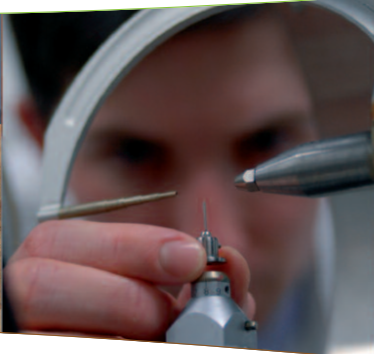


BIOSCIENCES

UNDERGRADUATE STUDY • 2012 ENTRY
EXETER AND CORNWALL CAMPUSES





Key Information

E Streatham Campus, Exeter

	UCAS CODE	TYPICAL OFFER
BSc Single Honours		
Biological Sciences	C100	AAB-BBB; IB: 34-30
Biological Sciences (Animal Systems)		
Biological Sciences (Microbiology and Infectious Disease)		
Biological Sciences (Molecular and Cellular Biology)		
Biological Sciences with Study Abroad	C000	AAB-ABB; IB: 34-32
Biological Sciences (Animal Systems) with Study Abroad		
Biological Sciences (Microbiology and Infectious Disease) with Study Abroad		
Biological Sciences (Molecular and Cellular Biology) with Study Abroad		
Biochemistry	C724	AAB-BBB; IB: 34-30
Biochemistry with Study Abroad	C732	AAB-ABB; IB: 34-32
Biochemistry with Industrial Experience	C737	AAB-ABB; IB: 34-32
Biological and Medicinal Chemistry	CF71	AAB-BBB; IB: 34-30
Biological and Medicinal Chemistry with Study Abroad	CF7C	AAB-ABB; IB: 34-32
Biological and Medicinal Chemistry with Industrial Experience	FC17	AAB-ABB; IB: 34-32
Human Biosciences	C900	AAB-BBB; IB: 34-30

C Cornwall Campus, near Falmouth

	UCAS CODE	TYPICAL OFFER
BSc Single Honours		
Animal Behaviour	D390	AAB-BBB; IB: 34-30
Conservation Biology and Ecology	C190	AAB-BBB; IB: 34-30
Conservation Biology and Ecology with Study Abroad	C150	AAB-ABB; IB: 34-32
Environmental Science	F750	AAB-BBB; IB: 34-30
Evolutionary Biology	C182	AAB-BBB; IB: 34-30
Evolutionary Biology with Study Abroad	C183	AAB-ABB; IB: 34-32
Zoology	C300	AAB-BBB; IB: 34-30
Zoology with Study Abroad	C301	AAB-ABB; IB: 34-32

For further details on all our entry requirements, please see our Biosciences pages at www.exeter.ac.uk/undergraduate/degrees/biosciences

E Streatham Campus, Exeter
Undergraduate Admissions
Phone: +44 (0)1392 723788
Email: bio-admissions@exeter.ac.uk
Web: www.exeter.ac.uk/biosciences

C Cornwall Campus, near Falmouth
Undergraduate Admissions
Phone: +44 (0)1326 371801
Email: cornwall@exeter.ac.uk
Web: www.exeter.ac.uk/biosciences



Why study Biosciences at the University of Exeter?

Biosciences at the University of Exeter is a rapidly expanding centre for biological research and teaching. As a student, you will be taught by experts in the fields of ecology, evolutionary biology, genetics, conservation biology, cell biology, microbiology, plant biology, bioinformatics, ecotoxicology, developmental biology, molecular biology, biochemistry, genomics, chemical biology, animal behaviour and zoology.

We have attracted seven internationally-renowned professors to join our staff in the last two years and we also host 10 independently-funded research fellows funded by the Royal Society, NERC, Leverhulme Trust and the EU Marie Curie Programmes. The Society of Biology recognises all our programmes.

We pride ourselves on providing a very high standard of care and support to our students and teach using the latest research information and most modern techniques and procedures. We offer a wide range of modules, built around a core curriculum that provides a grounding in the skills needed by the contemporary biologist, biochemist, ecologist, conservationist or medicinal chemist. 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 sphere of ecology and conservation.

We offer a wide range of opportunities for field work. Ecology and conservation field courses run annually to the Bahamas for the study of coral reefs; to Africa for the study of behaviour and ecology; and to Spain to explore similar themes as they apply in a Mediterranean habitat. Shorter field courses to the Isles of Scilly and Northern Cyprus enable you to study behaviour and biodiversity, with a focus on practical field work techniques at other sites around the UK; currently Scotland, Dorset and Cornwall.

Above all, we are a friendly and supportive department and undergraduate teaching is central to all of our activities. We work hard to develop and improve the standard of our degree programmes and provide the best possible training to our students.

Broad-based and specialist degrees
State-of-the-art learning facilities
Learn with internationally recognised research leaders
All third year modules are based on the current research of our academics
Dedicated career management
Carry out challenging independent research
Undertake field study overseas or in the UK
Opportunities to study in North America or Australia

E Biosciences in Exeter

At the Streatham Campus, Biosciences is located in the recently refurbished Geoffrey Pope Building. Our new £3.8 million teaching laboratory is equipped with state-of-the-art instruments for observational, experimental and numerical aspects of biosciences including biochemical, molecular, physiological and electronic apparatus. We also have an excellent Bioinformatics Computer Centre to facilitate the rapid growth in biological computer use. In addition, we have next-generation DNA sequencing facilities and have recently invested £5 million in new equipment and a bio-imaging facility. This includes both scanning and transmission electron microscopes, laser confocal and fluorescence microscopes, and real-time polymerase chain reaction and array scanning. A further £17.6 million has recently been spent to provide world-class research facilities across all biosciences laboratories in the Geoffrey Pope building.

Biosciences students run their own society, BioSoc, which organises social events, guest lectures, opportunities to volunteer with Devon Wildlife Trust and outings.

C Biosciences in Cornwall

As a student of Biosciences at our Cornwall Campus, you will be taught by some of the UK's foremost biologists, working in evolution, behaviour, ecology and conservation. Academic interests cover a range of specialisms from conservation biology, through behavioural, population

and community ecology, to evolutionary biology and genetics.

The campus was built in 2004 and has state-of-the-art equipment for teaching and research. This includes £3 million teaching laboratories and a range of research facilities, from which you will benefit, particularly in your final year. The new Environment and Sustainability Institute (ESI), due for completion in 2012, will be at the forefront of scientific and technological research in this field.

Field work is an essential aspect of our programmes and we are confident that our students can carry out more field-based learning than at any other comparable university in the UK.

As part of a research-led department you will discuss the very latest ideas in seminars and tutorials and, in your final year, will become an active member of the research team. We have very close links with a wide range of conservation organisations in the UK and overseas, such as the British Trust for Ornithology, Cornwall Wildlife Trust and Marine Conservation Society. These links mean you will benefit from frequent guest lecturers, placement opportunities and project work.

Biosciences students in Cornwall also run their own society, EcoSoc, which organises social events, guest lectures and outings.



Degree programmes

How your degree is structured

The 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 or 30 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, a few examples of which are listed towards the back of this brochure.

For up-to-date details of all our programmes and modules, please check www.exeter.ac.uk/biosciences

E Degree programmes in Exeter

BSc Biological Sciences

BSc Biological Sciences

(Animal Systems)

BSc Biological Sciences

(Microbiology and Infectious Disease)

BSc Biological Sciences

(Molecular and Cellular Biology)

This is our most popular and flexible degree programme, giving you the option to design either a broad-based biology degree or a more focused degree specialising in areas of biology that interest you. For pathways in animal systems, microbiology and infectious disease or molecular and cellular biology you can graduate with your chosen pathway named as part of the degree title, eg, BSc Biological Sciences (Animal Systems). The Biological Sciences degree leads to a variety of employment and further study opportunities in a wide spectrum of bioscience-related areas and can also act as a sound foundation for non science-related career paths.

After a foundation first year which covers the range of biology from molecules to ecosystems, you have complete freedom of module choice. Options range from forensic science to the ecology of environmental change; from mammalian biology to medical biotechnology; from human molecular

biology to a coral reef field course. You can mould your degree as you wish, specialising in the pathways mentioned above, or in other areas, whilst keeping your biological choices broad. If you want a degree with one of the named specialisms in brackets you simply need to take sufficient year 2 and 3 options in those subject areas; you will receive advice about this once you're at Exeter and you do not need to make any decisions in advance.

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 conservation. Modules include topics in biochemistry, genetics, microbiology, physiology and ecology.

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 will help your understanding of key concepts in biological sciences and also offer you the opportunity to specialise within particular areas.

Year 3: In the third year, you'll have the opportunity to focus on an area of biology that particularly interests you and you can choose an independent research project or dissertation centred on the research work of members of staff.

BSc Biochemistry

Our degree programme in Biochemistry is aimed at understanding biological systems at a cellular, molecular and biochemical level. After a broad first year, this degree focuses on cellular biochemistry providing specialist modules aimed at understanding key topics at the frontiers of cell biology. As you progress through years two and three, a wide choice of biochemistry module options is available, including metabolism, molecular biology of the cell, cell cycle and cancer, and cellular basis of immunity. The Biochemistry degree leads to career opportunities in biotechnological, pharmaceutical and other industries, as well as many further study options.

Year 1: The first year provides a firm foundation for your degree with modules in biochemistry, cell biology, genetics, microbiology, organic and inorganic chemistry, and biotechnology. This forms the core of your programme, with options available in physical chemistry and biological topics.

Year 2: In addition to core biochemistry, organic chemistry, genomics and biotechnology modules, you'll choose three optional modules in subjects ranging from biological chemistry to human molecular biology and evolutionary biology.

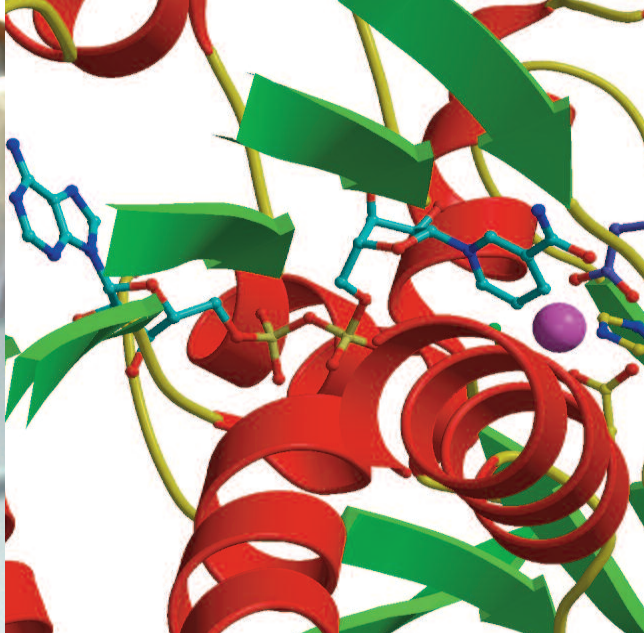
Year 3: Around the core topic of Molecular Cell Biology you can choose a research project or dissertation, plus a flexible choice of modules from a wide range within biochemistry, molecular biology and biological chemistry.

BSc Biochemistry with Industrial Experience

This four-year version of the Biochemistry degree includes a paid year in industry between the second and final years. In your third year you spend a salaried year working on a research project in the biotechnology or pharmaceutical sectors. We have established collaborations with local, national and multinational companies such as AstraZeneca, the Environment Agency and Shell.

We find that our students gain valuable experience from working in industry: not only first-hand knowledge, but improving personal and transferable skills, making new contacts and enhancing employability – our industrial placement degrees develop experienced graduates and the placement companies often offer employment after graduation.

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 Biological and Medicinal Chemistry

This degree provides training in both biological sciences and chemistry and shows how these multidisciplinary areas relate to aspects of medicine and drug design. Module choices in your second and third year allow further specialisation in chemistry, forensic science, cell biology, molecular biology and genomics, and biotechnology. This degree leads to many career opportunities in pharmaceutical, chemical, biotechnological and other industries as well as medically-related employment and further study; it is recognised by the Royal Society of Chemistry.

Year 1: You will develop an understanding of the fundamentals of chemistry and biochemistry, cell structure and physiology, genetics, microbiology, and molecular biology. Practical work is designed to complement the lecture courses.

Year 2: In addition to core chemistry and molecular biology, you will study interdisciplinary subjects such as analytical biochemistry, metabolism and chemistry of biological systems. You can also take an option in human molecular biology, cell biology or forensic science.

Year 3: You will study, amongst other things, pharmacology, medicinal chemistry and drug design, and you can choose an independent research project or dissertation centred on the research work of members of staff. You will be able to choose from projects in the areas of biological science, chemistry, biochemistry or clinical research.

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'll work on a research project in either the chemical, pharmaceutical or biotechnology sectors. We have established collaborations with local, national and multinational companies such as AstraZeneca, GlaxoSmithKline and Shell.

We find that our students gain valuable experience from working in industry; not only first-hand knowledge, but improving personal and transferable skills, making new contacts and enhancing employability. Our industrial placement degrees develop experienced graduates and the placement companies often offer employment after graduation.

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

Our BSc Human Biosciences is taught jointly by Biosciences and Sport and Health Sciences across both the Streatham and St Luke's campuses in Exeter. It represents an innovative collaborative teaching response to a broadening demand for graduates with skills in biological and sport science. It allows

you to study scientific aspects of health, physical activity and biotechnology and recognises the importance that exercise can play in the prevention and treatment of disease. You will receive a thorough grounding in the study of human 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 medical microbiology. This unique degree can lead to a variety of biological and sport-related employment opportunities as well as in other fields. There is also the prospect of further study opportunities.

Year 1: Your first year will provide you with a foundation in exercise science and biology. Practical work is designed to complement the lecture courses. You will receive training in key scientific skills as part of the *Fundamental Skills for Biosciences* module, which includes tutorials.

Year 2: In your second year, the modules build on knowledge and skills obtained in the first year. You can now begin to tailor your degree to suit your personal interests in biology and exercise and sports sciences.

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

“ My interest in biology was sparked through watching David Attenborough documentaries as a child and growing up in rural Australia helped as well. While I was initially fascinated purely by the actual animals, as I studied biology I found myself increasingly drawn toward ‘why’ (evolutionary) questions – why do most animals reproduce sexually, why are there two sexes (why not 1 or 1,000), why do males produce so many sperm when females produce so few eggs, why do we age, and so on. I have been lucky enough to be able to pursue a career that enables me to continue to ask questions like these, and one that allows me to pass on my fascination with these questions to subsequent students of biology. This is not a one-way street however, as it is partly through students and teaching them that I continue to learn. ”

PROFESSOR DAVID HOSKEN, BIOSCIENCES, CORNWALL CAMPUS

C Degree programmes in Cornwall

BSc Animal Behaviour

The Cornwall Campus hosts a large and thriving group of scientists who work at the cutting edge of research on animal behaviour and run field research projects across the globe, from Uganda to Australia. This programme will utilise our expertise to provide you with the skills, concepts and experience to understand all aspects of animal behaviour. The programme covers the evolution and adaptive function of behaviour in the wild, its physiological and neuronal control, and how animals develop socially and cognitively through experience.

Year 1: You will gain broad experience of zoology, ecology and evolutionary biology and will be introduced to main concepts underlying the scientific study of animal behaviour. You will learn about the major milestones in behaviour research, and about current topics of outstanding interest. In practical classes you will learn how to collect data on behaviour in a rigorous and scientific way.

Year 2: You will learn how behaviour is affected by genes and the environment in which an animal develops, and how behaviour is regulated by hormones and neuronal mechanisms. In term 2 you will learn evolutionary approaches to the study of behaviour, with a focus on how natural selection shapes the behaviour and life history of animals in their natural environment.

Year 3: The final year will build on previous insights and develop some key themes in more detail, particularly those issues at the forefront of current knowledge. You will interact closely with an expert member of the academic staff and carry out a detailed research project on animal behaviour in the wild or a laboratory. You can also choose to take a field course.

BSc Conservation Biology and Ecology

This degree programme offers you more direct field experience than any other Ecology course in the UK, in locations from Cornwall to Africa. You will gain skills that are essential for working conservationists and ecologists, including wildlife identification and data handling. In the first year, we take full advantage of Cornwall's rich landscapes with many one-day field trips around the South West Peninsula. In year two, wider experience comes as a result of a variety of field courses in the UK and Europe, while in year three there are opportunities to go overseas. In all these locations we teach vital identification skills and census techniques while at the same time studying local ecology and conservation issues.

Year 1: You will gain experience in a broad spectrum of topics in biology, ecology and conservation. Field trip modules, led by wildlife specialists, are an exciting aspect of the programme. You will survey a wide range of animals and plants, from marine mammals to heathland flowers, in their natural environments, recording how they interact with their surroundings and humans.

Year 2: You will continue to explore conservation and ecology and develop your analytical skills. In the Easter term break we offer field courses in behaviour and biodiversity to either the Isles of Scilly or Cyprus and in the summer term you will choose from the practical skills in ecology field courses in Scotland, Dorset or Cornwall.

Year 3: During this year, the emphasis on field-based experience becomes even greater. One of the optional modules includes a safari-style field course to Africa, where you will use the skills you have built up over the previous two years and note the striking interplay between the world's most spectacular wildlife and the growth of a developing nation. You will also carry out a piece of research under the supervision of a member of Biosciences staff.

BSc Environmental Science

This programme is delivered jointly by Geography and Biosciences and promotes a truly interdisciplinary systems approach to environmental science. It will also benefit from the world-leading faculty of the Environment and Sustainability Institute (ESI). The core programme covers applied environmental management, ecology and conservation, with an emphasis on field-related practical and research skills, taking advantage of the unique field work opportunities available locally in the South West. This degree takes advantage of ESI links with local employers in the environmental sector, in addition to contacts in industry both in the UK and overseas.



Year 1: In the first year you will develop knowledge and practical skills in environmental processes (in man-made and natural environments) with hands on experience in the field and the laboratory. Subjects covered include ecology and conservation and earth systems science.

Year 2: In the second year you will have a choice of options, ranging from applied environmental management to population and community ecology, depending on what interests you most. You might also take courses in the social sciences, such as energy policy and environmental law (where timetabling permits). You will also be able to go on the environmental science residential field course that runs during Easter and benefit from the expertise of both biologists and geographers.

Year 3: In your final year you will have the opportunity to put your analytical and experimental skills to use through your research project with a member of academic staff. Your project will give you the opportunity to research an environmental problem of your choice in detail. You will also have the opportunity to go on one of our final year field courses supervised by biology and geography academics.

BSc Evolutionary Biology

Evolutionary Biology is a fast growing area of study, utilising ever more sophisticated technology to unravel the history of life on earth. You will draw from fields which include genetics, animal behaviour and psychology, and examine evolution from many perspectives – from the smallest building blocks of life to entire ecosystems.

Year 1: You will develop both knowledge and practical skills in evolutionary ecology. This year will include lectures and laboratory work, introducing you to modern approaches to understanding evolution. You will also develop important communication and analytical skills.

Year 2: In your second year you will continue to examine the basis for evolutionary change, including consideration of both the ecological and genetic mechanisms driving adaptive evolution. You will further develop essential analytical and communication skills.

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 complete freedom to choose among our final year modules, tailoring your degree to your specific interests.

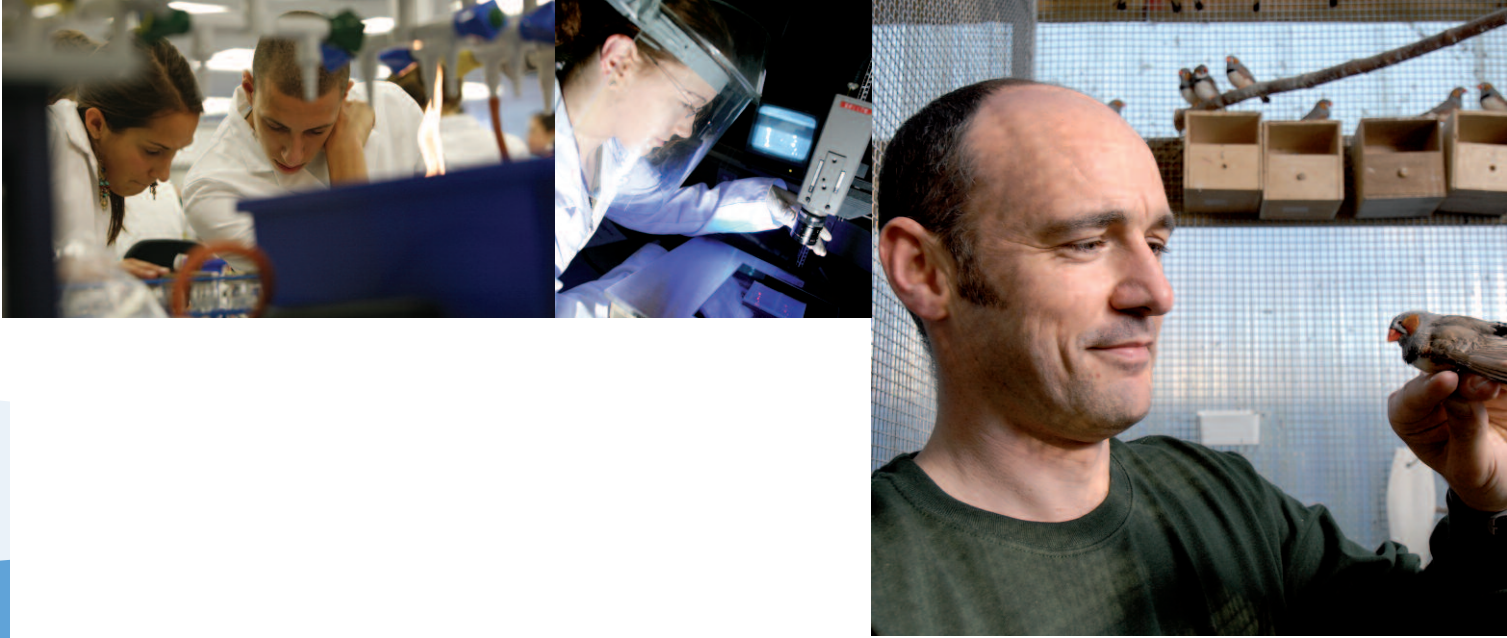
BSc Zoology

At our Cornwall Campus we have one of the largest groups of scientists specialising in animal behaviour, ecology and conservation in the UK and this degree builds on our internationally recognised expertise in this field. It focuses on an understanding of animal biology, with an emphasis on whole animal biology, ecology and behaviour, and the evolution of animal life histories.

Year 1: In your first year you will explore animals in the context of the environments in which they live. You will examine zoology from molecules to ecosystems and get experience in the modern techniques used to generate knowledge about animal systems.

Year 2: You will 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 be able to go on either one of the behaviour and biodiversity field courses that run over the Easter break or a practical skills in ecology field course during the summer.

Year 3: In your final year you will have the opportunity to put your analytical and experimental skills to use through your research project with a member of academic staff. Our students work side-by-side with researchers, developing an independent research project. You will also have the opportunity to go on one of our final year field courses.



Learning and teaching

Learning and teaching is through lectures, seminars, tutorials, field work, laboratory sessions and independent study with internationally recognised, research-active staff. You will have the opportunity to undertake challenging independent research projects dealing with questions and issues at the cutting edge of life science research.

Regular research seminars, by our staff and visiting lecturers, bring you the latest issues on a wide range of research topics.

Our staff have close links with a wide range of industrial, medical and conservation organisations, with whom there may be the chance to collaborate for your third-year research project. Many of our students also work with these organisations during their vacations.

You'll have over 15 hours of direct contact time per week with your tutors and you will be expected to supplement your lectures with independent study. You should expect your total workload to average about 40 hours per week during term time.

We're actively engaged in introducing 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-led teaching

We believe every student benefits from being part of a research-led culture and being taught by experts. You will discuss the very latest ideas in seminars and tutorials and, in appropriate degree programmes, you will become an active member of a research team.

The complementary expertise of our staff ensures a vibrant, collaborative research culture within our research groups: Environment and Evolution; Plant and Microbial Systems; Molecules and Cells; Behaviour; Ecology and Conservation; and Evolution.

Academic support

All students have a Personal Tutor who is available for advice and support throughout their studies. There are also a number of services on campus where you can get advice and information, including the Students' Guild Advice Unit. You can find further information about all the services in the University's undergraduate prospectus or online at www.exeter.ac.uk/undergraduate

Assessment

You must pass your first year assessment in order to progress to the second year, but the results do not count towards your degree classification. For three-year programmes, the assessments in the second and third years contribute to your final degree classification. For four-year programmes the assessments in the fourth year also contribute to your final degree classification.

For full details of the assessment criteria for each module, check the undergraduate section of our website at www.exeter.ac.uk/biosciences

Study abroad

Our four-year 'With Study Abroad' degrees give you the opportunity to spend your third year studying at a university in North America or Australia. We have a number of partners in the USA including Coastal Carolina University, University of Southern Mississippi, Montana State University, Iowa State University. In Canada we have Carlton University in Ottawa and the University of Victoria on Vancouver Island and in Australia we have Deakin University and the University of Queensland. Each university has modules unique to their local area such as rocky mountain ecology in Montana and shark biology in Coastal Carolina.

You must apply directly through UCAS for the four-year 'With Study Abroad' degree programmes and there are higher entry requirements compared with our three-year degrees. There are also strict progression criteria through each year: students must attain an overall upper second class result in both their first year and second year to meet the progression criteria in Exeter and the entrance criteria of the host institution.

For students on our BSc Animal Behaviour and BSc Environmental Science degree programmes, once you're studying at the University of Exeter you'll have the opportunity to apply to spend a year at an international university (outside Europe). This year abroad will be taken during the third year of study.



Money matters

At the time of printing, major Government reforms to student finance are underway – these will allow universities to charge tuition fees of up to £9,000 a year from 2012/13. Universities that want to charge more than the new basic fee of £6,000 will have to meet additional conditions to promote access for disadvantaged students. We have not yet confirmed our tuition fees and support levels for the coming year, but, once we have done so, we will update our website as soon as possible. We therefore recommend you consult our website for this information before you submit your UCAS application for entry to university in autumn 2012. For further information, please see www.exeter.ac.uk/undergraduate/money

Careers

Key skills are integrated into all our undergraduate programmes to ensure students gain not just subject knowledge, but the transferable skills valued by employers such as analytical problem solving, teamwork and organising and communicating information. Group learning, peer level assessment and key vocational skills, such as advanced laboratory training within molecular biology, also enhance the employability of our students. Students receive dedicated biosciences career management based on our strong tutorial system and a series of seminars and visits by scientists working in diverse industries including major scientific employers, biotechnology companies and science recruitment agencies.

The Employability Service works very closely with our Employability Officer to ensure that students are aware of a wide variety of careers available to them. In the second year of study, career management skills for Biosciences students are addressed as part of a core module. These skill workshops can count towards the Exeter Award, which is designed to enhance the employability of University of Exeter graduates by providing official recognition and evidence of activities and achievements including attendance at skill workshops, training courses and extra-curricular activities.

Our graduates are employed in a wide variety of related roles in the UK and overseas including laboratory-based positions, conservation management, ecology, medicine and veterinary medicine and nursing. Others use the skills gained on their course to enter a vast array of different career paths in law, business or management. Many of our students continue their interest in the subject by following a postgraduate degree or research in their chosen area.

Some examples of destinations of our recent graduates:

- Conservation Intern, Kenya Wildlife Service
- Film Researcher, BBC Natural History Unit
- Graduate Ecologist, Yorkshire Wildlife Trust
- Clinical Researcher, First Data Bank of Europe
- Technical Sales and Marketing Specialist, Digital TV Labs
- Trainee Ecologist, Somerset Wildlife Trust
- Wildlife Disease Research, FERA
- Assistant Microbiologist, South West Water
- Research Assistant, Institute for the Environment, Brunel University
- Microbiologist, Alcontrol
- Vascular Ultrasound Technician, Guy's and Thomas' NHS Foundation Trust
- Phlebotomist, NHS, Brighton
- MSc Conservation Science, Imperial College
- MSc Bionanotechnology, University of Leeds
- VETMB Degree, University of Cambridge
- MSc in Toxicology, University of Birmingham
- MBChB Medicine and Surgery, University of Warwick
- PhD, University of Exeter and The Environment Agency, Exeter
- PhD Biosciences, University of Exeter
- PhD Ecology, University of Exeter
- PhD Conservation Biology, University of Malta
- PhD Conservation Biology, James Cook University

Entry requirements and applying

You can find a summary of our typical entry requirements on the inside front cover of this brochure. You will need a GCE A level (or equivalent) in Biology and you will also preferably need another science subject, which can include one of the following: Chemistry; Computer Science; Design and Technology; Electronics; Environmental Science/Studies; Geography; Geology; Maths; Physics; Psychology; Science; Sport and Physical Education; Statistics. A level Chemistry is normally required for the Biochemistry and the Biological and Medicinal Chemistry degree programmes.

You will also need the equivalent of GCSE Mathematics at grade B and either GCSE Double Award Science or GCSE Chemistry at grade C.

The full and most up-to-date information about Biosciences is on the undergraduate website at www.exeter.ac.uk/undergraduate/degrees/biosciences and we strongly advise that you check this before attending an open day or making your application.

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.

If you are an international student you should consult our general and subject-specific entry requirements information for A levels and the International Baccalaureate, but the University also recognises a wide range of international qualifications. You can find further information about academic and English language entry requirements at www.exeter.ac.uk/undergraduate/international

For information on the application, decision, offer and confirmation process, please visit www.exeter.ac.uk/undergraduate/applications



E Biosciences modules in Exeter

Key: C = Core
O = Optional

For up-to-date details of all our programmes and modules, please check www.exeter.ac.uk/biosciences

For details of the Sport Science modules taught on BSc Human Biosciences please see www.exeter.ac.uk/shss

Please note that availability of all modules is subject to timetabling constraints and that not all modules are available every year. In addition to the core modules you can choose from an extensive range of options in all years, a few examples of which are listed below.

Year 1 modules:

Module Name	BSc Biological Sciences	BSc Biochemistry	BSc Biological and Medicinal Chemistry	BSc Human Biosciences
Animal and Plant Physiology	C	O		
Biochemistry	C	C	C	
Biochemistry of Exercise				C
Diversity of Animals, Plants and Protists	C	O		
Essential Elements of Life		C	C	
Foundations of Biomechanics				C
Foundations of Exercise Physiology				C
Fundamental Skills for Biosciences	C	C	C	C
Genetics	C	C	C	C
Human Anatomy and Physiology				C
Introduction to Biotechnology	O	C	C	O
Introduction to Ecology	C			
Kinanthropometry				O
Microbiology and Cell Biology	C	C	C	C
Physical Chemistry for the Life Sciences		O	C	
Structure and Reactivity of Organic Compounds 1	O	C	C	

Year 2 modules:

Module Name	BSc Biological Sciences	BSc Biochemistry	BSc Biological and Medicinal Chemistry	BSc Human Biosciences
Advanced Cell Biology	O	C	O	O
Analysis of Biological Macromolecules	O	C	C	
Animal Ecophysiology	O			
Applied Biomechanics				O
Coral Reef Field Course (Bahamas)	O			
Developmental Biology	O			O
Ecology and Environment	O			
Elements of Chemistry in Biological Systems		O	C	
Evolution and Informatics	O	O		O
Exercise Physiology				C
Exercise Programming				O
Forensic Science	O	O	O	O
Genomics and Biotechnology	O	C	C	O
Human Molecular Biology	O	O	O	O
Kinesiology and Biomechanics				C
Marine Biology	O			
Medical and General Microbiology	O	O	C	O
Metabolism	O	C	C	
Molecular Biology of the Gene	O	O	O	O
Practical Skills in Ecology Field Course	O			
Research Methods and Analytical Procedures				C
Research Skills and Bioethics	C	C	C	
Sensory Ecology and Behaviour	O			
Structure and Reactivity of Organic Compounds 2	O	C	C	





Year 3 modules:

Module Name	BSc Biological Sciences	BSc Biochemistry	BSc Biological and Medicinal Chemistry	BSc Human Biosciences
Animal Behaviour Seminars	0			
Biomechanical Analysis of Human Movement				0
Cell Cycle and Cancer	0	0	0	0
Cellular Basis of Immunity	0	0	0	0
Clinical Exercise Prescription				0
Current Issues in Marine Biology	0			
Developmental Biology	0			0
Ecology of Environmental Change	0			
Ecotoxicology	0	0		0
Environmental Microbiology	0			0
Evolution of Infectious Diseases	0	0	0	0
Factors Affecting Performance				0
Frontiers in Molecular Cell Biology	0	C	0	0
Mammalian Biology	0			
Medical Biotechnology	0	0	0	0
Microbial Effectors of Disease	0	0	0	0
Molecular Basis of Infection	0	0	0	0
Organic Synthesis		0	C	
Paediatric Exercise Physiology				0
Pharmacology and Medicinal Chemistry	0	0	C	
Research Project or Dissertations	C	C	C	C
Science Communication	0	0	0	0
Secondary Metabolism and Metabolites		0	C	
Specialist Topics in Chemical Sciences		0	0	
Sports Nutrition				0

Please note year 3 optional modules are indicative only and may be subject to change. These modules will be taken in year 4 of the study abroad and industrial experience programmes.

Year 1

Animal and Plant Physiology

You explore the essential features of anatomy and how this relates to physiological function throughout the various animals and plants, with an emphasis on structure and how this relates to function, especially physiology, lifestyle and habitat.

Biochemistry

Biochemistry provides the core knowledge and skills to enhance your performance in the area of biological chemistry.

Diversity of Animals, Plants and Protists

Provides an introduction to the structure, reproduction and lifestyles of all the major groups and considers their evolutionary relationships.

Essential Elements of Life

Introduces fundamental concepts in inorganic chemistry, such as molecular bonding and transition metal chemistry, and examines the role that inorganic compounds play in biological and medicinal systems.

Foundations of Biomechanics

Provides a foundation in the growth and maturation of the human body and prepares you for second- and third-year modules, in particular, *Paediatric Exercise Physiology*. The module addresses issues related to the measurement of the human body.

Foundations of Exercise Physiology

Provides the opportunity to learn factual material related to exercise and sport within a physiological context. You will develop practical laboratory-based skills and be expected to apply knowledge to an exercise or sports context.

Fundamental Skills for Biosciences

Introduces the underlying concepts required for laboratory-based biosciences, including modern laboratory techniques, safety issues, designing experiments and analysing and presenting scientific data. Team development training and small-group tutorial work are features of this module.

Genetics

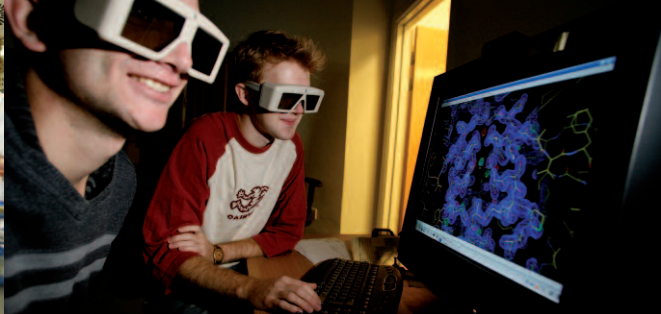
This module provides you with a basic understanding of how information is stored and expressed in cells, the differential role of genes and the environment on expression of a phenotype, and of the behaviour of genes in populations.

Human Anatomy and Physiology

You will develop a clear understanding of the anatomical location, structure and function of the musculoskeletal and cardiopulmonary systems. Knowledge of each component will allow comprehension of the inter-relationships between the body's systems and the ability to associate movement patterns with muscle groups.

Introduction to Biotechnology

Provides an introduction to the commercial exploitation of biology and explores its impact on research, business and society.



E Biosciences modules in Exeter continued

Introduction to Ecology

Covers topics across the range of ecological scales, including individual behaviour, population dynamics, community ecology, biogeography and ecosystems. The relationship between ecology and conservation is explored. Practical investigations introduce basic scientific testing of ecological hypotheses, including data collection, analysis, interpretation and reporting.

Microbiology and Cell Biology

Core concepts in microbiology and cell biology are fundamental to your understanding of biological sciences and underpin Single Honours degrees in the subject.

Physical Chemistry for the Life Sciences

Introduces the ideas of the fundamental structure of matter and how chemical processes may be measured.

Structure and Reactivity of Organic Compounds 1

Building on the principles of structure and reactivity of organic molecules, this module provides fundamental information on aspects of stereochemistry and the basics of addition, substitution and elimination reactions.

Year 2

Advanced Cell Biology

Studies a range of important cellular processes in depth, including intracellular transport, cell polarity, cell cycle regulation and cell migration.

Analysis of Biological Macromolecules

Introduces you to the state of the art methods used to analyse and characterise biological macromolecules. Lectures are supplemented by practical sessions where you learn how to fractionate proteins from cells, purify proteins by chromatographic methods, assay enzymes and analyse results by gel electrophoresis.

Animal Ecophysiology

Explores the major physiological processes in animals and how these relate to ecological niche. You will cover metabolism, respiration, endocrinology, reproduction and osmoregulation.

Coral Reef Field Course (Bahamas)

This popular field course introduces the ecology and conservation of tropical marine habitats including coral reefs, seagrass beds and mangroves in The Bahamas. The course includes travel to The Bahamas for a week of snorkelling where target research projects will be spent on patch reefs, seagrass beds and mangroves.

Ecology and Environment

Develops an understanding of some of the fundamental concepts, methods and results in the scientific study of ecology, biodiversity and the environment. The module uses examples from both terrestrial and aquatic systems. The module is a valuable complement to some of our ecology field courses.

Elements of Chemistry in Biological Systems

Provides a more in-depth study of the processes of physical chemistry, redox reactions and bio-inorganic chemistry. You then move on to study the role of metallochemistry in biology and medicine.

Evolution and Informatics

Explores the use of methods to reconstruct evolutionary history via phylogenetic trees, the concept of natural selection, and modes of speciation. Practical classes make use of a range of unique resources maintained in Biosciences.

Exercise Physiology

In this module you explore 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.

Forensic Science

In this module you cover all aspects of forensic science from the physical principles of ballistics to DNA fingerprinting and the chemical analysis of drugs. A large part of the course is taught by visiting experts, who use these techniques daily, enabling you to really understand the practical aspects of forensic science.

Genomics and Biotechnology

This module 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 will provide a platform to critically discuss case studies.

Human Molecular Biology

Looks at how molecular biology, molecular genetics and genomics are contributing to the understanding of humans as organisms. The relationship of humans with other organisms and the origins of modern humans are also considered.

Kinesiology and Biomechanics

Aims to develop your understanding of angular kinematics and angular kinetics and your ability to apply these concepts to the analysis of human movement and sports performance.

Marine Biology

This module covers oceanography, marine taxonomy, fisheries and food webs, coral reefs, reproduction and threats to marine ecosystems. Practical sessions consider the biology of plankton and marine conservation.

Medical and General Microbiology

Considers modern approaches to pathogen detection and the challenges posed by the spread of antibiotic resistance.

Metabolism

Provides an understanding of selected aspects of metabolism, important in both medicine and biotechnology.

Molecular Biology of the Gene

Covers a range of topics including cellular structure, genome organisation and replication, and genome expression, including protein modification and targeting.

Practical Skills in Ecology Field Course

This field-based module runs in September and involves attendance on a week-long UK-based field course. There is extensive project work and experience will be gained in many of the basic skills, measurement and survey techniques used by modern ecologists.



Research Methods and Analytical Procedures

Provides the tools required for a dissertation using quantitative methods. It also serves to aid your critical digestion of the results of research articles, creating an appreciation for the rationale involved in making the correct choices when using statistical analyses.

Research Skills and Bioethics

This module aims to prepare you for research and employment in the biosciences and to enhance your performance in an independent research project or dissertation. Lectures on bioethics will introduce ethical, philosophical and social issues emerging from modern research in the biosciences.

Structure and Reactivity of Organic Compounds 2

Shows how the structure of organic compounds can be determined spectroscopically and explores a wide range of key basic organic reactions.

Year 3**Animal Behaviour Seminars**

A choice of seminar options is available in topics such as animal social behaviour, neuroethology and sensory ecology. These provide the opportunity for you to study topics in animal behaviour by means of seminar presentations, to deepen your knowledge and understanding.

Cell Cycle and Cancer

This module brings you up-to-date with selected topics in cell and molecular biology that are relevant to an understanding of cancer biology.

Cellular Basis of Immunity

Introduces the science of immunology. Key components of the immune system are explored and current research topics used to illustrate how antibodies are engineered and used in the diagnosis and prevention of diseases in contemporary medicine and agriculture.

Current Issues in Marine Biology

This module covers some of the major threats to the marine environment such as climate change and ocean acidification, pollution and the introduction of invasive species. Also covered are the biology of corals, seagrass beds and mangroves, threats to the Arctic ecosystems and the use of population genetics in studying marine management.

Developmental Biology

This module explores specified topics in developmental biology that include stem cell biology, neurogenesis, organogenesis and evolutionary developmental biology.

Ecology of Environmental Change

Brings together science and politics to present a fact-based picture of human impacts on our changing world.

Ecotoxicology

Ecotoxicology is the science of how chemicals impact on our environment and wildlife. You'll develop an awareness of the major current theories and concepts in this field and will study how the bodies of animals respond to chemicals discharged in the environment.

Environmental Microbiology

This module covers bacterial survival in the environment, including extreme environments, and the impact of climate change on pathogen dispersal and survival.

Evolution of Infectious Diseases

Considers the diversity and evolution of parasitic and pathogenic agents using the perspective of modern biological methods.

Frontiers in Molecular Cell Biology

Selected topics at the forefront of cell biology are explored in this module and you will be introduced to the range of experimental techniques that are used to investigate how cells function.

Mammalian Biology

Key characteristics of mammals examined in this module include reproductive biology, parental care, endothermy, concepts of behaviour and ecology. Topics will be illustrated by case-studies of wild mammals.

Molecular Basis of Infection

Considers the molecular mechanisms by which bacterial and fungal pathogens invade, colonise and grow within animal and plant hosts.

Organic Synthesis

This module looks at how reagents and reactions are used in the synthesis of biologically important molecules such as pharmaceuticals.

Pharmacology and Medicinal Chemistry

You learn how drugs are metabolised in the body and what features are important in their design. Specific discussion of certain drug types are covered in detail. Scientists from leading pharmaceutical companies provide guest lectures on state-of-the-art approaches to new drug synthesis and discovery.

Research Project or Dissertation

The research project gives you the opportunity to undertake your own independent and original piece of research, under the supervision of a member of Biosciences staff. Research projects may be based in the field or laboratory and will deal with questions and issues at the cutting-edge of biosciences.

Science Communication

In this module you will gain an understanding of how science is disseminated to the public via journalists and documentary makers and also how science is communicated to governments, politicians and policy makers. 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.

Secondary Metabolism and Metabolites

Illustrates the structural diversity of the organic compounds of nature, how they are synthesised in living organisms and their medical and other uses.

C Biosciences modules in Cornwall

Key: C = Core
O = Optional

For up-to-date details of all our programmes and modules, please check www.exeter.ac.uk/biosciences

Please note that the optional modules shown for BSc Environmental Science are only those offered by Biosciences; for full details of all optional modules, including those offered by Geography, please visit www.exeter.ac.uk/biosciences/undergraduate

Please note that availability of all modules is subject to timetabling constraints and that not all modules are available every year. Within Biosciences, in addition to the core modules, you can choose from an extensive range of options in all years, a few examples of which are listed below.

Year 1 modules:

Module Name	BSc Animal Behaviour	BSc Conservation Biology and Ecology	BSc Environmental Science	BSc Evolutionary Biology	BSc Zoology
Earth System Science			C		
Field Techniques in Conservation Biology and Ecology		C			
Genetics	C	C	O	C	C
Introduction to Conservation and Ecology	O	C	C	O	O
Introduction to Environmental Science			C		
Introduction to Evolution and Behaviour	C	O		C	O
Invertebrate Zoology	C	C		O	C
Key Skills in Ecology and Evolution	C	C	C	C	C
Laboratory Techniques in Zoology, Evolution and Animal Behaviour	C			C	C
Physiology	C	C	O	C	C
Vertebrate Zoology	O	O	O	C	C

Year 2 modules:

Module Name	BSc Animal Behaviour	BSc Conservation Biology and Ecology	BSc Environmental Science	BSc Evolutionary Biology	BSc Zoology
Analysis of Biological Data	C	C	C	C	C
Animal Behaviour	C	O	O	O	O
Applied Entomology	O	O	O	O	O
Applied Environmental Management	O	O	C	O	O
Atmosphere and Oceans	O	O	O	O	O
Behaviour and Biodiversity Field Courses	C	O	O	O	O
Behavioural Ecology	C	O	O	C	O
Biodiversity and Conservation	O	C	C	O	O
Critical Thinking and Scientific Reasoning	C	C	O	C	C
Development and Diversity	O	O	O	O	C
Environmental Science Field Course			C		
Evolutionary Ecology	O	O	O	C	O
Evolutionary Genetics	O	O	O	C	O
Functional Animal Ecology	O	O	O	O	C
Introduction to Ecological Consultancy	O	O	O	O	O
Population and Community Ecology	O	C	O	O	O
Practical Skills in Ecology Field Course	O	C	O	O	O
Wildlife Disease	O	O	O	O	C



Year 3 modules:

Module Name	BSc Animal Behaviour	BSc Conservation Biology and Ecology	BSc Environmental Science	BSc Evolutionary Biology	BSc Zoology
Africa Field Course	0	0		0	0
Animal Life History, Diversity and Conservation	0	0	0	0	0
Biology of Sperm	0	0	0	0	0
Climate Change, Evolution and Public Perception of Science	0	0	0	0	0
Coastal Dynamics and Management	0	0	0	0	0
Dissertation	0	0	0	0	0
Earth Observation Science	0	0	0	0	0
Environmental Science Field Course			0		
Issues in Climate Change	0	0	0	0	0
Marine Vertebrate Conservation	0	0	0	0	0
Mating Systems Biology	0	0	0	0	0
Reproductive Technology and Conservation	0	0	0	0	0
Research Project	C	C	C	C	C
Social Behaviour: Genes, Ecology and Evolution	0	0	0	0	0
Spain Field Course	0	0		0	0
The Behavioural Ecology of Information	0	0	0	0	0
The Carbon Cycle	0	0	0	0	0
Trends in Ecology and Evolution	0	0	0	0	0
Wildlife Forensics	0	0	0	0	0

Please note year 3 optional modules are indicative only and may be subject to change. These modules will be taken in year 4 of the study abroad programmes.

Year 1

Earth System Science

This module introduces concepts in Earth System Science and describes the geological, geomorphological and climatic processes affecting the Earth system over different scales of time and space, both in the geological past and at the present time. Emphasis is placed on the interactions between physical processes and the role of human intervention in those systems.

Field Techniques in Conservation Biology and Ecology

You will become familiar with the local fauna and flora, covering its biodiversity and introducing ecology and conservation biology. You will develop vital identification skills, an understanding of taxonomy and phylogeny and an appreciation of ecological and conservation issues.

Genetics

You will gain a basic understanding of how information is stored and expressed in cells, the differential role of genes and the environment on expression of a phenotype, and of the behaviour of genes in populations.

Introduction to Conservation and Ecology

What is ecology? What is conservation biology? This module introduces the fundamentals of each topic and will provide you with core knowledge of ecology and conservation.

Introduction to Environmental Science

This module introduces the key concepts in environmental science, specifically focusing on the spatial and temporal dynamics of key components of the Earth's climate system. The module examines the impacts on biotic and abiotic factors and how humans have managed environmental systems and considers the changing nature of human-landscape interactions and how this is influenced by global trends.

Introduction to Evolution and Behaviour

This module provides grounding in the basic principles and significance of Darwinian evolution in an ecological and behavioural context. It introduces the processes of evolution and how this links to behaviour and biodiversity.

Invertebrate Zoology

This module develops core knowledge of biodiversity and macroevolutionary patterns that will form a grounding for future studies. You will attend lectures covering 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.

Key Skills in Ecology and Evolution

This module develops a variety of practical and transferable skills in areas such as teamwork, scientific report writing, oral presentations, study skills, basic laboratory skills, experimental design, data handling, display and interpretation, and basic statistical analysis.



C Biosciences modules in Cornwall continued

Laboratory Techniques in Zoology, Evolution and Animal Behaviour

This module develops an understanding of the principles behind the most important laboratory techniques used in modern zoology and evolutionary biology and the ways in which animal behaviour is measured and quantified. These techniques will be those you are likely to encounter in your career and will include techniques widely employed by the University's research groups.

Physiology

We explore the essential features of anatomy and how this relates to physiological function throughout a range of animals and some plants. We place an emphasis on how structure function and physiology link to lifestyle, habitat and evolutionary history.

Vertebrate Zoology

This module builds on the term 1 course in *Invertebrate Zoology* exploring similar themes in vertebrates. You will attend lectures covering a wide range of topics from the first chordates through to the evolution of humans. In practical classes you will learn about vertebrate diversity, concentrating on function and adaptation to environments and ecosystems.

Year 2

Analysis of Biological Data

This module provides basic training in the collection and analysis of ecological datasets, recognising that statistics is a tool for understanding biological data. You will gain experience of the modern scientific method as applied in ecology and evolution, including hypothesis formulation, experimental design and modern techniques for collecting and analysing data.

Animal Behaviour

This module explores 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.

Applied Entomology

You will 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.

Applied Environmental Management

Your understanding of the theoretical and practical skills required to create and manage complex spatial datasets for environmental management will continue to be developed in this module. The module focuses on data acquisition and interpretation through remote sensing and management of such data within a geographical information system (GIS).

Atmospheres and Oceans, Past Present and Future

Looks at how the Earth's climate works and what human activity is doing to change it. The module provides an introduction to the circulation of the oceans and atmosphere and how they interact, and to the cyclical behaviour of ocean-atmosphere systems on different temporal and spatial scales.

Behaviour and Biodiversity Field Courses

You can select between field courses visiting the Isles of Scilly or Northern Cyprus. The module aims to promote understanding of animal behaviour, biodiversity and ecology by means of first-hand experience, observation and learning in a field environment.

Behavioural Ecology

This module explores how natural selection shapes the behavioural strategies of animals in the wild. The emphasis will be on explaining 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.

Biodiversity and Conservation

This module introduces the study of biodiversity and conservation biology and emphasises their growing importance. We provide up-to-date information on global and local conservation issues, concluding with a discussion of how conservation work can scale-up, via scientific collaboration, to solutions to national and global conservation problems.

Critical Thinking and Scientific Reasoning

In this module you will consider not only critical thinking and scientific reasoning but the very basis of knowledge itself. The module explores questions such as how knowledge is created and validated, as well as exploring key skills for critical thinking and evaluating evidence applicable to all disciplines.

Development and Diversity

This module is designed not only to describe the morphology of animals, but also to understand the developmental processes that lead to the diversity of animal forms.

Environmental Science Field Course

This field course focuses on providing you with a set of key skills for characterising, mapping, quantifying and managing semi-natural environmental systems. The module comprises a series of field-led exercises on soil quality assessment, vegetation mapping, and practical environmental management scenarios. You're encouraged to address scientific questions in environmental science using independent and group-based field work, with the assistance of academic experts.



Evolutionary Ecology This module develops and expands your understanding of evolution and ecology by considering the ecological mechanisms underlying evolutionary change. It will focus on the concepts of environmental variation and the mechanisms underlying how and why the diversity of life has evolved, including concepts of speciation, co-evolution, and plant-animal interactions.

Evolutionary Genetics This module develops and expands your understanding of the principles introduced in *Introduction to Evolution and Behaviour* by considering the genetic mechanisms underlying evolutionary change. This module focuses on the concepts of genetic variation and the forces underlying the changes in allele frequency over time.

Functional Animal Ecology This module explores how an understanding of physiological mechanisms and function inform the study of animal ecology at the level of individuals, and the implications for populations, communities and ecosystems. You will cover animal nutrition, energetics, life history trade-offs, endocrine systems, reproductive systems, animal signalling, respiration, osmoregulation, and senescence.

Introduction to Ecological Consultancy This module deals with the key issues and techniques involved in ecological consultancy; it is therefore excellent preparation for those who intend to pursue a career in ecological consultancy, or those who would like to understand more about the kind of work this entails.

Population and Community Ecology This module develops your expertise in population and community ecology and includes a field trip to Dartmoor. You will develop a broad perspective on important issues in both fundamental and applied ecology, including conservation, pest management and sustainable exploitation of resources.

Practical Skills in Ecology Field Courses You can select among field courses visiting Scotland, Dorset or Cornwall. The module aims to promote understanding of the skills and techniques that ecologists use to measure and survey animals and plants by means of first-hand experience, observation and learning in a field environment.

Wildlife Disease This module develops your knowledge of infectious wildlife disease, focusing on the main causes of infectious disease. You will explore how these disease-causing agents interact with wildlife and how wildlife interacts with disease, including immunological adaptations and responses. Key examples are used to illustrate the basic microbiology and immunology and place this knowledge into a wildlife context.

Year 3

African Field Course This module develops your scientific knowledge and understanding within three main areas – ecology, environmental biology and conservation, while based in a developing country. This course is where you gain first-hand experience of many of the concepts you have learned about in previous years.

Animal Life History, Diversity and Conservation This module is 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.

Biology of Sperm Sperm cells display an incredible diversity in form, which is quite remarkable when all they have to do is fertilize ova. While the module primarily focuses on animal sperm, it also uses this unusual cell as a vehicle to discuss the history of biology, plus aspects of sexual reproduction, evolution, selection, unusual genetic systems and speciation.

Climate Change, Evolution and Public Perception of Science This module 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.

Coastal Dynamics and Management You will examine in detail the physical processes and landforms associated with different coastal environments. Different types of coastal environments and their morphological controls, and evaluate the role of human activity in the coastal zone and the implications for coastal zone management will be investigated.

Dissertation in Conservation Biology/Evolution/Zoology/Animal Behaviour This module aims to provide you with an opportunity to prepare a dissertation on a research topic of modern interest and relevance to Conservation Biology/Evolution/Zoology/Animal Behaviour. You will develop your skills in reviewing the literature relevant to your chosen topic, and in writing a scientific report. You will choose your topic through discussions with the academic staff.

Earth Observation Science EO is considered as the science of inferring environmental parameters from measurements of radiation reflected, emitted or scattered by the Earth's surface. In this module, physical measurements collected by a range of spaceborne, airborne and ground-based remote sensing instruments are considered.



C Biosciences modules in Cornwall continued

Environmental Science Field Course

This module develops your scientific knowledge and understanding of environmental management with a strong interdisciplinary focus. We will look at the interactions between biotic and abiotic factors in the landscape and their spatial distribution. The focus will be on assessment of the links between landscape ecology, conservation science, ecosystem services, agri-environmental issues, environmental policy and economics. This course is where you will gain first-hand experience of many of the concepts you have learned in previous years, and where you will begin to apply your knowledge to a set of real life scenarios.

Issues in Climatic Change

You will develop an understanding of current issues concerning present and future climatic change through an investigation of past change over a range of timescales, from the interglacial/glacial cycle, through millennial and centennial cycles to change over the observational record. You will develop an awareness of how to judge present predictions of future climatic change, and how responses to predicted changes can be informed by an understanding of the past.

Marine Vertebrate Conservation

This module looks at the science underpinning the ecology and conservation of the major marine megavertebrate groups. Typical cross-cutting topics include: status assessment; life histories; migration; direct exploitation and fisheries bycatch; climate change; and conservation policy.

Mating Systems Biology

The evolution of animal mating systems and alternative mating strategies lies at the heart of studies of sexual selection. In this module we discuss how factors such as population density, operational sex ratio, and habitat quality can directly influence animal mating patterns.

Reproductive Technology and Conservation

In this module we discuss both reproductive diversity and the development of reproductive technologies such as cryopreservation. The focus is on critically assessing these technologies and data and the realistic potential for species conservation.

Research Project

The research project gives you the opportunity to undertake your own independent and original piece of research, under the supervision of a member of Biosciences staff. Research projects may be based in the field or laboratory and will deal with questions and issues at the cutting-edge of biosciences.

Social Behaviour: Genes, Ecology and Evolution

The study of social behaviour is fundamental to our understanding of biological diversity and complexity, including our understanding of human behaviour. This module will focus on how integrating ecology, genetics and evolution into studies of social behaviour such as communication, cooperation, aggression, parenting, and group living can illuminate general concepts of biological complexity.

Spanish Field Course

This module develops your scientific knowledge and understanding within three main areas – ecology, environmental biology and conservation, as they apply in a European Mediterranean country. You will be introduced to key habitats including inputs from local conservation biologists and will carry out independent research projects in characteristic regional habitats or nature reserves.

The Behavioural Ecology of Information

This module 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. It will help you develop a fuller understanding of the way natural and sexual selection can and does act to mould much of what we see in the natural world.

The Carbon Cycle

Climate change is being driven by elevated atmospheric carbon dioxide concentrations. In this module you will focus on the contemporary carbon cycle and the influence that anthropogenic activity is having upon it. The principle aim of the course is to describe in detail the mechanisms underlying the ocean, atmospheric and land-surface components of the carbon cycle and how they are responding to man-made emissions of greenhouse gasses.

Trends in Ecology and Evolution

You'll look at current research in conservation, ecology, evolution and zoology and foster skills in acquisition, synthesis and communication of information. You will attend seminars presented by external speakers, each an expert in their field of research, and have the opportunity to discuss with them the topics covered and issues raised.

Wildlife Forensics

Forensic approaches such as molecular markers and stable isotope analyses are arguably some of the most important tools that ecologists have at their disposal. This module will develop and expand your understanding and awareness of forensic approaches in wildlife biology.





The University of Exeter

Experience for life

Studying at the University of Exeter is about more than getting a degree – there’s a wealth of opportunities open to you to develop personally as well as professionally. We offer an exceptionally wide range of opportunities for you to gain the skills employers want – from management training to business placements, volunteering programmes and pre-teacher training, to a worldwide network of study abroad opportunities and careers advice from our own successful graduates.

Great reputation

Exeter is ranked 12th in the UK in *The Times Good University Guide 2011*, making it the highest ranked South West university. Exeter has one of the highest National Student Survey rankings in the country, being in the top 10 since the survey began, and in 2010 we scored in the top 10 for teaching, academic support, personal development, and overall satisfaction.* We are also in *The Times* top 10 research-intensive universities: nearly 90 per cent of our research was rated as internationally recognised in the latest (2008) Research Assessment Exercise.

Investing in your future

We are in the midst of a £275 million investment programme on the Streatham Campus. Projects include a new centrepiece called the Forum, expansion of the Business School and facilities for Biosciences. These will be complemented with modern accommodation. The first phase of the accommodation project was completed in September 2010, with most other schemes being completed between the end of 2010 and summer 2012. We have also invested £9 million in library facilities and £11 million in sports facilities, making them amongst the best in the country.

Since opening in 2004, our £100 million Cornwall Campus has gone from strength to strength. We’ve built state-of-the-art facilities, developed innovative degree programmes and attracted leading academic staff. Our latest development, a £30 million Environment and Sustainability Institute will help put the University at the forefront of environmental and climate change research on a campus which already offers 21st century academic, research and residential facilities.

Exceptional location and great atmosphere

A safe, student-friendly city, Exeter is rated one of the best places to live in the UK for the quality of its facilities, low crime rate and fantastic countryside. The University has one of the UK’s most active students’ unions, sees some of the top bands in the country perform on campus and is one of the UK’s top sporting universities.

For students studying in Cornwall, the campus there offers a fantastic student lifestyle in a safe, friendly and energising environment, with plenty of opportunities for sports, including surfing, sailing and other outdoor activities.

Explore the possibilities

Open Days

Come and visit our beautiful campuses. We hold Open Days in Exeter twice a year in June and September and at our Cornwall Campus in June and October.

Campus Tours

We run Campus Tours at the Streatham Campus every weekday at 2pm and at the St Luke’s Campus on Tuesdays and Fridays at 12 noon during term-time, and at the Cornwall Campus on Wednesday and Friday afternoons. You’ll be shown round by a current student, who’ll give you a first-hand account of what it’s like to live and study here.

For full details and to book your place at an open day or campus tour, visit: www.exeter.ac.uk/opendays

For enquiries contact:

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email: visitus@exeter.ac.uk

Cornwall: phone: +44 (0)1326 371801
email: cornwall@exeter.ac.uk

Post-Offer Open Days

Once you receive confirmation of an offer we’ll contact you with an invitation to visit us on a Post-Offer Open Day, which will give you the chance to find out more about your programme and department and decide whether to accept our offer. While this opportunity to visit includes a campus tour and formal introduction to the department, much emphasis is placed on a more informal period for questions and answers. A number of our current students also take part on these days, leading tours and giving you the opportunity to ask them what studying here is really like! Post-Offer Open Days take place during the period January to April.



*based on average of positive responses for full service universities (ie, excluding specialist colleges)



The University's undergraduate prospectus provides more information about the University and the full range of undergraduate degrees offered.

You can obtain a copy from www.exeter.ac.uk/prospectus

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