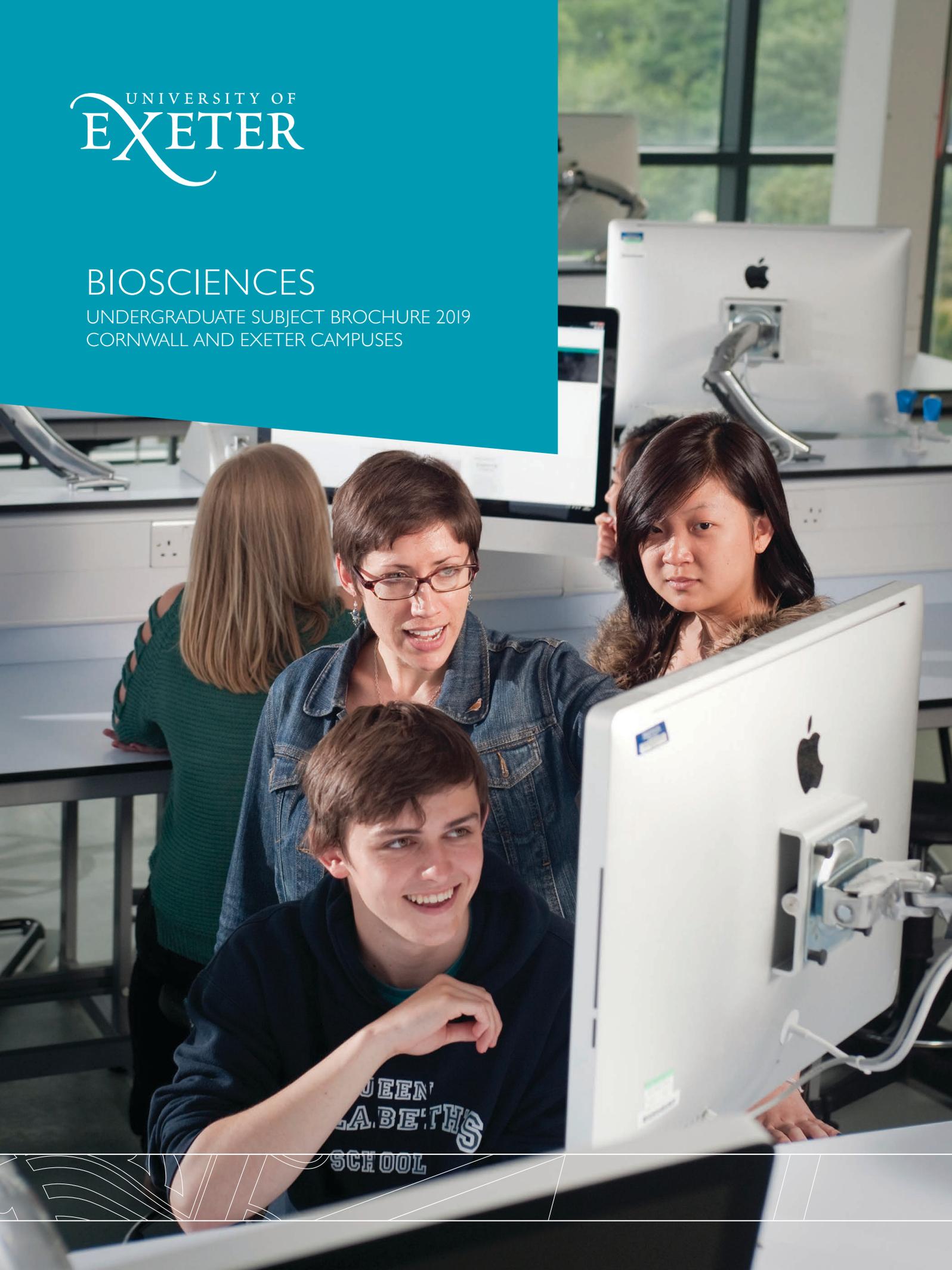


UNIVERSITY OF  
**EXETER**

## BIOSCIENCES

UNDERGRADUATE SUBJECT BROCHURE 2019  
CORNWALL AND EXETER CAMPUSES

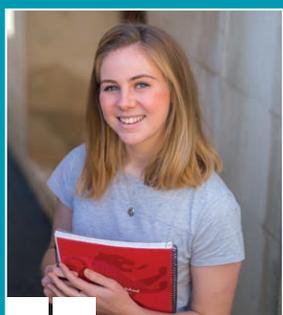


QUEEN  
ELIZABETH'S  
SCHOOL

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There is a very strong relationship between students and staff within the Biosciences department. There's great support throughout the course too, academics are always quick to reply to emails and happy to chat and talk further about topics of interest. You can tell they want the very best from us and want us to be inspired to take their research further.

Emily, studying  
Biological Sciences



RESEARCH COVERING A WIDE RANGE OF TOPICS

# BIOSCIENCES

14th for Biological Sciences in *The Complete University Guide 2019*, and top 10 in the UK for world-leading and internationally excellent research<sup>1</sup>

Degrees available on topics covering the entire spectrum of biology, from molecules and microorganisms to whole organisms and ecosystems

Learn with world-leading researchers and carry out challenging independent research

State-of-the-art learning facilities

Opportunities to study abroad, and undertake field study in the UK and overseas

Professional placement and industrial experience opportunities

80% of our Biosciences students go into graduate employment or further study within six months of graduating<sup>2</sup>

Biosciences at the University of Exeter is a world-class centre for the teaching and research of biological sciences. You will be taught by internationally renowned experts in subjects at the frontiers of science and across the spectrum of biology: evolution, conservation, ecology, whole organism biology, microbiology, molecular and cellular biology, computational biology and biological chemistry.

We provide the highest standard of care and support to our students, as well as the latest research information and teaching techniques. A wide range of modules, built around a core curriculum, provide the skills needed to become a free-thinking, critical scientist.

A huge range of extracurricular activities, specialised societies and volunteering opportunities allow you to translate theory into real-world actions.

Our teaching introduces new concepts in systems biology and describes how fundamental research is both commercialised in the biotechnology industry and applied practically in the fields of ecology and conservation. State-of-the-art teaching laboratory facilities integrate with activities in lecture theatres, classrooms and the field.



I think one of the best parts is all the new things you can discover and pursue at Exeter through all the societies – I have met some life-long friends through societies and have loved all the new opportunities they have brought.

Georgia, studying Biological Sciences

[www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

<sup>1</sup> Research Excellence Framework 2014 based on the percentage of research categorised as 4\* and 3\*.

<sup>2</sup> Destination of Leavers from Higher Education Survey (DLHE) of 2015/16 undergraduates.

# BIOSCIENCES IN CORNWALL

Our staff are active researchers who specialise in a range of fields and topics including marine biology, conservation biology, behavioural, population and community ecology, zoology, and evolutionary biology and genetics. Expert teaching and world-class research explore the very factors influencing biodiversity and complexity in the natural world.

Cornwall is a perfect living laboratory, offering a diverse range of marine and terrestrial habitats and a wealth of natural resources. It is an interactive, dynamic and intimate environment in which to study, with state-of-the-art equipment, including the recently extended and refurbished teaching laboratory.

Staff are affiliated with the Centre for Ecology and Conservation, and the campus also features the University's Environment and Sustainability Institute (ESI), which leads cutting-edge research into solutions to problems of environmental change.

Fieldwork is an essential aspect of our programmes and is included in all years of study. This includes Year 1 field courses in Cornwall; residential field courses in Year 2 in Cyprus, the Isles of Scilly, Pembrokeshire, the Pyrenees, Scotland or Switzerland; and a two-week international field course in Year 3 to the Azores, Borneo, Costa Rica, the Galapagos Islands, India, Tenerife or Yukon-Alaska<sup>♦</sup>. The MSci programmes include an international field course<sup>♦</sup> in the final year.

As part of our research-led department, you will discuss the very latest ideas in our interactive seminars and tutorials and become an active member of the research team. We have close links with conservation and environmental organisations in the UK and overseas, which provide opportunities for collaboration on final year research projects, work placements, and volunteering.

## FIELD COURSES<sup>♦</sup>

We pride ourselves in offering an extensive range of field courses across our Biosciences programmes with exciting local, national and international destinations. Depending on your programme of study, you'll have the opportunity to choose from a number of options including understanding the ecology and evolutionary biology of Switzerland or the Pyrenees, studying tropical biodiversity in Borneo, learning about special ecosystems of North Cyprus, visiting impressive seabird breeding colonies in Scotland or watching grizzly bears fish for salmon in Alaska, to name but a few.

To find out more and hear the latest news from Cornwall Biosciences students on the field courses visit [www.exeter.ac.uk/fieldcoursefortnight](http://www.exeter.ac.uk/fieldcoursefortnight)

<sup>♦</sup> Please note, whilst a compulsory field course is included in the tuition fee, some optional/alternative field courses may incur additional costs. Field course destinations are subject to change.



The field courses available to second and third year Bioscience students are amazing. I spent a week in North Cyprus and really enjoyed being able to learn hands-on skills in a real field-working environment.

Luna, studying Zoology



## BSc/MSci Animal Behaviour (CORNWALL)

BSc D391 3 yrs | AAB-ABB | IB: 34-32 |  
BTEC: DDD-DDM

with Professional Placement D394 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD

with Study Abroad D392 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD

MSci D393 4 yrs | A\*AA-AAB | IB: 38-34 |  
BTEC: D\*DD-DDD

Required subjects\*

- You will identify natural behaviour patterns, understand how behaviour varies among individuals and species (wild, domestic, and captive) and explore how current and past environments and ecology influence not only behaviour, but also the underlying gene-environment interactions that shape it
- Learn the value of studying animals in their natural habitats, utilising the expertise of staff members who run long-term studies of iconic species in the wild, an approach underpinned by field courses in the second and third years
- Take an interdisciplinary approach throughout the programmes, gaining a wide range of theoretical and practical techniques used to study animal behaviour

**Year 1** Gain broad experience of zoology, ecology, and evolutionary biology while learning about the main concepts underlying the scientific study of animal behaviour. Study the major milestones in behaviour research and explore current topics of outstanding interest. In practical classes, learn how to collect data on behaviour and to analyse and interpret results in a rigorous scientific manner.

**Year 2** Discover how behaviour is influenced by genes and the environment in which an animal develops, and how behaviour is regulated by hormones and neuronal mechanisms. Learn evolutionary approaches to the study of behaviour, with a focus on how natural selection shapes the behaviour

and life histories of animals in their natural environment. Experience a residential field course to gain an understanding of habitats and biodiversity.

**Year 3** Undertake a research project with a member of academic staff. Tailor your degree to your interests, gaining expertise in your chosen area. You may also take a residential field course to the Azores, Borneo, Costa Rica, the Galapagos Islands, India, Tenerife or Yukon-Alaska\* to gain practical experience of research in the wild.

**Year 4 (MSci only)** The fourth year provides an opportunity to work on an advanced literature review and a research project, both focused on a specialised area aligned with one of our leading research groups. You will also spend two weeks on an intensive field course on which your scientific field research, debating and presentation skills will be further developed.

## BSc/MSci Conservation Biology and Ecology (CORNWALL)

BSc C190 3 yrs | AAB-ABB | IB: 34-32 |  
BTEC: DDD-DDM

with Professional Placement C152 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD

with Study Abroad C150 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD

MSci C151 4 yrs | A\*AA-AAB | IB: 38-34 |  
BTEC: D\*DD-DDD

Required subjects\*

- A practical and applied programme that places you 'in the field'
- Field trip modules, led by wildlife specialists, are an exciting aspect of the programme
- A strong emphasis on learning practical skills including wildlife identification and data handling
- The interdisciplinary nature of the programme allows you to explore the sociological, economic, and political factors affecting wildlife conservation

**Year 1** Field trip modules, led by wildlife specialists, are an exciting aspect of the programme. Learn about a wide range of organisms, from marine mammals to heathland flowers, in their natural environments, surveying how they interact with their surroundings and humans.

**Year 2** Develop your analytical skills and begin to specialise in habitats or groups of species. Experience a residential field course to gain an understanding of habitats and biodiversity.

**Year 3** Even greater emphasis on field-based experience and the opportunity to use the skills built up over the previous two years. You will carry out a piece of research supported by a member of staff, and you will take an international field course to the Azores, Borneo, Costa Rica, the Galapagos Islands, India, Tenerife or Yukon-Alaska\*.

**Year 4 (MSci only)** Provides an opportunity to work on an advanced literature review and a research project, both focused on a specialised area aligned with one of our leading research groups. You will also undertake a two-week intensive field course.

\* Please note, whilst a compulsory field course is included in the tuition fee, some optional/alternative field courses may incur additional costs. Field course destinations are subject to change.

## BSc/MSci Environmental Science (CORNWALL)

BSc F750 3 yrs | AAB-ABB | IB: 34-32 |  
BTEC: DDD-DDM

with Professional Placement F753 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD

with Study Abroad F752 4 yrs | AAA-AAB |  
IB: 36-34 | BTEC: DDD

MSci F751 4 yrs | A\*AA-AAB | IB: 38-34 |  
BTEC: D\*DD-DDD

Required subjects: GCE AL grade B or IB HL5  
in a science<sup>o</sup> subject.

- Our flagship environmental degrees enable you to learn the science behind the Earth's amazing complexity and its environmental processes
- At the cutting-edge of current thinking in the environmental field
- Learn practical and theoretical insights from inspirational, world-leading research experts in a range of environmental disciplines
- Join a community of experts working at the forefront of knowledge creation and innovative application
- Unique fieldwork opportunities available locally in the South West and further afield, including a residential field trip to the US\*

**Year 1** Your first year will provide you with a solid scientific grounding in themes and topics of the integrated environmental sciences. Core modules will give you a broad range of knowledge, allowing you to pursue your interests further on in your degree.

**Year 2** In your second year, you have more flexibility to explore your interests, tailoring your degree through module choice. You will also gain a more detailed understanding of key issues and practical training in implementing environmental science strategies.

**Year 3** In your third year, you will gain specialist training in the skills necessary to acquire jobs in the environmental sector. You will have an opportunity to specialise in your preferred subjects through an independent research dissertation and a choice of optional modules.

**Year 4 (MSci only)** The final year provides an opportunity to work on a project focused on a specialised area of academic research. The remainder of your time will be spent learning more about environmental science and sustainability, and on a two-week intensive international field course to Kenya\* in which your scientific field-research, debating and presentation skills will be further developed.

## BSc/MSci Evolutionary Biology (CORNWALL)

BSc C182 3 yrs | AAB-ABB | IB: 34-32 |  
BTEC: DDD-DDM

with Professional Placement C186 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD

with Study Abroad C183 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD

MSci C184 4 yrs | A\*AA-AAB | IB: 38-34 |  
BTEC: D\*DD-DDD

Required subjects\*

- Access to state-of-the-art facilities helps develop a deep understanding of this rapidly developing field utilising ever more sophisticated molecular and genetic technology to unravel the history of life on Earth
- A fast-growing area of study, which encompasses genetics, animal behaviour and psychology
- Examine evolution from many perspectives – from the smallest building blocks of life to entire ecosystems

**Year 1** Develop both practical skills and knowledge of theory in evolutionary ecology through lectures and laboratory work.

**Year 2** Apply your knowledge to examine the basis for evolutionary change, including consideration of both the ecological and genetic mechanisms driving adaptive evolution. Take a field course to gain an understanding of evolution in the wild.

**Year 3** Specialise in your area of interest. Interact closely with an expert member of academic staff who is research-active and carry out a detailed independent research project on animal behaviour in the wild or a laboratory. You will also take part in an international field trip\*.

**Year 4 (MSci only)** Work on an advanced literature review and a research project, both focused on a specialised area.

The remainder of your time will be spent on a two-week intensive field course.

\* and <sup>o</sup> see Entry Requirements box on page 7.

## BA/BSc Human Sciences (CORNWALL)

BA/BSc BCL0 3 yrs | AAA-ABB | IB: 36-32 | BTEC: DDD-DDM

with Study Abroad BCL1 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD  
with Professional Placement BCL2 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD

- Combine aspects of social and biological sciences, covering a broad range of topics from human evolution and genetics to sustainability and social organisation
- Enables you to examine the past and present of humans from the contrasting perspectives of the social and biological sciences
- You will understand relationships between science and policy and show how you can facilitate decision-making in this context
- Delivered jointly by Geography and Biosciences, the programme combines these exciting disciplines to make connections between biological processes, political and environmental issues and social patterns

**Year 1** You will develop both knowledge and practical skills in a range of core disciplines in the human sciences. This year includes lectures and laboratory work, introducing you to modern approaches to understanding the biology of organisms including humans, through ecology, genetics and evolution, to the comparative study of social and cultural patterns of world populations. You will also develop important communication and analytical skills.

**Year 2** In your second year, you will perform a more in-depth examination of the subject areas to which you were introduced in your first year. For example, you will consider the evolutionary origins of human behaviour by exploring the relationship between human cultural processes and human genetic processes. In particular, you will be encouraged to investigate the ways in which human beings both shape their environments and are shaped by them. You will also undertake a residential field course on the Isles of Scilly<sup>♦</sup>.

**Year 3** In your final year, you will undertake a research project with a member of academic staff. Outside of the research project you will have freedom to choose among our final year modules, tailoring your degree to your specific interests. You will also take part in a two-week residential overseas field course in Kenya<sup>♦</sup>.

## BSc/MSci Marine Biology (CORNWALL)

BSc CF17 3 yrs | AAB-ABB | IB: 34-32 | BTEC: DDD-DDM

with Professional Placement CF20 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD  
with Study Abroad CF19 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD  
MSci CF16 4 yrs | A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
Required subjects\*

- Focus on understanding the biology of marine organisms and their ecosystems, special emphasis on whole animal biology, biodiversity, ecology and behaviour
- Delivered by internationally recognised experts who work at the cutting-edge of applied and pure research
- The programmes provide the skills, concepts and experience to understand all aspects of marine ecosystems and the pressures they face, ranging from over-exploitation to climate change
- Interdisciplinary approach to the study of marine ecosystems allows you to learn about a wide range of theoretical and practical techniques

**Year 1** Develop a broad knowledge of the biology of the marine environment. Emphasis will be placed on theory underpinned by fieldwork and the development of a suite of techniques appropriate to studying life in the sea.

**Year 2** Make use of the skills and concepts learned in your first year to study marine life with a particular focus on the interaction between organisms and their environments. Concepts explained in detail in the classroom are brought to life in the field.

**Year 3** Work closely with an academic member of staff and carry out a detailed independent research project in the wild or a laboratory. You may also take a bespoke marine biology residential field course in the Azores, Borneo, Costa Rica, Galapagos Islands, India, Tenerife or Yukon-Alaska<sup>♦</sup> in order to gain practical experience of research in the wild.

**Year 4 (MSci only)** Work on an advanced literature review and a research project, both focused on a specialised area. The remainder of your time will be spent on a two-week intensive field course.

## BSc/MSci Zoology (CORNWALL)

BSc C300 3 yrs | AAB-ABB | IB: 34-32 | BTEC: DDD-DDM

with Professional Placement C304 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD  
with Study Abroad C301 4 yrs  
AAA-AAB | IB: 36-34 | BTEC: DDD  
MSci C302 4 yrs | A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
Required subjects\*

- One of the largest groups of scientists in the UK specialising in animal behaviour, ecology and conservation and these degrees build on our internationally recognised expertise in this field
- They focus on an understanding of animal biology, with an emphasis on whole animal biology, ecology and behaviour, and the evolution of animal life histories
- The programmes will be of interest to students seeking graduate careers in both human and veterinary sciences, as well as in animal ecology and behaviour

**Year 1** Explore animals in the context of the environments in which they live. You will examine zoology from molecules to ecosystems and get experience with the modern techniques used to generate knowledge about animal systems.

**Year 2** Explore how animal development relates to the diversity of animal forms and examine animal behaviour as it relates to life history and adaptive evolution. You will experience a residential field course to gain an understanding of habitats and biodiversity.

**Year 3** Put your analytical and experimental skills to use through your research project with a member of academic staff. Work side-by-side with researchers, developing an independent research project. You will have the opportunity to go on one of our final year field courses to the Azores, Borneo, Costa Rica, the Galapagos Islands, India, Tenerife or Yukon-Alaska<sup>♦</sup>.

**Year 4 (MSci only)** The fourth year provides an opportunity to work on an advanced literature review and a research project, both focused on a specialised area aligned with one of our leading research groups. You will also spend two weeks on an intensive field course in which your scientific field research, debating and presentation skills will be further developed.

## ENTRY REQUIREMENTS: MORE INFO

\*GCE AL grade B or IB HL5 in one of the following subjects: Biology/Human Biology, Chemistry, Physics, Psychology or Maths/ Pure Maths/Further Maths and GCSE Maths at grade B or 5.

Applicants studying one of the following BTEC Extended Diplomas will be considered without GCE AL requirement(s): Applied Science, Animal Management, Agriculture, Countryside Management, Fish Management, Forestry and Arboriculture.

◊ **BSc/MSci Environmental Science programme requirement** GCE AL science includes: Biology/Human Biology; Chemistry; Computing; Design and Technology; Electronics; Environmental Studies; Geography; Geology; Maths/Pure Maths/Further Maths; Physical Education; Physics; Psychology; Science (applied); Statistics.

Applicants studying one of the following BTEC Extended Diplomas will be considered without GCE AL requirement(s): Applied Science, Countryside Management, Environmental Sustainability.

## FOUR-YEAR DEGREE PROGRAMME PATHWAYS

### With Study Abroad

If you choose to take the four year 'with Study Abroad' degree, you have the option to spend your third year abroad, studying in a university with which we have established links. We currently have opportunities available in Australia, Canada, China, Denmark, Finland, Japan, the Netherlands, New Zealand, Singapore, Sweden, Switzerland and the USA.

### With Professional Placement

You can also choose a four year degree that includes a year spent working in an appropriate organisation. This provides an opportunity to apply the skills learnt during the first and second years, improve your personal and transferable skills, make new contacts, and enhance your employability.

◆ Please note, whilst a compulsory field course is included in the tuition fee, some optional/alternative field courses may incur additional costs. Field course destinations are subject to change.

# MODULES IN CORNWALL

**KEY** C = Core  
● = Optional

## HOW YOUR DEGREE IS STRUCTURED

Degrees are divided into core and optional modules, giving you the flexibility to structure your degree according to your specific interests. Individual modules are worth 5, 15, 30 or 40 credits. Full-time undergraduates need to take 120 credits in each year. In addition to the core modules, you can choose from an extensive range of options in all years. Each year you may take up to 30 credits from another discipline outside of Biosciences.

### Year 1 Modules

Module Name	Animal Behaviour	Conservation Biology and Ecology	Environmental Science	Evolutionary Biology	Human Sciences	Marine Biology	Zoology
A Legal Foundation for Environmental Protection			C		●		
Analysis of Environmental Data			C		C		
Approaches to Geographical Knowledge			●				
Earth System Science			C				
Environmental Science Tutorials			C				
Field and Laboratory Techniques	C	C		C		C	C
Genetics	C	C		C		C	C
Global Issues in Environmental Science			C				
Human Sciences Tutorials					C		
Introduction to Ecology and Conservation	●	C	●	●			●
Introduction to Evolution	C	C		C	C	C	C
Introduction to Human Sciences	C		●	C	C		
Introduction to Invertebrate Zoology	●	●		●		C	C
Introduction to Marine Biology						C	
Introduction to Vertebrate Zoology	●	●		●		●	C
Issues in Global Politics					●		
Physiology	●	●		●	●	●	●
Power, Inequality and Global Justice					●		
Skills and Careers	C	C		C		C	C
Society, Environment and Energy			●		C		
The Geography of Cornwall			●		●		
West Penwith Fieldclass			C		●		

Please note that availability of all modules is subject to timetabling constraints and that not all modules are available every year.

Third year modules will be taken in the fourth year of degrees taken with Study Abroad or Professional Placement.

For up-to-date details of all our programmes and modules, please check [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

### Year 2 Modules

Module Name	Animal Behaviour	Conservation Biology and Ecology	Environmental Science	Evolutionary Biology	Human Sciences	Marine Biology	Zoology
Analysis of Biological Data	C	C		C		C	C
Animal Ecophysiology	●				●	●	C
Applied Insect Ecology	●	C	●				●
Atmosphere and Ocean Systems			●			●	
Behavioural Ecology	C	●		C	C	●	C
Biodiversity and Conservation	●	C	●			●	●
Biogeography			●		●		
Biology of Aquatic Vertebrates	●	●		●		C	C
Biology of Birds	●	●		●		●	●
Communicating Global Issues in a Changing World			●		●		
Development of Behaviour	●			●	●	●	C
Environmental Regulation and Redress			C		●		
Evolution of Human Societies	●		●	●	C		●
Evolutionary Ecology	●	●		C		●	●
Exploitation of the Sea		●				C	●
Field Course <sup>♦</sup>	C	C	C	C	C	C	C
Geographical Information Science and Systems		●	C			●	●
Green Consultants	●	●	●	●	●	●	●
Ice Sheets: Glaciology, Climate and the Oceans			●			●	
Introduction to Ecological Consultancy	●	●	●	●			●
Landscape Evolution			●				
Learning for Teaching: School Experience			●		●		
Living with Environmental Change	●	●	●	●	●	●	●

Module Name	Animal Behaviour	Conservation Biology and Ecology	Environmental Science	Evolutionary Biology	Human Sciences	Marine Biology	Zoology
Marine Ecology						C	
Mathematics of the Environment	●	●	●	●	●	●	●
Molecular Ecology	C	●		C		●	●
Oceans and Human Health		●				●	●
Population and Community Ecology	●	C	●				●
Remote Sensing for Environmental Management		●	C			●	●
Research Methods in Geography, Environment and Society			C		C		
Rural Social Issues			●		●		
Social Innovation Consultant			●		●		
The Biology of Mammals	●	●		●			C
The Politics of Climate Change and Energy			●		●		
Waste and Society			●		●		
Wildlife Disease	●	●		●		●	●
Workplace Learning	●	●	●	●	●	●	●

### Final Year Modules

Module Name	Animal Behaviour	Conservation Biology and Ecology	Environmental Science	Evolutionary Biology	Human Sciences	Marine Biology	Zoology
Animal Cognition	●	●		●	●	●	●
Animal Life Histories	●	●		●		●	●
Animal Migration	●	●		●		●	●
Antarctica: Science from a Frozen Continent			●		●		
Arctic Climate Change			●		●		
Climate Change and Society			●		●		
Co-evolutionary Interactions	●	●		●		●	●
Dissertation			C		C		
Energy Policies for a Low Carbon Economy			●		●		

Module Name	Animal Behaviour	Conservation Biology and Ecology	Environmental Science	Evolutionary Biology	Human Sciences	Marine Biology	Zoology
Evolutionary Biology of Health and Disease	●	●		●		●	●
Field Course*	C	C		C	●	C	C
Frontiers in Global Health	●	●	●	●	●	●	●
Geographies of Democracy			●		●		
Green Consultants			●		●		
Human Behavioural Ecology	●	●	●	●		●	●
Legal Response to Environmental Destruction			●		●		
Living in Groups	●	●		●		●	●
Marine and Coastal Sustainability			●		●	●	
Marine Climate and Environmental Change			●		●	●	
Marine Spatial Ecology	●	●		●		●	●
Marine Vertebrate Conservation	●	●		●		C	●
Mating Systems Biology	●	●		●		●	●
Preparing to Graduate	C	C	C	C	C	C	C
Primate Biology and Conservation	●	●		●	●		●
Quaternary Environmental Change			●				
Reproductive Biology	●	●		●		●	●
Research project	C	C		C		C	C
Science in Society	●	●		●		●	●
Sensory Ecology	●	●		●		●	●
Social Innovation Consultants			●		●		
Symbiosis in Marine Systems	●	●		●		C	●
The Antarctic and Southern Ocean in the Earth System			●		C		
The Behavioural Ecology of Information Use	●	●		●		●	●
The Complexity of Human Societies	●		●	●			●
Trends in Ecology and Evolution	●	●	●	●		●	●
Whole Energy Systems			●		●		
Workplace Learning			●		●		

Year 4 (MSci only) Academic Research Project; Statistical Modelling; International Field Course\*; Applied Data Analysis; Literature Review in the Life Sciences; plus additional masters level module (MSci Environmental Science only).

# MODULES IN CORNWALL CONTINUED

Please note that availability of all modules is subject to timetabling constraints and that not all modules are available every year. For up-to-date details of all our programmes and modules, please check the undergraduate section of our website at [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

## YEAR I

<b>Analysis of Environmental Data</b>	Gives you practical insights into how scientists address fundamental questions and hypotheses using data. We start with simple toolkits to describe data and move on to more advanced ways of comparing data and describing data trends.	<b>Introduction to Human Sciences</b>	Introduces a range of core disciplines within the Human Sciences degrees, from the biology of organisms including humans, through ecology, genetics and evolution, to the comparative study of social and cultural patterns of world populations. We will explore the impact of humans on the natural environment, through examining why some populations decline and others grow, and ask the question: how many people can the planet support?
<b>Earth System Science</b>	The Earth consists of a series of interacting natural systems (lithosphere, hydrosphere, cryosphere, biosphere, atmosphere). The interactions between these systems, called feedbacks, are central to analysing the functioning of major aspects of the Earth, such as climate, sea level and biotic evolution. This module is about connectedness and the development of an approach to understanding the Earth that emphasises the connections between the components rather than the components themselves.	<b>Introduction to Invertebrate Zoology</b>	Develops your core knowledge of biodiversity and macroevolutionary patterns, forming a grounding for future studies. Lectures cover a wide range of topics from the origin of life to the most complex invertebrates. In practical classes, you will learn about invertebrate diversity, concentrating on function and adaptation to environments and ecosystems.
<b>Field and Laboratory Techniques</b>	This module introduces you to the diverse ways that we as scientists can gather information from the world around us, from collection and identification of specimens to laboratory analysis. The combination of field and laboratory techniques covered in this module will leave you with a wealth of skills and methodologies for fully exploring the world around you.	<b>Introduction to Marine Biology</b>	Provides the fundamental building blocks for the study of marine biology. Lectures cover a wide variety of topics including oceanography, marine ecosystem function, and marine conservation. During practicals, you will learn about identification and diversity of marine life, as well as methods for studying biology in the seas.
<b>Genetics</b>	From genes to genetics: what did Mendel and Darwin not know? We take you all the way through from the structure of genes to how they behave in natural populations.	<b>Introduction to Vertebrate Zoology</b>	Covers a wide range of topics from the first chordates through to the evolution of humans. You will learn about vertebrate diversity, concentrating on function and adaptation to environments and ecosystems.
<b>Global Issues in Environmental Science</b>	Our changing environment presents a fascinating and urgent set of challenges and opportunities for today's practitioners, policy makers and researchers. This module will introduce you to the concept of the 'grand challenges' in environmental science by providing a thought provoking overview of the main issues facing environmental scientists today.	<b>Physiology</b>	We explore the essential features of anatomy and how this relates to physiological function throughout a range of animals and some plants. Emphasis is placed on how structure, function and physiology link to lifestyle, habitat and evolutionary history.
<b>Introduction to Ecology and Conservation</b>	Introduces the fundamentals of each topic and will provide you with core knowledge of ecology and conservation.	<b>Society, Environment and Energy</b>	Explore the relationship between how social processes shape the environment and how the environment shapes society. Consider the way in which these interactions have evolved over time in a variety of different geographical locations, from the local to the global.
<b>Introduction to Evolution</b>	A grounding in the basic principles and significance of Darwinian evolution in an ecological and behavioural context. Introduces the mechanisms of evolution and explores how this process links to behaviour and biodiversity.		

## YEAR 2

<b>Analysis of Biological Data</b>	Basic training in the collection and analysis of ecological data sets, recognising that statistics is a tool for understanding biological data. You will gain experience with the modern scientific method as applied in ecology and evolution, including hypothesis formulation, experimental design and modern techniques for collecting and analysing data.	<b>Development of Behaviour</b>	Explore how genes, environment and physiological mechanisms interact to shape the behaviour of animals, from insects to humans. You will focus on how behaviour develops over the lifespan of the animal, how experience affects social and cognitive development, and how an evolutionary perspective can shed light on the causes of variation in behaviour within and among species.
<b>Applied Insect Ecology</b>	Gain an understanding of the systematics and biology of a range of pest species, disease vectors and species providing ecosystem services (eg, pollinators). We will also investigate methods of pest control and monitoring rare species.	<b>Evolution of Human Societies</b>	How can we explain the great diversity of human cultures around the world? How have human societies changed over time? This module focuses on the evolutionary origins of human behaviour, and shows how cultural change and human societies can be studied within an evolutionary framework.
<b>Behavioural Ecology</b>	Explores how natural selection shapes the behavioural strategies of animals in the wild. The emphasis will be on discussing key concepts that can be applied to explain behaviour across very different animals in different habitats, exploring the problems faced by animals as they survive and reproduce, and the behavioural and social adaptations that have evolved in response to environmental pressures.	<b>Evolutionary Ecology</b>	Evolution and ecology are intimately linked, with ecology ultimately driving evolutionary change, and evolution determining the nature of species interactions. We demonstrate how this interplay is responsible for explaining some of the most interesting evolutionary phenomena, such as sexual reproduction and why parasites harm their hosts.
<b>Biogeography</b>	How does the living world interact with the physical landscape? Why do plants and animals live where they do, and how do they adapt to, and shape, the physical environment? How are these relationships between life and landscape adapting to a rapidly changing planet? We will examine current themes in biogeography and landscape ecology.	<b>Exploitation of the Sea</b>	We look at the earth's marine ecosystems investigating the many ways in which we have exploited coastal and deep water habitats. You will take a detailed look at particular issues regarding exploitation of resources and their associated impacts, focusing specifically on the modern day, including, artisanal and industrial fisheries, use of endangered species and energy extraction.
<b>Biology of Aquatic Vertebrates</b>	Aquatic vertebrates (including turtles, sharks, rays, cetaceans, penguins and other aquatic birds) represent a diverse range of adaptations to the challenges of life in water. This module provides you with an in-depth insight into the range of adaptations for life in the water and the ways in which organisms have adapted to cope with the challenges of low-oxygen, high pressure and unpredictability in resources.	<b>Marine Ecology</b>	As well as examining how environmental conditions influence energy distribution and population dynamics, you will learn the significance of a range of biotic and abiotic factors. The module is dominated by practicals both in the laboratory and on the water and is taught with the staff and facilities at the Plymouth Marine Laboratory (PML).
<b>Biology of Birds</b>	Build an understanding of avian characteristics and diversity and explore the various aspects of the life of birds from nest construction, through egg production and incubation to song, mating and dispersal strategies.	<b>The Biology of Mammals</b>	Build a foundation understanding of mammalian evolution and classification, then move rapidly to draw inspiration from case studies and controversies in mammalian biology and use these to explore the evolution, adaptation, ecology and management of modern mammals. In the lab, we will explore evolution and morphology, while in the field we will develop skills in catching and handling small mammals.
<b>Communicating Global Issues in a Changing World</b>	One of the biggest challenges in this context is how to communicate the complexities and challenges of creating and maintaining a sustainable world in a compelling way. You will study current sustainability issues and will learn to present your findings in different styles for different target groups.		

## FINAL YEAR

<b>Animal Life Histories</b>	Designed to develop and expand your understanding of the principles introduced in earlier modules by exploring animal life history diversity and evolution in the context of conservation and wildlife biology.	<b>Living in Groups</b>	Explore the different social systems that exist in the animal kingdom and consider how these societies may have evolved.
<b>Animal Migration</b>	Animal migration, one of nature's most spectacular and widespread phenomena, has long inspired and puzzled biologists. How do animals navigate across vast distances? How do diverse organisms, from whales to moths, cope with the physiological stressors? We will explore the evolutionary and ecological dynamics of migration, using case studies to illustrate specific processes, and discuss the challenges faced by such species in a changing world.	<b>Marine Climate and Environmental Change</b>	Trace the evolution of the oceans from their origin, through their changing distribution and morphology as a function of plate tectonics, and explore how changes in ocean distribution and changing circulation patterns have influenced the Earth's climate system.
<b>Climate Change and Society</b>	Climate change is not only a scientific issue but one which affects many areas of our everyday lives. We go beyond the science of climate change to ask how it is understood in fields as diverse as – for example – economics, policy and art, as humanity faces one of the greatest challenges to its future.	<b>Marine Vertebrate Conservation</b>	Focuses on the status of marine vertebrate species and the major threats that impact on them.
<b>Co-evolutionary Interactions</b>	The evolution of one species in response to another, and reciprocal adaptation of the other species to the first, plays a central role in shaping the great diversity we see in nature. We use a range of approaches to investigate how species interactions might: generate and maintain diversity, drive speciation, help or hinder the spread of invasive species, and affect the stability of communities.	<b>Mating Systems Biology</b>	The evolution of animal mating systems and alternative mating strategies lies at the heart of studies of sexual selection. We will discuss how factors such as population density, operational sex ratio, and habitat quality can directly influence animal mating patterns. You will examine the concept of the opportunity for sexual selection, why it can be restricted to one sex while opposed in the other, and why it is a powerful evolutionary force. The focus will be on how ecological and historical processes that directly influence the spatial and temporal distribution of receptive females determine the evolution of animal reproductive strategies.
<b>Dissertation</b>	Prepare a dissertation on a research topic of modern interest and relevance to your specialism. You will develop your skills in reviewing the literature relevant to your chosen topic, and in writing a scientific report.	<b>Science in Society</b>	Develops and expands the principles of ecology and evolution introduced in your second year, leading to an understanding of their implications for public policy issues and the public understanding of science.
<b>Energy Policies for a Low Carbon Economy</b>	Introduces the idea that any given desired energy system requires a tailored energy policy and examines the building blocks of an energy policy: economic, social, security and environmental goals.	<b>Sensory Ecology</b>	Sensory ecology deals with how sensory systems work in gathering information from the environment, and how and why they have evolved in varied habitats from the deep sea to the air, and in species with different ecologies.
<b>Evolutionary Biology of Health and Disease</b>	Provides an evolutionary perspective to key topics in health and disease. You will learn to distinguish between proximate vs. ultimate explanations for why we get sick, why some disease-causing agents are highly virulent whereas others are benign, why males are more susceptible to infectious disease than females, why we age, what role transgenerational effects play in triggering health problems and how cooperation theory can help to understand cancer.	<b>The Behavioural Ecology of Information Use</b>	Focuses on ecology at the interface of evolutionary, physiological and behavioural aspects of the subject, concentrating on information use by organisms in their natural habitats. Helps you develop a fuller understanding of the way natural and sexual selection can and do act to mould much of what we see in the natural world.
		<b>The Complexity of Human Societies</b>	You will learn more about the processes of cooperation and conflict involved in the origin, maintenance, and collapse of complex societies. Using evolutionary and ecological theory you will examine a number of topics including structural inequalities, division of labour, warfare and population cycles. You will explore how this perspective can address important issues facing the world today including failed states, environmental sustainability and global disparities in economic development.

## YEAR 4 MSCI ONLY

**Academic Research Project** In this module, you will gain hands-on experience of conducting cutting-edge scientific research under the guidance of professional researchers. This involves conducting an independent research project on a subject of your choice after discussion with your supervisor and will be related to conservation biology, ecology, evolution, marine biology or behavioural ecology. You will be responsible for designing, planning and implementing the study, as well as analysing the data and writing it up for a world class peer-reviewed academic journal.

**Literature Review in the Life Sciences** A good review paper is the 'go to' article about a particular topic, summarising our current understanding of a subject and offering suggestions for fruitful areas for future research. In this module you will write a review article on a topic related to your MSci project. You will be responsible for researching and writing your article, which will enhance your research skills and provide valuable experience of conducting independent research.

**Applied Data Analysis** Biological, ecological and environmental data are complicated. Experiments, surveys and databases provide opportunities to test hypotheses through deduction or inference. The inexperienced data analyst is faced with choices of how to handle data; how to match data collected on different scales of space or time; how to describe hypotheses as statistical models; how to test for significance or credibility; how to measure goodness of fit. Modern analysts are also faced with choices of statistical philosophy and algorithms for analysis. This module uses a series of lectures, practical work and discussion sessions to guide you through modern statistical philosophies and methods. The main software platform for the module is 'R', which is powerful, flexible and free. By the end of the module you will understand how to handle and analyse data, interpret results of statistical models and provide graphical summaries. A core concept of the module will be the simulation of data that matches the assumptions of statistical models. However, throughout the module you will use real datasets related to cutting edge research in ecology, evolutionary biology and environmental science.

# BIOSCIENCES IN EXETER

Become part of a community of scientists with expertise spanning the fields of ecotoxicology and environmental biology, plant pathology, whole-organism biology, microbiology, biochemistry, cell biology and molecular biology.

Our teaching laboratory is equipped with state-of-the-art instruments for observational, experimental and numerical aspects of biosciences. In addition, we have next-generation DNA sequencing facilities, a bio-imaging facility, scanning and transmission electron microscopes, laser confocal and fluorescence microscopes, real-time polymerase chain reaction and advanced analytical machines. Our aquatic resource centre provides opportunities for work on both freshwater and marine systems.

Our academics have close links with a wide range of industrial, medical and conservation organisations that you may be able to collaborate with for your final year research project. Many of our students work with these organisations during their vacations and others build their experience through one of our four year programmes with Professional Placement/Industrial Experience.



TEACHING LABORATORY, STREATHAM CAMPUS

## BSc/MSci Biological Sciences

### BSc Biological Sciences (Animal Biology)

### BSc Biological Sciences (Microbiology and Infectious Disease)

### BSc Biological Sciences (Molecular and Cellular Biology)

(EXETER)

BSc Biological Sciences C100 3 yrs  
AAB-ABB | IB: 34-32 | BTEC: DDD-DDM  
with Study Abroad C000 4 yrs | A\*AA-AAB |  
IB: 38-34 | BTEC: D\*DD-DDD  
with Professional Placement C101 4 yrs  
A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
MSci C103 4 yrs | A\*AA-AAB | IB: 38-34 |  
BTEC: D\*DD-DDD  
Required subjects\*

This flexible degree programme, has the option to design either a broad-based Biology degree or a more focused degree specialising in areas of biology that interest you.

- After a first year that covers the range of biology from molecules to ecosystems, you have great freedom of module choice. Depending on your choices, specialisms in animal biology, microbiology and infectious disease or molecular and cellular biology can be named as part of the degree title
- The opportunity to apply your skills in practical settings throughout your studies provides a variety of employment and further study opportunities after you graduate

**Year 1** You will be introduced to modern techniques associated with biology research and their application within a range of fields from biotechnology industries to biodiversity and conservation. Modules cover animals, cells, biochemistry, ecology, genetics, microbiology and plants.

**Year 2** There is only one compulsory module in the second year (Research Skills and Bioethics) and this forms a foundation for the work of the final year research project. Optional modules span a wide range of biology, including field courses in the UK and abroad\*, and subjects including medical and general microbiology, forensic science, human and molecular biology.

\* Please note, some optional/alternative field courses may incur additional costs. Field course destinations are subject to change.

**Year 3** In the final year, you will take modules that will provide you with the opportunity to focus on an area of biology that particularly interests you. You will also undertake a research project, centred on the cutting-edge research of leading scientists in biosciences.

**Year 4 (MSci only)** In your fourth year you will undertake a research project focused on a specialised area aligned to one of our leading research groups. You will also undertake advanced modules in this final year.

### BSc/MSci Biochemistry (EXETER)

BSc C724 3 yrs | AAB-ABB | IB: 34-32 | BTEC: DDD-DDM

with Study Abroad C732 4 yrs  
A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
with Industrial Experience C737 4 yrs  
A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
MSci C738 4 yrs | A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
Required subjects\*

- Focuses on understanding the biochemical control of biological processes, particularly in the cell, and the tools for investigating these mechanisms
- After a broad first year, this degree explores aspects of cellular biochemistry providing specialist modules aimed at understanding key topics at the frontiers of cell biology
- This degree leads to career opportunities in biotechnological, pharmaceutical and other industries, as well as many further study options, including PhD, MSc or MRes programmes

**Year 1** Gives a firm foundation for your degree with modules in biochemistry, cell biology, genetics, microbiology, organic and inorganic chemistry. Options available in physical chemistry and plant biology.

**Year 2** In addition to biochemistry, organic chemistry and cell biology, you will choose three optional modules in subjects ranging from biological chemistry through medical and general microbiology to evolutionary biology.

**Year 3** Put your analytical and experimental skills to use through a research project around the core topics of Horizons in Biochemical Research and Energy Metabolism. Optional modules cover biochemistry, molecular cell biology and biological chemistry.

**Year 4 (MSci only)** In your fourth year you will undertake a research project focused on a specialised area aligned to one of our leading research groups. You will also undertake advanced modules in this final year.

### BSc/MSci Biological and Medicinal Chemistry (EXETER)

BSc CF71 3 yrs | AAB-ABB | IB: 34-32 | BTEC: DDD-DDM

with Study Abroad CF7C 4 yrs  
A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
with Industrial Experience FC17 4 yrs  
A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
MSci CF72 4 yrs | A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
Required subjects\*

- Interdisciplinary degree providing core training in chemistry supplemented with options in biochemistry and biology, and shows how these areas relate to aspects of medicine and drug design. Emphasis is placed on understanding the chemistry and synthesis of small molecules, particularly in medicine and disease
- Module choices in your second and final year allow further specialisation in chemistry, forensic science, cell biology, molecular biology and genomics, and biotechnology
- Many career opportunities in pharmaceutical, chemical, biotechnological and other industries as well as medically-related employment and further study

**Year 1** You will develop an understanding of the fundamentals of chemistry and biochemistry, cell structure and physiology, genetics and microbiology. Practical work is designed to complement the lectures.

**Year 2** In addition to core chemistry and biochemistry, you can also take optional modules focusing on the molecular biology of the gene, cell biology, microbiology, genomics and bioinformatics or forensic science.

**Year 3** You will study, amongst other things, pharmacology, medicinal chemistry and drug design, and you will choose an independent research project centred on the expertise of academic staff in the areas of biological science, chemistry, biochemistry or clinical research.

**Year 4 (MSci only)** In your fourth year you will undertake a research project focused on a specialised area aligned to one of our leading research groups. You will also undertake advanced modules in this final year.

## FOUR-YEAR DEGREE PROGRAMME PATHWAYS

### Study Abroad

If you choose to take the four year 'with Study Abroad' degree, you have the option to spend your third year abroad, studying in a university with which we have established links. We currently have opportunities available in Australia, Canada, China, Denmark, Finland, Japan, the Netherlands, New Zealand, Singapore, Sweden, Switzerland and the USA.

### With Professional Placement

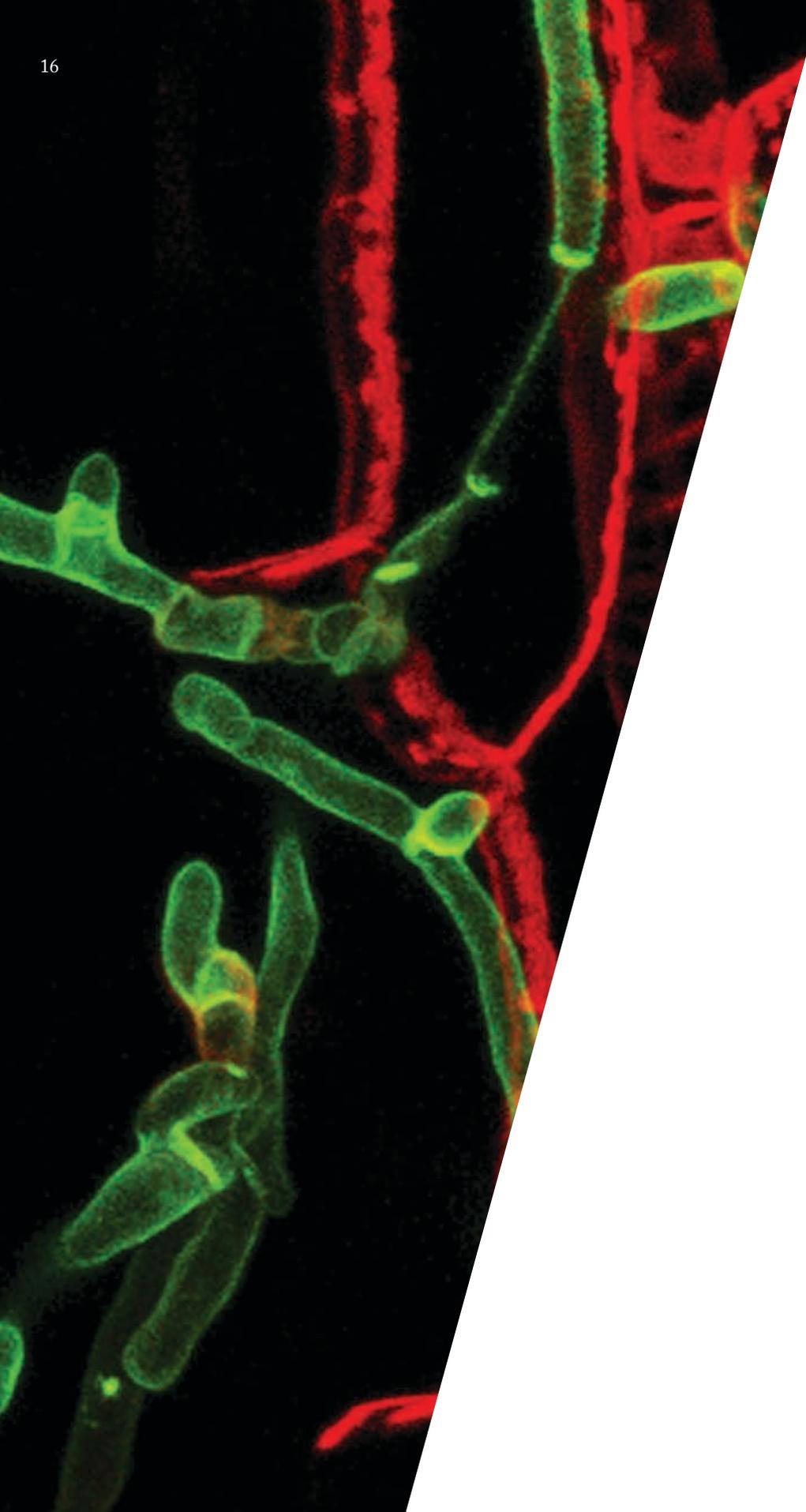
This four-year version of the Biological Sciences degree includes a professional placement year between the second and final years. We have established collaborations with local, national and multinational businesses, industries, and research organisations. Gain valuable experience from work placements, increase your first-hand knowledge, improve personal and transferable skills, make new contacts and enhance your employability.

### With Industrial Experience

#### BSc Biological and Medicinal Chemistry with Industrial Experience

This four-year version of the Biological and Medicinal Chemistry degree includes a paid year in industry between the second and final years where you will work on a research project in either the chemical, pharmaceutical or biotechnology sectors. We have established collaborations with local, national and multinational companies, and have successfully placed students with companies including AstraZeneca, DSTL, GSK, Pfizer, the Environment Agency, Axiom Veterinary Laboratories and Shell (USA).

\* See Entry Requirements box on page 17.



### BSc Biochemistry with Industrial Experience

Spend a salaried year working on a research project in the biotechnology or pharmaceutical sectors, gaining valuable experience, improving personal and transferable skills, making new contacts and enhancing your employability. We have established collaborations with local, national and multinational companies, and have successfully placed students with multinational organisations

During your year in industry you are paid by the company and take two modules: Learning from Industrial Experience and Industrial Placement and Report. You will have regular contact with an academic supervisor in addition to an industrial supervisor at the company.

### BSc Human Biosciences (EXETER)

C900 3 yrs

AAB-ABB | IB: 34-32 | BTEC: DDD-DDM

Required subjects: GCE AL Biology grade B or IB Biology HL5, plus another GCE AL science\* at Grade B or IB second science HL5.

- Taught jointly by Biosciences and Sport and Health Sciences this interdisciplinary degree is an innovative, collaborative programme. You will study scientific aspects of health, physical activity and cell biology and learn about the importance of exercise in the prevention and treatment of disease
- A thorough grounding in the study of cell and molecular biology together with the various sub-disciplines of exercise and sport sciences, including biomechanics, kinesiology, human and applied physiology, molecular biology, genetics and microbiology
- This unique degree can lead to further study opportunities, a variety of biological and sport-related employment opportunities, and jobs in other fields thanks to its application of theory to the real world

**Year 1** Develop a foundation in exercise science and biology. Practical work is designed to complement your lectures. You will receive training in key scientific skills as part of the Fundamental Principles for Bioscientists module, which includes tutorials.

**Year 2** The modules expand on knowledge and skills obtained in the first year. You will now begin to tailor your degree to suit your personal interests in biology and exercise and sports sciences through a wide range of modules.

**Year 3** You have the opportunity to focus on areas of biology and exercise and sport sciences that particularly interest you. During the first two terms you can undertake a project/dissertation centred on the research work of a member of staff. Under their academic supervision, you will develop the skill set needed to move forward as a science graduate.

### BSc/MSci Medical Sciences (EXETER)

BSc/MSci B100 3 yrs  
with Professional Training Year B101 4 yrs  
AAB-ABB | IB: 34-32 | BTEC: DDD-DDM  
MSci B200 4 yrs | AAB-ABB | IB: 34-32 |  
BTEC: DDD-DDM

Required subjects: At least one grade A and one grade B in GCE AL science subjects, one of which must be Biology; at least one HL6 and one HL5 in IB science subjects, one of which must be Biology.

Applicants studying a BTEC Extended Diploma will also require one grade A and one grade B in GCE AL science subjects, one of which must be Biology.

Our Medical Sciences programmes prioritise the scientific and professional skills that underpin medical and clinical practice, preparing you to translate scientific discoveries and technological advances into improved healthcare.

- Tailor your programme to your interests, potentially culminating in a named specialism, such as neuroscience, human genomics, health research, pharmacology or therapeutics
- Explore how things could go wrong in the body due to disease or trauma and how normal function might be restored
- Critically evaluate the evidence into how pharmaceutical intervention may be appropriate in some conditions, while other conditions might best be helped using technology or engineering
- Engage in a wide range of investigative placements both short-term and long-term (eg, PTY)

Full details of the programmes are available in the Medical Sciences subject brochure and online at [www.exeter.ac.uk/ug/medical-sciences](http://www.exeter.ac.uk/ug/medical-sciences)

### BSc/MSci Natural Sciences (EXETER)

BSc CGF0 3 yrs  
MSci FGC0 4 yrs  
with International Study FGC1 4 yrs  
A\*AA-AAB | IB: 38-34 | BTEC: D\*DD-DDD  
Required subjects: GCE AL Maths grade B and one from Physics, Chemistry or Biology at grade B; IB Maths HL5 and Physics, Chemistry or Biology HL5.

- Investigate the natural world using a multitude of sciences
- Undertake a research project during Year 3, and if you are an MSci student, extend it into Year 4
- MSci students can take a semester abroad at one of our partner universities (see Year 3 [MSci Study Abroad] for destinations)
- Collaborative lectures with students in other disciplines
- Join our Natural Sciences society; a vibrant and active community of budding scientists

**Year 1** The knowledge gained in Year 1 is the foundations for later years. You will develop core knowledge in biology, physics, mathematical modelling, computation and data analysis. Developing this, Frontiers of Science, will teach you how each subject relates to one another and you will learn how to combine them to further modern sciences.

**Year 2** You will start to shape your own pathway of interest through a variety of optional modules. Our modules span across subjects such as biosciences, mathematics, engineering, physics, psychology, geography and sports and health science.

**Year 3** This year is all about putting what you have learnt in Years 1 and 2 into practice. As well as optional modules, you will have the opportunity to undertake an independent research project. Your project will work within the framework of one of the University's interdisciplinary research areas: climate change and sustainable futures, functional materials, systems biology and extrasolar planets. Additionally, you will complete a group research project, applying your expertise and interests to a collaborative investigation.

**Year 3 (MSci Study abroad)** Study specialist material particular to your host university. Destinations include University of New

South Wales, City University Hong Kong, Nanyang Technological University, Uppsala Universitet, ETH Zurich and Colorado State University.

**Year 4 (MSci only)** Progress your Year 3 independent research project whilst working alongside the University's leading scientists, who will mentor your project, helping you to refine your technical and analytical expertise. You can extend your project further with the aim of publishing your results in scientific literature. In addition to this, optional modules that explore new areas of interdisciplinary science shape you into a true pioneer of scientific thinking. You may also choose more specific and traditional modules, allowing you to tailor and specialise according to your own interest.

Full details of the programmes are available in the Natural Sciences subject brochure and online at [www.exeter.ac.uk/ug/natural-sciences](http://www.exeter.ac.uk/ug/natural-sciences)

### ENTRY REQUIREMENTS: MORE INFO

#### BSc/MSci Biological Sciences

All programmes require GCE AL Biology grade B or IB Biology HL5, plus another science subject at AL grade B or IB HL5. GCSE Maths at grade B or 5 and either GCSE Double Award Science or GCSE Chemistry at grade C or 4.

#### MSci/BSc Biochemistry MSci/BSc Biological and Medicinal Chemistry

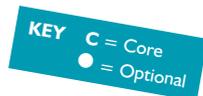
All programmes require GCE AL Biology grade B or IB Biology HL5, plus GSE AL Chemistry at AL grade B or IB HL5. GCSE Maths at grade B or 5 and either GCSE Double Award Science or GCSE Chemistry at grade C or 4.

GCE AL science subjects include: Biology; Human Biology<sup>▲</sup>; Chemistry; Computing; Design and Technology; Electronics; Environmental Studies; Geography; Geology; Maths/Pure Maths/Further Maths<sup>▲</sup>; Physical Education; Physics; Psychology; Science (applied); Statistics.

<sup>▲</sup> If more than one of these is taken they would only count as one 'science' but could count as two A levels towards our general requirements.

Applicants studying a BTEC Extended Diploma will also require GCE AL Science grade B.

# MODULES IN EXETER



## HOW YOUR DEGREE IS STRUCTURED

Our degrees are divided into core and optional modules, giving you the flexibility to structure your degree according to your specific interests. Individual modules are worth 15, 30 or 45 credits. Full-time undergraduates need to take 120 credits in each year.

Please note that availability of all modules is subject to timetabling constraints and that not all modules are available every year.

### Year 1 Modules

Module Name	MSci/BSc Biological Sciences	MSci/BSc Biochemistry	MSci/BSc Biological and Medicinal Chemistry
Animals	C		
Biochemistry	C	C	C
Biophysical Chemistry		●	C
Cells	C	C	C
Ecology	C		
Fundamental Principles for Bioscientists	C	C	C
Fundamentals of Inorganic Chemistry		C	C
Genetics	C	C	C
Microbiology	C	C	C
Plants	C	●	
Structure and Reactivity of Organic Compounds I		C	C

Year three modules will be taken in the fourth year of degrees taken with Study Abroad, Professional Placement or Industrial Experience.

For up-to-date details of all our programmes and modules, please check [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

### Year 2 Modules

Module Name	MSci/BSc Biological Sciences	MSci/BSc Biochemistry	MSci/BSc Biological and Medicinal Chemistry
Advanced Cell Biology	●	C	●
Analytical Techniques in Biochemistry	●	C	C
Animal Ecophysiology	●		
Bioinorganic Chemistry		●	C
Coral Reef Field Course	●		
Ecology and Environment	●		
Forensic Science	●	●	●
Genomics and Introductory Bioinformatics	●	●	●
Introduction to Pharmacology		●	●
Marine Biology	●		
Medical and General Microbiology	●	●	●
Medical Genetics	●	●	
Metabolism	●	C	C
Modern Theories of Evolution	●	●	
Molecular Biology of the Gene	●	●	●
Molecular Microbiology	●	●	●
Molecular Plant Science	●	●	
Observations and Experiments in Animal Behaviour	●		
Practical Skills in Field Ecology	●		
Research Skills and Bioethics	C	C	C
Structure and Reactivity of Organic Compounds II		C	C
Wild Behaviour	●		

## Year 3 Modules

Module Name	MSci/BSc Biological Sciences	MSci/BSc Biochemistry	MSci/BSc Biological and Medicinal Chemistry
Animal Developmental Biology	●		
Bioinformatics	●	●	●
Biology of Marine Vertebrates	●		
Biosciences Research Project	C	C	C
Cell Biology of Disease	●	●	●
Cellular Basis of Immunity	●	●	●
Current Issues in Marine Biology	●		
Ecology of Environmental Change	●		
Ecotoxicology	●		
Energy Metabolism	●	C	●
Frontiers in Molecular Cell Biology	●	●	●
Horizons of Biochemical Research	●	C	●
Microbial Ecology	●		
Molecular Basis of Infection	●	●	●
Organic Synthesis and Drug Design		●	C
Pharmacology and Medicinal Chemistry	●	●	C
Psychology Applied to Health	●		
Science Communication	●	●	●
Secondary Metabolites		●	C
Specialist Topics in Chemical Sciences		●	●

Year 4 (MSci only) Research Project; Residential Research Excellence; Research Grant Proposal; Advanced Topics in Biological Sciences 1; Advanced Topics in Biological Sciences 2; Further Advanced Topics in Chemistry (MSci Biochemistry and MSci Biological and Medicinal Chemistry only).



LEARN SCIENTIFIC RESEARCH METHODS

# MODULES IN EXETER CONTINUED

Please note that availability of all modules is subject to timetabling constraints and that not all modules are available every year. For up-to-date details of all our programmes and modules, please check the undergraduate section of our website at [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

## YEAR I

<b>Animals</b>	You will explore the essential features of vertebrates and invertebrates and how their anatomy relates to physiological function. Particular emphasis is placed on structure and how this relates to function, especially physiology, lifestyle and habitat.	<b>Fundamental Principles for Bioscientist</b>	You will learn the underlying concepts required for scientific investigation, including modern laboratory techniques, experimental design, and presenting scientific data. Team development training and small-group tutorial work are features of this module. Particular emphasis is given to learning the quantitative skills required to analyse experimental results.
<b>Biochemistry</b>	This introductory module provides the essential biochemical knowledge for understanding all living processes. You will study protein structure, enzyme kinetics and basic metabolism so that you can understand how each of these processes function and shape the living cell. Practical sessions offer you vital hands-on experience, with key biochemical techniques and how to apply them.	<b>Genetics</b>	Life is controlled by genetic information. In this module you will gain an understanding of how information is stored and inherited in living organisms. Modern techniques in DNA sequencing and the exploration of gene diversity will be introduced, with examples from humans and other organisms.
<b>Bioenergetics</b>	Considering the biological and chemical mechanisms that sustain and support life, this module builds an understanding which forms the foundation of exercise physiology.	<b>Integrated Practical Chemistry</b>	Develop practical chemistry skills, improve your knowledge and increase your understanding of organic, inorganic and physical chemistry. Use synthetic chemistry techniques such as distillation, chromatography and crystallisation, and carry out qualitative and quantitative characterisation, including the use of NMR, IR, UV/visible spectroscopies, and quantitative techniques such as titration. You will also learn to follow the course of a reaction using standard kinetics experiments.
<b>Cells</b>	Takes you on a trip around the fundamental unit of life – the cell. We emphasise its dynamic nature, and use examples from bacteria to plants to animals, to teach you how cells use membranes and proteins to organise themselves, and how they communicate both internally and with the external environment. You will also study the guiding principles that govern formation of a multicellular organism, including cell division and tissue development.	<b>Microbiology</b>	Focuses on the microbiological world, covering bacteria, fungi, and protists. Topics include evolution, structure and function and the impact of microorganisms, with an emphasis on their practical applications. Continue to build on your practical techniques, developing microscopy and microbiological skills.
<b>Ecology</b>	You will study the key concepts, knowledge, and unanswered questions in the ecology of populations, communities and ecosystems. We look at some important historical figures and their legacy, and consider the various approaches to ecological science, description, experiments and theoretical models. Wherever feasible, we will look at how a general predictive theory can emerge. In the laboratory, we will guide you to design and undertake experiments and analyse your own data.	<b>Plants</b>	Life as we know it is dependent on plants. This module will equip you with a basic understanding of plant science, from the evolution and function of their unique structures, biochemistries and life strategies, through their responses to the environment and other organisms, to their exploitation by humankind as a source of food, materials and energy.
<b>Fundamental Inorganic and Physical Chemistry</b>	You will learn the fundamental concepts of inorganic and physical chemistry, and then apply them to biological and biochemical processes. You learn how to use the laws of thermodynamics to predict the position of chemical equilibrium and how theories of reaction kinetics can help interpret experimental data for reaction rates. You will also learn the basic principles of spectroscopy (for example UV-vis and infra-red) for molecular analysis.	<b>Structure and Reactivity of Organic Compounds I</b>	Begins to explore the structure and reactivity of organic compounds, starting with an examination of bonding before using a mechanistic approach to study the reactivity of the common functional groups. Covers fundamental aspects of 3D molecular structure (stereochemistry) and the basics of addition, substitution and elimination reactions. Laboratory experiments will give hands on experience studying these topics empirically.

## YEAR 2

<b>Advanced Cell Biology</b>	Builds on the first-year Cells module focusing on processes such as maintenance of cell shape, cell division, cell motility and autophagy, and the regulation of these processes. You will gain an understanding of the complex spatio-temporal organisation required for cell function.	<b>Marine Biology</b>	Introduces the fascinating field of marine biology, during which you will be taught the fundamental principles of marine biology and oceanography. Topics will include discussions of the many important roles our oceans play in supporting a huge diversity of plants and animals, the regulation of the earth's climate, carbon fixation, and in providing goods and services that are economically important.
<b>Animal Ecophysiology</b>	Explores the major physiological processes in animals and how these relate to the ecological niche. You will cover metabolism, respiration, endocrinology, reproduction and osmoregulation.	<b>Medical and General Microbiology</b>	You will discuss modern approaches to pathogen detection and the challenges posed by the spread of antibiotic resistance.
<b>Bioinorganic Chemistry</b>	Build on your existing biochemical and chemical knowledge to understand the important interactions between metals and macromolecules (such as DNA and proteins). Learn how organisms use metals in key life processes, such as respiration and electron transfer, how they transport and store metals and understand how we can use our knowledge of bonding and reactivity to design therapeutic and diagnostic agents at the cutting edge of medicine.	<b>Molecular Biology of the Gene</b>	Covers a range of molecular biology topics, examining cellular structure and organisation, replication, and expression of the genome. You will also learn about protein modification and targeting.
<b>Coral Reef Field Course</b>	This entirely field-based module, held at a research centre in the Bahamas, introduces you to the field of coral reef ecology and that of the associated ecosystems (seagrass and mangroves). You will explore fieldwork techniques in tropical marine ecology and will carry out a series of individual research projects in a range of marine habitats.	<b>Structure and Reactivity of Organic Compounds II</b>	Starting with an extension of the chemistry of carbonyl compounds studied in the first year, this module will add key reactions that are used in constructing complex molecular frameworks. The reactions of aromatic compounds are used to explain the chemistry of aromatic heterocycles, the most abundant compounds in nature and pharmaceuticals. Modern spectroscopic methods will be applied to determine the structure of compounds that you will prepare in the laboratory.
<b>Ecology and Environment</b>	Develops your understanding of some of the fundamental concepts, methods and results in the scientific study of ecology, biodiversity, and the environment. Uses examples from both terrestrial and aquatic systems and is a valuable complement to some of our ecology field courses.		
<b>Exercise Physiology</b>	This module focuses on the body's physiological response to exercise. The module deals with the assessment and interpretation of aerobic and anaerobic fitness and performance, blood lactate, lactate and ventilatory thresholds and cardiovascular control during exercise.		
<b>Forensic Science</b>	Provides you with a scientific understanding of the detection of crime through a series of expert witness lectures supported by lectures on the scientific principles.		
<b>Genomics and Introductory Bioinformatics</b>	Focuses on state-of-the-art technology for analysis of genomes and gene expression and critically discusses their use in biological research and biotechnology. Practical classes consolidate use of internet-based genomics tools and provide a platform to critically discuss case studies.		

## FINAL YEAR

<b>Bioinformatics</b>	Research in the biological sciences is increasingly dependent on large data sets such as those generated by DNA sequencing and microarrays. This is also true for diagnostics and medicine. Analysis of these datasets requires a range of skills and knowledge drawn from computer science, physical sciences and mathematics and statistics as well as biological sciences. Bioinformatics is the discipline that integrates algorithms and methods from these disciplines to model biological systems and infer patterns hidden in complex data.
<b>Biology of Marine Vertebrates</b>	Marine megavertebrates (including turtles, sharks, rays, cetaceans, penguins and other aquatic birds) are generally considered very charismatic animals and attract much public and research attention. As a group they also adapt to the challenges of life in water in a diverse range of ways. Building on Stage 1 and 2 modules, you will learn about the different form, function, ecology and physiology of each group of megavertebrates. You will also use practical work to investigate adaptations in more detail, and research-led teaching to understand the very latest developments in the field.
<b>Biosciences Research Project</b>	An opportunity to undertake your own independent and original research, under the supervision of a member of staff. This may be based in the field or laboratory and will deal with questions and issues at the cutting-edge of the discipline.
<b>Current Issues in Marine Biology</b>	This module will build on the fundamental principles taught in the second year, and focuses on threats to the marine environment and their effects on marine wildlife, as well as methods that are currently used to study marine ecosystems to help manage and protect the biodiversity in our oceans.
<b>Ecology of Environmental Change</b>	You will gain insight into the state of the Earth's ecosystems, the pressures put on them by the continued expansion of human activities, and the prospects for sustainability. You will evaluate the scientific foundations of evidence for human impacts on the global environment, enabling you to investigate the relationships between biology and environmental policy.
<b>Environmental Microbiology</b>	You will learn how bacteria survive in the environment, including in extreme environments, and investigate the impact of climate change on pathogen dispersal and survival.
<b>Frontiers in Molecular Cell Biology</b>	In this module we will explore selected topics at the forefront of cell biology and you will be introduced to the range of experimental techniques that are used to investigate how cells function.
<b>Horizons of Biochemical Research</b>	Biochemistry, the study of chemical processes in biological systems, is a broad discipline, encompassing biological aspects of chemistry, study of biological macromolecules and the many ways in which chemicals are synthesised and degraded in organisms. In this module you will engage with recent research in diverse areas of biochemistry, giving an insight into the progress that has been made, the range of areas being explored, and the challenges for the next generation of scientists.

### Microbial Ecology

To a first approximation, life on Earth is microbial, and the transformation of Earth from a barren ball of rock to the oxygen-rich environment that supports us is a direct result of microbial metabolism. Even the human body contains more microbial than human cells. From global biogeochemical cycles to the interactions between individual organisms and their retinue of beneficial and detrimental microorganisms, understanding microbial ecology – the interactions between microbes and their environment – is key to understanding the functioning of the Planet Earth. We will study carbon and nutrient cycling in the oceans, how terrestrial ecosystems are formed and controlled by microbes, the impact of plant-microbe interactions on forests and food production, and the applications of microbial biotechnology.

### Organic Synthesis and Drug Design

In this module we show how the basic reactions covered in the first and second years can be applied to the synthesis of biologically important molecules such as pharmaceuticals. Methods for designing synthetic routes to these compounds will also be explained using case studies.

### Science Communication

You will gain an understanding of how science is communicated to governments, politicians and policymakers through a variety of techniques. You will examine good and bad strategies for communicating science to various audiences and how science information and misinformation can be used to change public perception.

## YEAR 4 MSCI ONLY

### Residential Research Excellence

This short module will provide you with a 'skills-based-toolkit' for undertaking research within Biosciences. It is designed to help you discuss topical science issues with academics and peers, begin to conceptualise the research journey, from the outline of a research problem and ending with a consideration of how your work can be disseminated to a wider audience. The activities will develop your skills in critical reading of scientific literature, model the development of a research question through problem based learning, and deal with ethical issues allowing you to appreciate more fully which methods and approaches may be needed to undertake a programme of research.

### Research Grant Proposal

You will formulate a detailed research proposal for your planned laboratory work. Undertaking this module will give you a better understanding of research methods and experimental design, how to communicate your ideas succinctly, provide you with an introduction to literature pertinent to your chosen research project and give you an early insight into the full economic costing of a programme of research.

**Research Project**

This module gives you the opportunity to pursue a research topic that is of personal interest to you. You can either select your project based on existing projects advertised within Biosciences or the LSI, that have been designed by supervisors, or may be based on your own design of project. For self-designed projects you must find an internal supervisor who agrees to approve the project design. The research project will enable you to develop an in-depth understanding of the theoretical background, methodological techniques and skills that are related to your topic of interest. Whilst you will be supervised by a member of staff, you will be expected to demonstrate independence in the conception, development, conducting and reporting of the research project. It is expected that the project will lead to a scientific conference presentation and/or publication in an academic journal.

**Advanced Topics in Biological Sciences or Advanced Topics in Biological Sciences**

These separate modules (running in term 1 and term 2) will give you an opportunity to explore alongside other students and researchers in the discipline, cutting edge literature in an area relevant to your project in both informal and formal settings. The sessions will involve selection and exploration of research papers and conference proceedings along with a discussion of their place at the forefront of the subject. You will be required to lead discussions with your immediate colleagues in the department and run seminar style workshops.



# LEARNING AND TEACHING

You'll experience a combination of lectures, tutorials, seminars, fieldwork, laboratory sessions and independent study. Over the course of your degree, you will participate in a mix of larger lectures to smaller, focused sessions based around the latest research topics. In the teaching laboratory you will develop the necessary skills to become a professional biologist; you will then put these to use while undertaking your independent research project. We encourage students to publish their results in the scientific literature and make a real contribution to the fields of Biosciences.

Our academics have close links with a wide range of industrial, medical, and conservation organisations, with whom there may be the opportunity to collaborate. Many of our students work with these organisations during their vacations and others build experience through one of our four-year programmes with industrial experience.

We frequently introduce new methods of learning and teaching, including increasing use of interactive computer-based approaches to learning through our virtual learning environment, where the details of all modules are stored in an easily navigable website. You can access detailed information about modules and learning outcomes and interact through activities such as the discussion forums.

## RESEARCH-INSPIRED TEACHING

We believe that every student benefits from being part of a culture that is inspired by research and being taught by experts. You will discuss the very latest ideas in seminars and tutorials and be an active member of a research team.

Our academics bring their results from the laboratory and the field directly to their teaching, and our students also help to collect this data.

The complementary expertise of our staff ensures a vibrant, collaborative research culture within our research groups, made up of researchers at all stages, from Masters to Post-doctoral scientists.

## ASSESSMENT

Your first year does not count towards your final degree classification, but you do have to pass it in order to progress. All marks after your first year count towards your final classification.

Modules are assessed using a variety of methods including essays, exams, presentations, laboratory reports and a dissertation.

## ACADEMIC SUPPORT

As well as more than 15 hours per week of direct contact time with your lecturers, all students have a personal tutor who is available for advice and support throughout your studies. There are also a number of services on campus where you can get advice and information, including the Students' Guild Advice Unit.

## TAKING MODULES OUTSIDE OF YOUR PROGRAMME

### Streatham Campus

Depending on your programme you can take up to 30 credits each year in another subject, for instance a language or business module, to develop career-related skills or widen your intellectual horizons. If you achieve at least 60 credits in a language via our Foreign Language Centre (FLC) you may be able to have the words 'with proficiency in' and the language added to your degree title.

### Penryn Campus

Depending on your programme you can take up to 30 credits each year in another subject, for instance a language or business module, to develop career-related skills or widen your intellectual horizons.

Further details about the FLC can be found on our website [www.exeter.ac.uk/flc](http://www.exeter.ac.uk/flc)

### Foreign Language Centre, Penryn

New for 2018, undergraduates based in Penryn can boost their employability by using up to 30 credits each year to study a foreign language. If you study the language for more than one year you may be entitled to have 'with proficiency in' added to your

degree certificate. The FLC in Penryn will be offering modules in French and Spanish language from complete beginners up to advanced levels, plus German and Mandarin Chinese from beginner's level.

If you achieve at least 60 credits in a language via our Foreign Language Centre you may be able to have the words 'with proficiency in' and the language added to your degree title. Further details about the FLC can be found on our website [www.exeter.ac.uk/flc/undergraduate/penryn](http://www.exeter.ac.uk/flc/undergraduate/penryn)



The Athena SWAN Charter recognises and celebrates good employment practice for women working in Science, Technology, Engineering, Mathematics and Medicine (STEMM) in higher education and research.

<sup>1</sup> Penryn Campus.

<sup>2</sup> Streatham Campus.



EXTENSIVE OPPORTUNITIES FOR FIELDWORK

# YOUR SUCCESSFUL CAREER

## RECENT GRADUATES ARE NOW WORKING FOR<sup>▲</sup>:

- Astra Zeneca
- Medical Research Council
- Plasticell Ltd
- Phillips
- NHS
- Food and Environment Research Agency
- Shell Global Solutions
- Quotient Bio Research
- Wildfowl and Wetlands Trust
- Eli Lilly & Co
- KPMG
- First Data Bank Europe
- University of Oxford
- Munroe and Forster
- Environment Agency Abu Dhabi
- The Carbon Trust
- Environment Agency
- Rothamsted Research
- National Biodiversity Data Centre
- Biotrack Ltd
- The Wildlife Trust
- Marine Conservation Society

<sup>▲</sup> This information has been taken from the Destinations of Leavers from Higher Education (DLHE) Surveys 2015/16. Please note that, due to data protection, the job titles and organisations are listed independently and do not necessarily correspond.

## CAREERS SERVICES

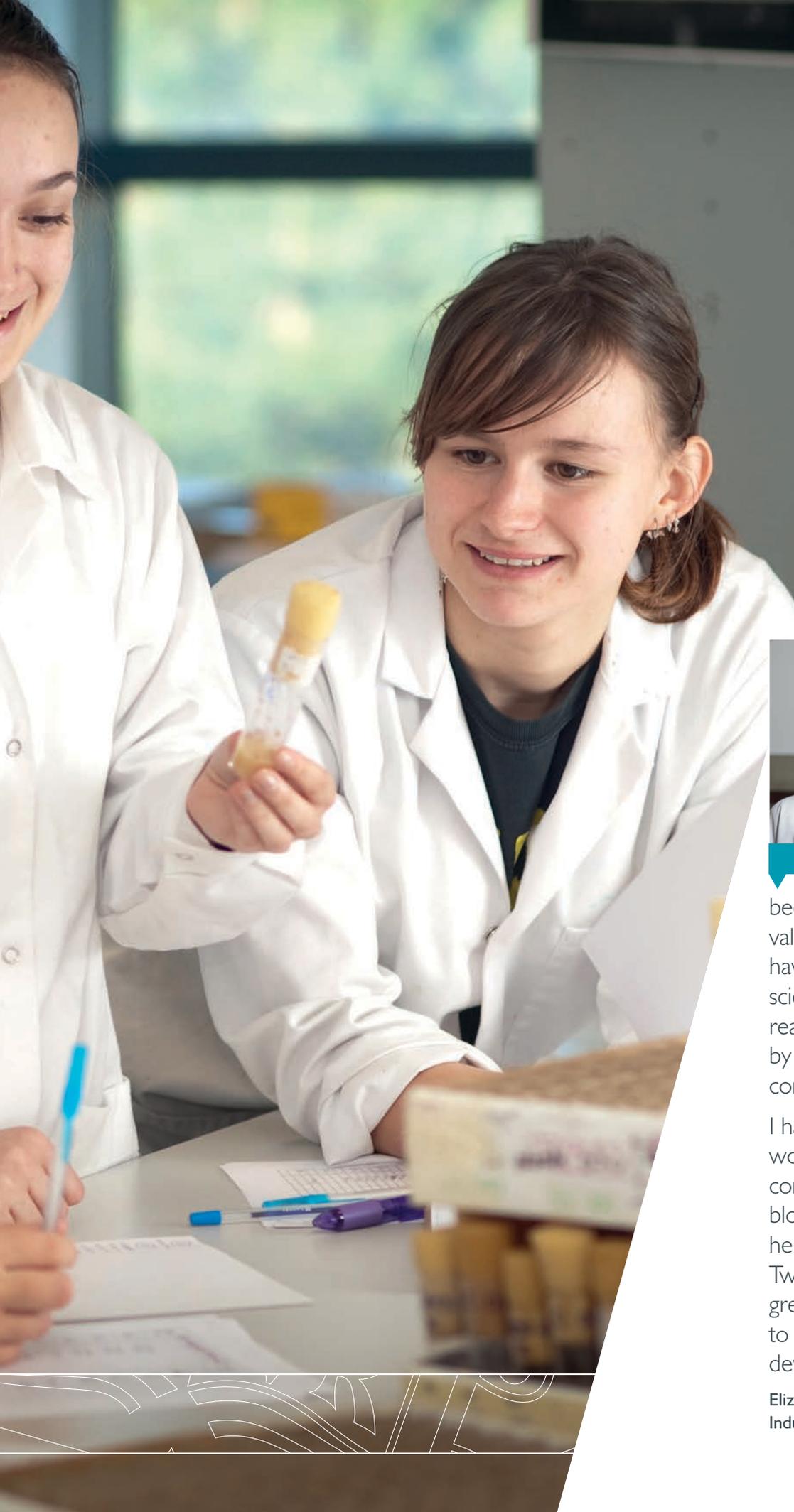
We have a dedicated, award-winning Careers Service, with offices at our Exeter and Penryn campuses, ensuring you have access to careers advisors, mentors and the tools you need to succeed in finding employment in your chosen field on graduation. We offer the Exeter Award and the Exeter Leaders Award which include employability-related workshops, skills events, volunteering and employment which will contribute to your career decision-making skills and success in the employment market. Our graduates compete very successfully in the employment market, with many employers targeting the University when recruiting new graduates. For further information about our Careers Service please visit: [www.exeter.ac.uk/careers](http://www.exeter.ac.uk/careers)

## RECENT GRADUATES ARE NOW WORKING AS:

- Genetic Analyst
- Research Analyst
- Wildlife Health Research Officer
- Turtle Husbandry Assistant
- Clinical Research Scientist
- Healthcare Technical Officer
- Conservation Worker
- Fertility Technician
- Microbiologist
- Assistant Marine Specialist
- Environmental Consultant
- Medical Sales Representative
- Medical Research Technician
- Bioinformatics Officer
- Biomedical Support Officer
- Field Ecologist
- Computational Ecologist
- Cardiac Scientist

## SUPPORTING YOUR CAREER IN BIOSCIENCES

Each year Biosciences students are able to access a huge range of opportunities to support their future career options. Recent events have included career insights with visiting alumni, mock interviews with visiting employers and alumni, postgraduate routes with a Biosciences degree, the Life and Environmental Sciences Careers Fair, and nature and conservation training courses.



My time at Kew has been both a challenging and valuable experience. Not only have I been able to enhance my scientific knowledge, but I have really developed as a person by being forced out of my comfort zone.

I have particularly enjoyed working within science communication at Kew, writing blogs for the Kew website and helping to run one of the Kew Twitter accounts. It's been great to have the opportunity to perform diverse tasks and develop new and existing skills.

Eliza, Biosciences with  
Industrial Experience



# KEY INFORMATION AT A GLANCE

PROGRAMME	UCAS CODE	TYPICAL OFFER
<b>Biosciences in Cornwall</b>		
<i>With the exception of Environmental Science and Human Sciences, all programmes require a GCE AL science at grade B or IB HL5 in Biology/Human Biology, Chemistry, Physics, Psychology or Maths/Pure Maths/Further Maths, and GCSE Maths at grade B or 5. Environmental Science programmes require GCE AL grade B or IB HL5 in a science subject. Eligible science subjects are outlined adjacent to the table*.</i>		
<b>BSc Single Honours</b>		
Animal Behaviour	D391	AAB-ABB; IB: 34-32; BTEC: DDD-DDM
Animal Behaviour with Study Abroad <sup>^</sup>	D392	AAA-AAB; IB: 36-34; BTEC: DDD
Animal Behaviour with Professional Placement	D394	AAA-AAB; IB: 36-34; BTEC: DDD
Conservation Biology and Ecology	C190	AAB-ABB; IB: 34-32; BTEC: DDD-DDM
Conservation Biology and Ecology with Study Abroad <sup>^</sup>	C150	AAA-AAB; IB: 36-34; BTEC: DDD
Conservation Biology and Ecology with Professional Placement	C152	AAA-AAB; IB: 36-34; BTEC: DDD
Environmental Science	F750	AAB-ABB; IB: 34-32; BTEC: DDD-DDM
Environmental Science with Study Abroad <sup>^</sup>	F752	AAA-AAB; IB: 36-34; BTEC: DDD
Environmental Science with Professional Placement	F753	AAA-AAB; IB: 36-34; BTEC: DDD
Evolutionary Biology	C182	AAB-ABB; IB: 34-32; BTEC: DDD-DDM
Evolutionary Biology with Study Abroad <sup>^</sup>	C183	AAA-AAB; IB: 36-34; BTEC: DDD
Evolutionary Biology with Professional Placement	C186	AAA-AAB; IB: 36-34; BTEC: DDD
Marine Biology	CF17	AAB-ABB; IB: 34-32; BTEC: DDD-DDM
Marine Biology with Study Abroad <sup>^</sup>	CF19	AAA-AAB; IB: 36-34; BTEC: DDD
Marine Biology with Professional Placement	CF20	AAA-AAB; IB: 36-34; BTEC: DDD
Zoology	C300	AAB-ABB; IB: 34-32; BTEC: DDD-DDM
Zoology with Study Abroad <sup>^</sup>	C301	AAA-AAB; IB: 36-34; BTEC: DDD
Zoology with Professional Placement	C304	AAA-AAB; IB: 36-34; BTEC: DDD
<b>BA/BSc Single Honours</b>		
Human Sciences	BCL0	AAA-ABB; IB: 36-32; BTEC: DDD-DDM
Human Sciences with Study Abroad <sup>^</sup>	BCL1	AAA-AAB; IB: 36-34; BTEC: DDD
Human Sciences with Professional Placement	BCL2	AAA-AAB; IB: 36-34; BTEC: DDD
<b>MSci Single Honours</b>		
Animal Behaviour	D393	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD
Conservation Biology and Ecology	C151	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD
Environmental Science	F751	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD
Evolutionary Biology	C184	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD
Marine Biology	CF16	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD
Zoology	C302	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD

## PENRYN CAMPUS, CORNWALL

Website [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

[www.exeter.ac.uk/enquiry](http://www.exeter.ac.uk/enquiry)

Phone: +44 (0)1326 371801

\*GCE AL science includes: Biology/Human Biology\*; Chemistry; Computing; Design and Technology; Electronics; Environmental Studies; Geography; Geology; Maths/Pure Maths/Further Maths\*; Physical Education; Physics; Psychology; Science (applied); Statistics.

<sup>^</sup> If more than one of these is taken they would only count as one 'science' but could count as two A levels towards our general requirements.

The full and most up-to-date information about Biosciences and our entry requirements is on the undergraduate website at [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

We make every effort to ensure that the entry requirements are as up-to-date as possible in our printed literature. However, since this is printed well in advance of the start of the admissions cycle, in some cases our entry requirements and offers will change.

### International students

If you are an international student you should consult our general and subject-specific entry requirements information for A levels and the International Baccalaureate. The University also recognises a wide range of international qualifications. Find further information about academic and English language entry requirements at [www.exeter.ac.uk/ug/international](http://www.exeter.ac.uk/ug/international)

All of our Bioscience programmes are available for part-time study; for further information, see [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

### Applying

For information on the application, decision, offer and confirmation process, please visit [www.exeter.ac.uk/ug/applications](http://www.exeter.ac.uk/ug/applications)

<sup>^</sup> For details about Study Abroad please see [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

PROGRAMME	UCAS CODE	TYPICAL OFFER	REQUIRED SUBJECTS
<b>Biosciences in Exeter</b>			
<i>With the exception of Human Biosciences, all programmes require GCE AL Biology grade B or IB Biology HL5, GCSE Maths at grade B or 5 and either GCSE Double Award Science or GCSE Chemistry at grade C or 4, in addition to any requirements listed below*.</i>			
<i>Human Biosciences requires GCE AL Biology grade B or IB Biology HL5, in addition to any requirements listed below*.</i>			
<b>BSc Single Honours Biological Sciences</b>	C100	AAB-ABB; IB: 34-32; BTEC: DDD-DDM	plus another AL science subject at grade B; IB second science HL5
<b>Biological Sciences with Study Abroad<sup>^</sup></b>	C000	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus another AL science subject at grade B; IB second science HL5
<b>Biological Sciences with Professional Placement</b>	C101	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus another AL science subject at grade B; IB second science HL5
<b>Biochemistry</b>	C724	AAB-ABB; IB: 34-32; BTEC: DDD-DDM	plus GCE AL Chemistry at grade B; IB Chemistry HL5
<b>Biochemistry with Study Abroad<sup>^</sup></b>	C732	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus GCE AL Chemistry at grade B; IB Chemistry HL5
<b>Biochemistry with Industrial Experience</b>	C737	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus GCE AL Chemistry at grade B; IB Chemistry HL5
<b>Biological and Medicinal Chemistry</b>	CF71	AAB-ABB; IB: 34-32; BTEC: DDD-DDM	plus GCE AL Chemistry at grade B; IB Chemistry HL5
<b>Biological and Medicinal Chemistry with Study Abroad<sup>^</sup></b>	CF7C	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus GCE AL Chemistry at grade B; IB Chemistry HL5
<b>Biological and Medicinal Chemistry with Industrial Experience</b>	FC17	A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus GCE AL Chemistry at grade B; IB Chemistry HL5
<b>Human Biosciences</b>	C900	AAB-ABB; IB: 34-32; BTEC: DDD-DDM	plus another science at grade B; IB second science HL5
<b>MSci Single Honours Biological Sciences</b>		A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus another AL science subject at grade B; IB second science HL5
<b>Biochemistry</b>		A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus GCE AL Chemistry at grade B; IB Chemistry HL5
<b>Biological and Medicinal Chemistry</b>		A*AA-AAB; IB: 38-34; BTEC: D*DD-DDD	plus GCE AL Chemistry at grade B; IB Chemistry HL5

## STREATHAM CAMPUS, EXETER

Website: [www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

[www.exeter.ac.uk/enquiry](http://www.exeter.ac.uk/enquiry)

Phone: +44 (0)1392 725818

## WHY NOT CONSIDER...?

MSci/BSc Natural Sciences

Please see [www.exeter.ac.uk/ug/natural-sciences](http://www.exeter.ac.uk/ug/natural-sciences)

BSc Medical Sciences

Please see [www.exeter.ac.uk/ug/medical-sciences](http://www.exeter.ac.uk/ug/medical-sciences)



# THE UNIVERSITY OF EXETER



Teaching Excellence  
Framework assessment 2017



5 star rated from QS



22,000 students from  
178 countries



98% of our research rated of  
international quality<sup>1</sup>

RUSSELL  
GROUP

A member of the Russell Group  
of universities



The UK's fastest growing and  
fastest rising research university<sup>2</sup>

## FIND OUT MORE

Come to one of our open days. Visit us at our campuses  
in Exeter and Cornwall: [www.exeter.ac.uk/ug/visiting](http://www.exeter.ac.uk/ug/visiting)

For further information please visit  
[www.exeter.ac.uk/ug/biosciences](http://www.exeter.ac.uk/ug/biosciences)

### Accuracy of subject brochure information

The information in this subject brochure forms part of the undergraduate prospectus 2019 and is aimed at prospective undergraduate students wishing to apply for a place at the University of Exeter (the University) and start a course with us in autumn 2019. The prospectus and subject brochures describe in outline the courses and services offered by the University and we make every effort to ensure that the information provided is accurate and up-to-date at the time of going to print (undergraduate prospectus is printed January 2018 and subject brochures are printed in May 2018).

However, it may be necessary for the University to make some changes to the information presented in the prospectus following publication – for example, where it is necessary to reflect changes in practice or theory in an academic subject as a result of emerging research; or if an accrediting body requires certain course content to be added or removed. More information about our terms and conditions can be found at: [www.exeter.ac.uk/undergraduate/applications/terms](http://www.exeter.ac.uk/undergraduate/applications/terms)

<sup>1</sup> 98% of our research was rated as 2\*,3\* or 4\* in the Research Assessment Exercise 2014.

<sup>2</sup> Between 2006/07 – 2015/16, the University of Exeter saw the greatest rise in research income, compared to all other Russell Group universities.

