advanced Musculoskeletal Biology and Tissue Engineering
 - Cancer: Cellular and Molecular Mechanisms and Therapeutics

See page 6 for a full list of available modules offered by the School of Biosciences.

Don't just take our word for it ...

My time at Cardiff has really prepared me for my chosen path after university because of the techniques I've learnt and the facilities I've had access to. If I was to choose university again I'd definitely choose Cardiff. I've had the chance to make new friends, be involved in high-end research and live in an amazing city.

Beth Mansfield, Physiology graduate and current PhD student



Neuroscience

BSc Neuroscience

UCAS Code: B142

BSc Neuroscience with Professional Training Year

UCAS Code: B143

BSc Neuroscience with Preliminary Year

UCAS Code: B141

BSc Neuroscience with Preliminary Year and Professional Training Year

UCAS Code: B140

MNeuro Neuroscience

UCAS Code: 37JL

MNeuro Neuroscience with Professional Training Year

UCAS Code: 4K5G

Use a combination of biological and psychological techniques to explore the mysteries of the human brain.

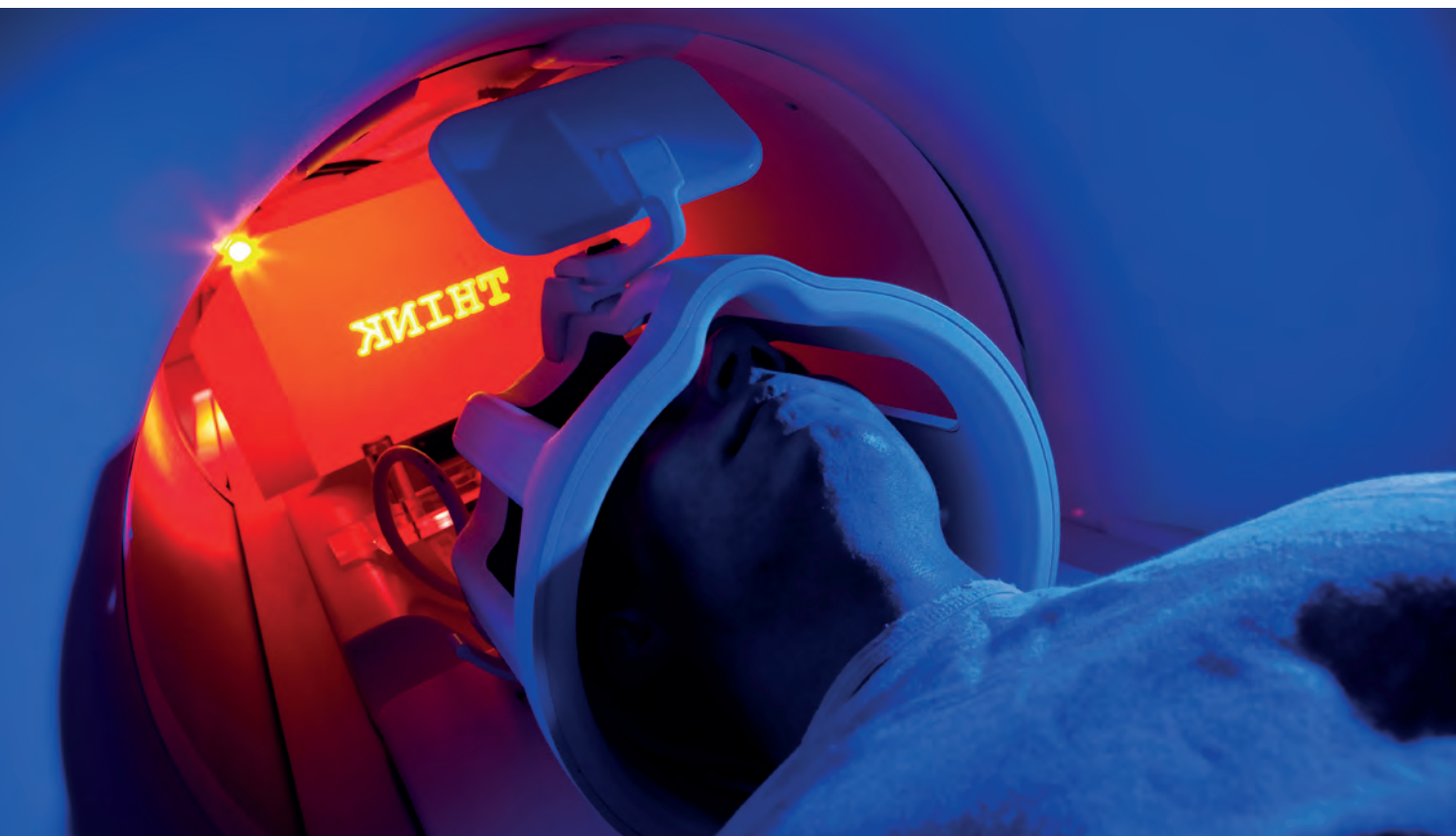
Neuroscience is the study of the nervous system, from the molecular processes taking place in nerve cells to the functioning of the mind. How the human brain works remains one of the most intriguing of all scientific questions. Can the brain understand the brain? Can it understand the mind? Is the brain a giant computer or something more?

On our Neuroscience programme, you will explore these questions and more, using approaches that range from the biochemistry and physiology of nerve cells to a psychologist's investigation of the machinery of the mind.

You will study topics in cellular neurophysiology, neuropharmacology, the anatomy and development of the human brain, psychological and behavioural analysis, practical neuro-physiology, neuronal cell signalling and neuro stem cell biology.

Your final year modules will cover current research on the biology of nervous system disorders, sensory processing and perception, neuronal development and plasticity. You will also complete a final year research project that will enable you to investigate a topic of your choice in much greater depth.

The recent growth of this subject is due in large part to the important contribution neuroscience is making to the understanding and treatment of mental and other neurological disorders. Cardiff University is home to the Neuroscience and Mental Health Research Institute, the MRC Centre for Neuropsychiatric Genetics and Genomics, the Dementia Research Institute, the Medicines Discovery Institute, and the Cardiff University Brain Research Imaging Centre, offering access to exciting training opportunities.



Understanding Huntington's Disease

The inherited gene that leads to Huntington's disease has been found to affect brain development from an early age, even though most patients don't develop symptoms of the disease until they are between the ages of 30 and 50. The findings of the study, by Cardiff University, University of Erlangen-Nuremberg and Lund University, could help researchers to develop new treatments in the future that would delay the onset of the disease.

Research with impact

What will I study?

Year one

Common First Year (see page 6)

Year two

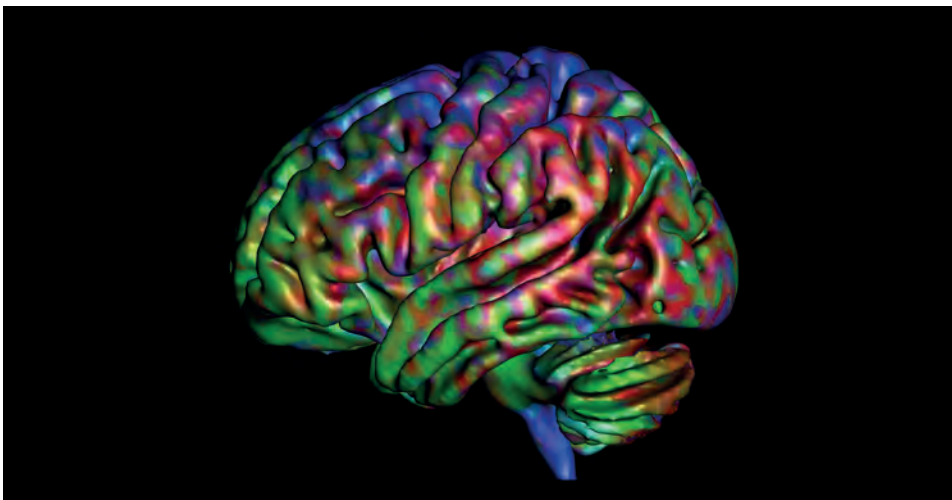
- Brain and Behaviour
- Fundamental Neuroscience
- An additional module of your choice (excluding Ecology and Conservation).

Year three

- Final Year Project
- Neurobiology of Brain Disorders
- Systems Neuroscience
- An additional module of your choice (excluding Plants for the Future).

MNeuro students will follow a modified course structure from Year three – see page 32 for details.

See page 6 for a full list of available modules offered by the School of Biosciences.

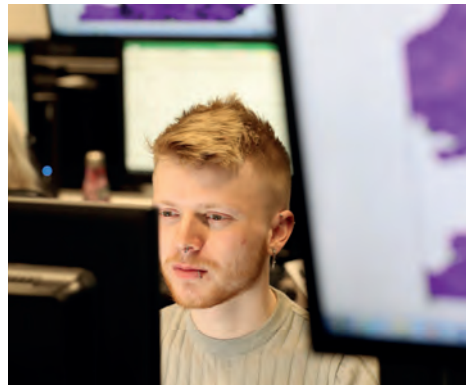


“Don't just take our word for it ...”

Cardiff University's Neuroscience degree has given me so many opportunities to explore the vast world of research into our most mysterious organ – the brain. I have even been given the chance to carry out a human brain dissection, something that very few universities will offer. The course looks in-depth at a broad range of topics, allowing you to discover what you find most interesting, and where you think your career in neuroscience may go. If, like me, you're fascinated by the human brain, then this degree is the perfect way to develop this fascination further.

Katie Rae, Neuroscience student

Integrated Master's Degrees



Biochemistry (MBiochem)

UCAS Code: 386N

Biochemistry (MBiochem) with Professional Training Year

UCAS Code: 873C

Biological Sciences (MBiol)

UCAS Code: L9Y7

Biological Sciences (MBiol) with Professional Training Year

UCAS Code: 6FK9

Biomedical Sciences (MBiomed)

UCAS Code: 51T8

Biomedical Sciences (MBiomed) with Professional Training Year

UCAS Code: 52G9

Neuroscience (MNeuro)

UCAS Code: 37JL

Neuroscience (MNeuro) with Professional Training Year

UCAS Code: 4K5G

Take your studies to the next level and build a foundation for a career in research with one of our integrated Master's Degrees.

We offer four integrated master's degrees in:

- Biological Sciences (MBiol)
- Biomedical Sciences (MBiomed)
- Biochemistry (MBiochem)
- Neuroscience (MNeuro)

These four-year undergraduate courses offer the opportunity to take your studies to the next level and explore the current frontiers of knowledge in your chosen field.

With training in advanced research techniques, and a bespoke independent research project on a topic of your choice, our integrated Master's courses provide an excellent platform for a career in scientific research, as well as broadening your skill base for future employers.

The high degree of subject specialisation and knowledge gained during the course will enhance your employability in both research and commercial bioscience sectors.

Learn advanced research techniques

In years one and two, you will follow the same curriculum as our BSc students.

In the third year, you will learn how to apply core knowledge to solve scientific problems and to critically evaluate models, ideas and current debates. You will study three subject-specific modules as well as receiving training in advanced research techniques and bioinformatics, ensuring that you are fully prepared for the research project in your final year.

Extended research project

Along with further training in advanced research methods, your final year will include an independent six-month research project within an active research laboratory. This novel project will be in an area of your choosing, and could potentially contribute towards a publication in a scientific journal, or trigger a whole new avenue of subsequent research.

You will receive training and support throughout the duration of the project from experienced researchers, helping you to develop your skills as a practical research scientist.

Flexible entry

You can apply for one of our integrated Master's degrees via UCAS, using the codes listed above. Alternatively, you can choose to switch from a BSc programme to one of our integrated Master's courses at the start of year three, subject to space constraints and academic performance.

If you enter the School on an integrated Master's programme, progression beyond year two is subject to academic performance (an average of 60% or above in years one and two), with the option to switch to a BSc before entering year three.

All of our integrated master's courses are available with a Professional Training (sandwich) Year – a year-long research-based work placement, which has been shown to greatly enhance your degree and subsequent career prospects (see page 10).

What will I study?

Year one

Common First Year (see page 6)

Year two

- Three 40-credit modules (see your chosen subject for specific module combinations)

Year three

- Advanced Research Techniques
- Three additional 30-credit modules (see your chosen subject for specific module combinations)

Year four

- Advanced Research Project (80 credits)
- Advanced Research Methods (20 credits)
- Frontiers in Biosciences (20 credits)

See page 6 for a full list of available modules offered by the School of Biosciences.

“Don't just take our word for it ...”

I have really enjoyed the integrated Master's course. The independent project has allowed me to develop core research skills and experience a real-time lab, whilst giving me opportunities I would not have gained otherwise.

Meg Huggins,
Integrated Master's student



Preliminary year



BSc Biological Sciences with Preliminary Year

UCAS Code: C102

BSc Biological Sciences with Preliminary Year and Professional Training Year

UCAS Code: C103

BSc Biochemistry with Preliminary Year

UCAS Code: C74C

BSc Biochemistry with Preliminary Year and Professional Training Year

UCAS Code: CR41

BSc Biomedical Sciences with Preliminary Year

UCAS Code: B900

BSc Biomedical Sciences with Preliminary Year and Professional Training Year

UCAS Code: B901

BSc Neuroscience with Preliminary Year

UCAS Code: B141

BSc Neuroscience with Preliminary Year and Professional Training Year

UCAS Code: B140

BSc Biological Sciences (Zoology) with Preliminary Year

UCAS code: C302

BSc Biological Sciences (Zoology) with Preliminary Year and Professional Training Year

UCAS code: C303

Study key topics in Biology, Chemistry and Mathematics, and build a solid foundation for future studies.

Our Preliminary Year forms the first year of a four-year degree programme, leading to a BSc in any of the subjects offered by the School of Biosciences.

The Preliminary Year is designed for students who lack a sufficient background in science, and it will provide you with the knowledge and understanding needed to thrive in the year one curriculum and beyond.

You will cover key topics in Biology, Chemistry and Mathematics (comprising 100 credits), along with 20 credits-worth of optional modules that may be taken from other Schools within the University, or from the Centre for Professional Education.

Upon successful completion of the Preliminary Year, you can choose to follow any of our five main degree programmes – BSc Biological Sciences, BSc Biological Sciences (Zoology), BSc Biomedical Sciences, BSc Biochemistry, or BSc Neuroscience with options to specialise in genetics, Anatomy or Physiology. Depending on satisfactory academic progress and space availability, you may also have the option of transferring

to one of our integrated Master's courses (page 32) after year two of the BSc.

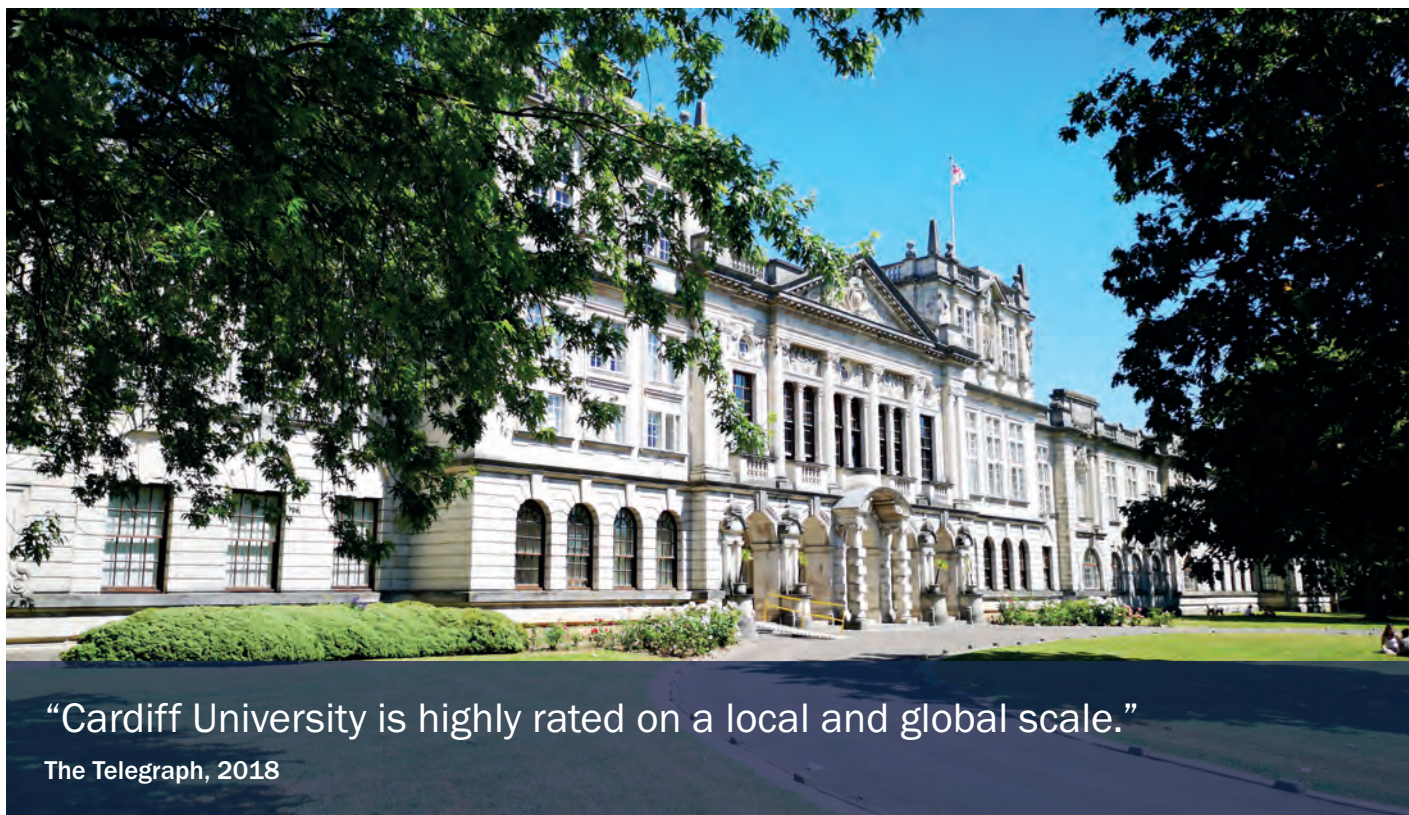
The Preliminary Year is aimed at AS/A-level (or equivalent) students who have good grades but in subjects not suitable for entry into year one; overseas students who do not hold science qualifications equivalent to the UK A-level; and mature students re-entering the education system.

Required modules

- Cells and the Chemistry of Life
- Genetics, Evolution and Diversity
- Nutrition, Transport and Signalling
- The Way the Body Works
- Fundamental Aspects of Chemistry
- Thermodynamics, Kinetics and Equilibria
- Chemistry of Organic Compounds
- Inorganic and Redox Chemistry
- Preliminary Mathematics I
- Preliminary Mathematics II

A leading university

Part of the
**RUSSELL
GROUP**



“Cardiff University is highly rated on a local and global scale.”

The Telegraph, 2018

Our students learn from leading researchers in over 300 courses across the University. As Wales’ only Russell Group institution, we have gained an international reputation for excellence in teaching and research, which is built from our history of achievement since 1883.

Cardiff University becomes home for approximately 5,500 new undergraduate students every year. While competition for places is strong, we pride ourselves on being an inclusive university, welcoming applications from everyone who wishes to study with us.

We are a global university with over 7,500 international students from more than 100 countries and open our doors to all applications, irrespective of background.

Facilities and development

Committed to investing in our services, Cardiff University is home to new and well-equipped laboratories, lecture theatres, libraries and

computing facilities to name a few, with more exciting developments continuously underway.

We take our environmental, safety and security responsibilities seriously, embracing our comprehensive Energy, Water and Waste Policy, which is already making great savings in energy consumption and helping us to do our bit to tackle climate change.

Global Opportunities

We are partnered with over 200 leading institutions across the world, and our Global Opportunities team will help you to gain valuable international experience, through study, work or volunteering.

Supporting you

Our student support and wellbeing centres deliver a substantial range of services available to all students that are free, impartial, non-judgemental and confidential, aimed to help you make the most of student life and support you during your study.

We are also rated as one of the best universities for supporting LGBT+ students and are proud to be ranked highly in the Stonewall Workplace Equality Index.

Virtual campus tour

Discover more about the University and the city of Cardiff through our interactive online tour at:

virtualtour.cardiff.ac.uk

A capital city



Cardiff is a compact city with an enormous character. Nestled between the rugged coastline and breathtaking mountainous scenery of Wales, the country's capital is a cornucopia of culture, marrying historical delights with cosmopolitan amenities.

Providing an endless array of activities, one stroll through its cobbled streets can see you learn about the rich tapestry of Cardiff's past at Cardiff Castle before soaking in the atmosphere as the crowds spill from the Principality Stadium after one of the many sporting events it holds year round.

The vibrant and independent culinary scene is the heartbeat of the city. With something

to please every palette, you can enjoy fine dining, plant-based treats and exotic cuisines from almost every corner of the globe, without forgetting Welsh Cakes for dessert!

Wales is the land of song, and Cardiff certainly contributes heftily to this legacy. This city is built with music running through its veins, from the oldest record store in the world Spillers Records, which is tucked away in Morgan Arcade, to more contemporary and intimate venues which host some of the world's most exciting new musical talent.

Though your Cardiff bucket list may be bursting at the seams, be sure to make a little room for our National Museum which is a place of

true wonder, while the iconic Wales Millennium Centre in the idyllic setting of Cardiff Bay is simply not to be missed.

Bustling with personality, Cardiff is a city made for students, offering an endless string of entertainment opportunities while remaining inexpensive and easy to navigate.

The modern shopping centres, aesthetic arcades, luscious green parks and thriving nightlife are a huge draw for living in Cardiff, though you'll always find your way back to our Students' Union, which is the true home of the student scene in the city.

“With an exhilarating mix of heavyweight cultural sights, exciting regeneration projects – not least the revitalised Cardiff Bay – world-class sport, a prolific music scene and some seriously banging nightlife, it's easy to see why Cardiff now ranks alongside London and Edinburgh as one of the UK's most compelling destinations.”

The Complete University Guide, 2017



Cardiff as a city has a huge amount to offer – it's affordable to live, it has varied nightlife, lots of culture, arts and events going on, rugby, great food markets, parks, good transport links to London, Bristol and other vibrant cities, and it's close to the mountains and beaches. You name it, Cardiff's got it

Mike Reynolds, Zoology graduate

Living in Cardiff



“Cardiff has one of the biggest, best and most active students’ unions in the UK, with high quality facilities including Y Plas, a 2,150 capacity nightclub; and the Great Hall, a major concert venue.”

Complete University Guide, 2019



Cardiff is the perfect place to be a student. It mirrors the hive of activity a big city offers, but in an intimate and compact setting with endless character. Drink in the atmosphere, soak up the culture and get stuck into the host of activities available in our city; your new home.

A guarantee of accommodation

If you accept your offer of a place at Cardiff on a firm basis, you are guaranteed a single occupancy place in University accommodation during your first year, living with other first year undergraduate students.

The residential dates for your particular accommodation will be confirmed in your Offer of Residence.

Residence Life

While staying in Cardiff student accommodation, you will have access to the incredible service provided by the Residence Life Team who work tirelessly to enhance your student experience.

Working in partnership with Student Support and Wellbeing, the Residences Office and the Students’ Union, Residence Life will welcome you to Cardiff and help you to make a smooth transition into University.

They also help foster a strong sense of community through social events and cultural activities, as well as practical support too.

Students’ Union

Our Students’ Union is at the heart of the Cardiff student experience. It’s a student-led and independent part of the University, dedicated to making your time with us the best it can be.

Built on the foundation of inclusion, diversity, personal development and friendship, the Students’ Union runs a range of activities and services to help enhance your Cardiff University experience.

These include advice, training, skills development, entertainment, volunteering opportunities and employment throughout your time at Cardiff and to prepare you for a career after University too.

Find out more ...

Accommodation

For further information please visit our website: www.cardiff.ac.uk/residences

You can also watch our residences film online at: www.youtube.com/watch?v=hxzX-dYLfB8

Students’ Union

 facebook.com/cardiffstudents

 snapchat.com/add/cardiffstudents

 instagram.com/cardiffstudents

 [@cardiffstudents](https://twitter.com/cardiffstudents)

 www.youtube.com/cardiffstudents

How to apply



You can apply for any of our courses online via the UCAS website (www.ucas.ac.uk/apply), where you will find further information on the application procedure.

Applications should be made by 15 January. UCAS will send your application to the University. Once we have received and considered your application, we may invite you to visit the School sometime between November and April.

There will not normally be a formal interview, but there will be a guided tour of the School, Students' Union and campus. You will meet students and staff, enabling us to get to know more about you and giving you the opportunity to find out what life is like as a bioscience student at Cardiff.

Typical number of places: **400**
Typical number of applications: **2000**

UCAS Personal Statement

The personal statement is an important part of the selection process and should contain information relating your commitment to your chosen degree programme. We expect you to have looked into the various aspects of your chosen subject and the careers it might lead to.

Typical Entry Requirements

For detailed entry requirements and latest typical offers please see: www.cardiff.ac.uk/ugcourses

A-level

BSc: AAB-ABB to include Biology or Chemistry and a second science subject. If only taking Biology or Chemistry and no second science subject, AAB-ABB including a B in Biology or Chemistry. A pass in the practical element of the science A-level (where applicable) is required.

Integrated Masters: AAA-AAB to include A in Biology or Chemistry. A pass in the practical element of the science A level (where applicable) is required.

A grade A in the Extended Project Qualification will typically lower the entry requirements for all Bioscience programmes by a single grade. For example, AAB offers would change to AAB from 3 A levels or ABB from 3 A levels and a grade A in the EPQ. Please note that any subject-specific requirements must still be met.

Please note that we do not accept Critical Thinking and General Studies A-levels .

Welsh Baccalaureate

The Welsh Baccalaureate Advanced Skills Challenge Certificate will be accepted in lieu of one A-Level (at the grades listed above), excluding any specified subjects.

International Baccalaureate

IB Diploma with an overall score of 34-32 including grade 6 in Higher Level Biology or Chemistry OR IB Diploma with 655 at Higher Level including 6 in Biology or Chemistry.

BTEC

DDD with Distinction grades in the mandatory units.

Acceptable BTEC for entry: BTEC Extended Diploma in Applied Science and BTEC Extended Diploma in Animal Management.

Access to HE Qualifications

The Access to Higher Education Diploma (Biosciences) is suitable for entry onto our courses with the following attainment.

BSc: 30 level-3 credits to be awarded at Distinction, 15 to be awarded at Merit.

Integrated Masters: 45 level-3 credits to be awarded at Distinction.

Other

Applications from those offering alternative qualifications are welcome, as are those who may have combinations of qualifications or other relevant work/life experience. Please contact us for more information.

Preliminary Year

This course forms the first year of a four-year degree programme (five years in the case of a sandwich programme) leading to a BSc in any of the subjects offered by the School of Biosciences. It covers key topics in Biology, Chemistry and Mathematics and will underpin future studies.

The Preliminary Year is aimed at AS/A-level (or equivalent) students who have good grades, but in subjects that are unsuitable for entry into year one; overseas students who do not hold science qualifications equivalent to the UK A-level; and mature students re-entering the education system.

The course is not available for students who have taken appropriate AS/A-levels but not achieved the grades required for first year entry.

How to apply *continued*

The Use of Animal-derived Products in Undergraduate Teaching

Given the nature of the subjects, the use of functioning non-human tissue and animal-derived products in laboratory work is essential to the programmes of study offered by the School of Biosciences. In the very rare case of a student being unable to carry out work on living, non-human organisms, alternatives may be sought where practicable, where allowed in course regulations, and where there is no conflict with learning outcomes. We try to satisfy the needs of our students. If in doubt, applicants can obtain further information from Admissions Tutors.

Equal Opportunities

Cardiff University is committed to promoting equality and diversity in all of its practices and activities, including those relating to student recruitment, selection and admission. The University aims to establish an inclusive culture which welcomes and ensures equality of opportunity for applicants of all ages, ethnicities, disabilities, family structures, genders, nationalities, sexual orientations, races, religious or other beliefs, and socio-economic backgrounds. This commitment forms part of the Equality and Diversity Policy which is available at: www.cardiff.ac.uk/cocom/equalityanddiversity/index

Applicants with Disabilities/ Specific Needs

All offers to study at Cardiff University are made solely on the basis of academic merit. If you have specific requirements that relate to a disability or medical condition, we encourage you to discuss these with relevant staff so that appropriate arrangements can be made to ensure the University provides an accessible environment. Specifically, you are invited to contact the Disability Adviser who can provide information about the applications procedure, course delivery and access to the physical environment. Where appropriate, we can arrange informal visits which give you the opportunity to view accommodation and meet academic staff.

The Disability Adviser can be contacted at:

The Student Advisory Service 50 Park Place,
Cardiff CF10 3AT
Tel/Minicom: **+44 (0)29 2087 4844**
Email: disability@cardiff.ac.uk



Welsh Language Opportunities

We support students who wish to study in the medium of Welsh and offer opportunities to do so where possible.

We are able to offer a Welsh-speaking personal tutor to all students who indicate that they would prefer this, and it is likely that some element of Welsh-medium teaching can, in discussion with the School of Biosciences Welsh-language Liaison Officer, be organised across the range of degree schemes.

Students can also choose to submit assessed work and take examinations through the medium of Welsh.

Overseas Applicants

We welcome applications from overseas students and the School already has a number of international students studying both undergraduate and postgraduate courses. An offer will be made based on you achieving an entry standard equivalent to UK qualifications.

For further information, please visit:
www.cardiff.ac.uk/international

Open Days

Four University-wide Open Days are held each year. These provide the opportunity to visit all Schools in addition to residences, the Students' Union and sports facilities.

For further information please visit our website at: www.cardiff.ac.uk/opendays

Tuition Fees and Financial Assistance

The University charges an annual fee which covers all tuition fees, registration and examinations other than the re-taking of examinations by applicants not currently

registered. Please note that charges for accommodation in University Residences are additional.

Please see the following website for more information: www.cardiff.ac.uk/fees

Scholarships and Bursaries

For more information on our scholarships and bursaries, please visit the following website: www.cardiff.ac.uk/scholarships

Useful websites for information about tuition fees and financial assistance:

Student Support Centre: www.cardiff.ac.uk/financialsupport/index.html

Welsh Assembly Student Finance: www.studentfinancewales.co.uk

Student Finance England: www.studentfinanceengland.co.uk

Student Loans Company: www.slc.co.uk

Contact us

If you have any questions about the School, our courses, or the application procedure, please don't hesitate to contact us:

Admissions Tutor

Cardiff University School of Biosciences
Sir Martin Evans Building
Museum Avenue
Cardiff CF10 3AX

Tel: **029 2087 4296**

Email: bioscience-ug@cardiff.ac.uk




You can also find further information about the School on our website: www.cardiff.ac.uk/biosciences



How to find the School

The School of Biosciences is located on Park Place in the Sir Martin Evans Building (highlighted in orange on the map above).

Key

-  School of Biosciences
-  University and NHS buildings
-  Student residences

Important Legal Information

The contents of this brochure relate to the Entry 2020 admissions cycle and are correct at the time of going to press in September 2019. However, there is a lengthy period of time between printing this brochure and applications being made to, and processed by us, so please check our website at: www.cardiff.ac.uk before making an application in case there are any changes to the course you are interested in or to other facilities and services described here. Where there is a difference between the contents of this brochure and our website, the contents of the website take precedence and represent the basis on which we intend to deliver our services to you.

Your degree: Students admitted to Cardiff University study for a Cardiff University degree.



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Thank you.

Cardiff University is a registered charity, no. 1136855

This prospectus can be made available in alternative formats, including large print (text), Braille and on audio tape/CD.

To request an alternative format please contact Laura Roberts:

Tel: **029 2087 4455**

Email: **RobertsL9@cardiff.ac.uk**

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To find out more about the
School of Biosciences please
visit our website:
www.cardiff.ac.uk/biosciences

Contact us

T: **029 2087 4296**
E: bioscience-ug@cardiff.ac.uk

School of Biosciences
Cardiff University
Museum Avenue
Cardiff CF10 3AX

Stay in touch

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Student life

Got questions about student life?
Get them answered at:

[www.cardiff.ac.uk/
studentbloggers](http://www.cardiff.ac.uk/studentbloggers)

Want to know more about life at
Cardiff University? Our student
bloggers are recording their
experiences and are happy to
answer your questions.

Our student bloggers are real
students studying on a range of
courses. They are here to answer
any questions you have about life
at Cardiff University. What's a
typical day like? What clubs and
societies are there? Is Cardiff's
music scene any good? It can be
almost anything.

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