PRIFYSGOL ABERYSTWYTH UNIVERSITY | Department of Life Sciences

Undergraduate studies in

Ecological Sciences

Contents

THE TIMES THE SUNDAY TIMES GOOD UNIVERSITY GUIDE 2024 WELSH UNIVERSITY OF THE YEAR

Important information

The programme information published in this brochure was correct at time of going to print (September 2024) and may be subject to change. Prospective students are advised to check the definitive programme information, including entry requirements, that is available on our website before making an application, to ensure that the programme meets their needs.

Welcome

Welcome to the Department of Life Sciences, a world-class centre for education and research based here at Aberystwyth University.

We provide an outstanding learning environment for both your academic and personal development, with state-of-the-art facilities and generous scholarships. Your course will be brought to life by our committed and inspiring lecturers, with much of our teaching being led by the cutting-edge research interests of our staff, and enhanced by the stunning beauty and natural biodiversity of our location.

In the Department of Life Sciences we are able to offer you a wide range of learning opportunities, including interactive lectures and seminars, laboratory classes, small group tutorials, and field courses. The flexibility of being able to select from a range of diverse modules means you can tailor your course to your individual interests. You will be assessed in a variety of ways, including exams, laboratory reports, presentations and essays, all of which are designed to enhance your subject-specific, personal, and transferable skillsets.

Aberystwyth lies on the shores of Cardigan Bay on the west coast of Wales, set in stunning natural surroundings that offer a 'living classroom' that will further enhance your learning. The locality offers a fine coastline, with rocky and sandy shores, saltmarshes and sand dunes, and expanses of rolling moorland and wooded valleys, rivers and lakes immediately inland. This diversity of ecosystems is associated with an equally rich biodiversity, making Aberystwyth the ideal place to study the ecological sciences.

Further information about our courses and other opportunities can be found in this booklet. Why not join us on an Open Day or Applicant Visiting Day to see for yourself what makes Aberystwyth such an incredible place to study.

Professor Iain Barber
Head of Department

Our courses

Single Honours

We also offer:

- Agriculture
- Agriculture with Animal Science
- Agriculture with Business Management
- Animal Science
- Biochemistry
- Biomedical Science
- Equine and Veterinary Bioscience
- Genetics
- Genetics and Biochemistry
- Health Science (Nutrition and Exercise)
- Microbiology
- Sport and Exercise Science
- Veterinary Biosciences

Animal Behaviour

Royal Society of Biology Accredited Degree

BSc (Hons) | C120 | 3 years

Aberystwyth is a great place to explore the behaviours of wild and domesticated animals. Accessible nearby habitats enable the observation of a diverse range of charismatic wild animal species, while domesticated species are housed in our own farms, equine centre and aquarium facilities. Many of our teaching staff are active researchers, investigating the ecology and evolution of behaviour or its neurobiological mechanisms.

Our Animal Behaviour degree will equip you with an intricate knowledge of animal behaviour, firmly grounded within a broader understanding of the biological sciences. You will develop scientific, observational and analytical skills needed to investigate animal behaviour, and will apply those skills through practical study of vertebrate and invertebrate animals in a range of natural and captive environments and laboratory settings. Teaching by veterinary surgeons will help you to apply your understanding of animal behaviour to the field of animal health and welfare.

You will benefit from:

- access to aquarium facilities for the study of fish and aquatic invertebrates; a woodland hosting over 200 bird nest boxes; and our collection of historic biological specimens
- visits to study animals in captive and natural environments, such as the nearby Dyfi Estuary — an important overwintering site for migratory birds
- an optional seven-day residential field course to immerse yourself in hands-on investigation of animal behaviour
- innovative, technology-enhanced teaching by active researchers and veterinarians.

Employability

As a graduate of Animal Behaviour, you will be well prepared for a successful career in environmental education, research science, conservation, animal welfare or ecological consultancy.

Module list

Below is an indicative list of modules that you may study on this course.

First year:

- Cell Biology *
- Comparative Animal Physiology
- Disease Diagnosis and Control
- Ecology and Conservation
- Genetics, Evolution and Diversity
- Skills for Wildlife Scientists *.

Second year:

- Behavioural Ecology
- Animal Behaviour
- Research Methods *
- Vertebrate Zoology
- Veterinary Health.

Final year:

- Advanced Animal Behaviour
- Behaviour and Welfare of Domesticated Animals
- Research Project *.

See our website for the optional modules you may select to develop your specialist interests.

* also available partially or entirely through the medium of Welsh.

Key Facts

Typical offer:
UCAS tariff points: 120-104 to include B in A level Biology
IB: 30-28 with 5 points in Biology at Higher Level.

Assessment weighting: Typically 100% coursework, or 40-60% coursework and 60-40% exams.

Field trips/fieldwork: Yes.

Also available:
C122 Integrated year in industry.
C12F Integrated foundation year.

Biology

BSc (Hons) | C100 | 3 years

On our Biology degree you will study biology on all scales, ranging from environmental to whole organism and cellular.

You will focus on the understanding of whole genomes, analysis of their evolution and investigation of individual gene function, using cutting-edge analytical approaches. You will also consider the ethical dilemmas being posed by advances in biological knowledge, for example, in controversial disease treatments or reproductive medicine. Our aim is to develop your knowledge and experimental skills as well as to encourage you to think independently, creatively and critically.

You will benefit from:

- the application of molecular techniques including DNA extraction, sequencing and analysis
- extensive research and teaching labs equipped with the latest state-of-the-art equipment, including bioimaging facilities, high-throughput DNA sequencing, proteomics, metabolomics and spectroscopic platforms
- advanced analytical expertise in bioinformatics, GIS, climate niche modelling and epidemiology supported by access to high performance computing facilities.

Employability
Recent graduates have entered employment with education authorities, the Environment Agency, conservation organisations, pharmaceutical companies, the NHS, sea life centres, public health laboratories and the water industry, to give a few examples.

Royal Society of Biology Accredited Degree

Module list

Below is an indicative list of modules that you may study on this course.

First year:
- Cell Biology *
- Comparative Animal Physiology
- Ecology and Conservation
- Genetics, Evolution and Diversity
- Microbial and Plant Diversity *
- Skills for Biologists *

Second year:
- Climate Change: Plants, Animals and Ecosystems
- Evolution and Molecular Systematics
- Practical and Professional Skills in Microbiology
- Research Methods *

Final year:
- Biotechnology
- Global Biodiversity Conservation
- Research Project *

See our website for the optional modules you may select to develop your specialist interests.

* also available partially or entirely through the medium of Welsh

Key Facts

Typical offer:
UCAS tariff points: 120-104 to include B in A level Biology
IB: 30-28 with 5 points in Biology at Higher Level

Assessment weighting: Typically 100% coursework, or 40-60% coursework and 60-40% exams

Field trips/fieldwork: Yes

Also available:
C101 Integrated foundation year
C102 Integrated year in industry
C109 Integrated Masters
C09F Integrated Masters with integrated foundation year

Biology and Climate Change

BSc (Hons) | FC71 | 3 years

The Biology and Climate Change degree explores creative ways of responding to the challenges and opportunities of the current climate crisis, and will equip you with relevant subject-specific knowledge alongside the multi-disciplinary, interpersonal skills and attributes needed to create a more just and sustainable world. If your intention involves having a positive impact on the world, this course will set you securely on that rewarding journey.

On this degree, you will learn about the science underpinning climate, and how humans have changed these processes in recent times. You will explore the impacts of climate change on biodiversity at the level of species, habitats and ecosystems, and the scope for organisms and populations to evolve in the light of this threat. By working across disciplines, you will learn the need for both scientific research and governance in tackling these important issues.

You will benefit from:

- the great variety of local habitats and ecosystems, both marine and terrestrial, and ideal locations to study the impacts of climate change on biodiversity, and the scope for mitigation
- the chance to carry out field research, both locally and abroad
- the option of a range of overseas courses
- the chance to work with established academic researchers who work on various aspects of the past, present and future effects of global change on natural ecosystems.

Employability
Our graduates are well placed for roles in climate change management, adaptation and mitigation and careers in related areas, such as environmental education and consultancy or conservation.

Module list

Below is an indicative list of modules that you may study on this course.

First year:
- Climate and Climate Change
- Ecology and Conservation
- Genetics, Evolution and Diversity
- Interdisciplinary Approaches to Climate Change
- Microbial and Plant Diversity *
- Skills for Wildlife Scientists *.

Second year:
- Climate Change: Plants, Animals and Ecosystems
- The Governance of Climate Change
- Research Methods *.

Final year:
- Research Project *
- Global Biodiversity Conservation.

See our website for the optional modules you may select to develop your specialist interests.

* also available partially or entirely through the medium of Welsh.

Key Facts

Typical offer:
UCAS tariff points: 120-104 to include B in A level Biology
IB: 30-28 with 5 points in Biology at Higher Level.

Assessment weighting: Typically 100% coursework, or 40-60% coursework and 60-40% exams.

Field trips/fieldwork: Yes.

Also available:
FC7F Integrated foundation year.

Ecology

BSc (Hons) | C180 | 3 years

Due to the urgent need to document, understand and ultimately prevent the decline of biodiversity, graduate ecologists are in high demand. This degree aims to provide you with the academic knowledge and practical skills to meet this demand.

On our Ecology degree, you will study the interactions between organisms and their environment, building the essential foundation on which to develop your understanding of how wildlife will respond to current and future environmental threats, including pollution, climate change, invasive species and habitat destruction. Our aim is to train you to be part of the next generation of ecologists who will respond to environmental threats, identify solutions and help conserve biodiversity into the future.

You will benefit from:

- studying in an area rich in a variety of stunning landscapes, providing natural and semi-natural habitats and ecosystems including the Cardigan Bay coastline, freshwater environments, woodlands, heaths, moorland and alpine habitats
- engagement with local fieldwork using a wealth of local habitats
- the potential for international field experience
- the option of an eight-day residential field course in Ireland
- many nature reserves within easy reach, including Snowdonia and Bannau Brycheiniog (Brecon Beacons) National Parks
- established links with the British Trust for Conservation Volunteers, National Botanic Garden of Wales, Natural Resources Wales, Snowdonia National Park Authority, the RSPB and various wildlife and woodland trusts.

Employability
Many of our graduates find employment in conservation and environmental protection, or in environmental education in schools, colleges or nature reserves. Our graduates can be found working for organisations such as DEFRA (Department for Environment Food & Rural Affairs), the Environment Agency, Natural Resources Wales, Natural England, ADAS, Forestry Commission, wildlife trusts, the Wales Environment Link, the National Grid and water authorities.

Royal Society of Biology Accredited Degree

Module list

Below is an indicative list of modules that you may study on this course.

First year:
- Climate and Climate Change
- Comparative Animal Physiology
- Ecology and Conservation*
- Genetics, Evolution and Diversity
- Microbial and Plant Diversity*.

Second year:
- An Introduction to Landscape Ecology and Geographic Information Systems
- Climate Change: Plants, Animals and Ecosystems
- Ecological Surveying *
- Research Methods *.

Final year:
- Research Project * or Critical Review *
- Environmental Protection, Law, Sustainability and Consultancy
- Population and Community Ecology.

See our website for the optional modules you may select to develop your specialist interests.

* also available partially or entirely through the medium of Welsh.

Key Facts

Typical offer:
UCAS tariff points: 120-104 to include B in A level Biology
IB: 30-28 with 5 points in Biology at Higher Level.

Assessment weighting: Typically 100% coursework, or 40-60% coursework and 60-40% exams.

Field trips/fieldwork: Yes.

Also available:
C18F Integrated foundation year
C181 Integrated year in industry.

Marine and Freshwater Biology

BSc (Hons) | C164 | 3 years

Situated on the coast of Cardigan Bay, Aberystwyth is one of the best places in the UK to study marine and freshwater biology. You will have easy access to rocky and sandy shores, estuaries of conservation importance, as well as near-pristine rivers and lakes. Cardigan Bay is also home to the largest residential population of bottlenose dolphins in the UK.

Our Marine and Freshwater Biology degree is one of only a few nationally to provide you with an integrated catchment to ocean understanding of the biology, ecology and stressors affecting these intimately interconnected ecosystems. This is crucial, given that they support some of the most threatened species and habitats on the planet. On this course you will develop practical skills in the sampling techniques used in the aquatic environment, the critical analysis of data and literature, and the presentation of your findings to a variety of stakeholders. This will ensure you are well prepared for professional roles that seek to understand and address the various challenges facing marine and freshwater organisms and ecosystems.

You will benefit from:

- two optional residential field courses, currently based in Portugal and Scotland, allowing you to immerse yourself in the study of marine and freshwater biology further afield
- two research vessels enabling you to gain real hands-on experience of the sampling techniques used by professional marine and freshwater biologists
- access to our aquarium systems for experimental studies of marine and freshwater organisms.

Employability
Marine and Freshwater Biology graduates are equipped with the skills and knowledge to enter a wide range of careers including ecological consultancy, environmental management and conservation, teaching and scientific journalism. You will also be well prepared to pursue a scientific research career, continuing postgraduate study at Masters or PhD level.

Royal Society of Biology Accredited Degree

Module list

Below is an indicative list of modules that you may study on this course.

First year:
- Comparative Animal Physiology
- Skills for Wildlife Scientists
- Ecology and Conservation
- Genetics, Evolution and Diversity
- Cell Biology *
- Microbial and Plant Diversity *.

Second year:
- Applied Aquatic Conservation
- Aquatic Botany
- Freshwater Biology
- Marine Biology
- Research Methods *.

Final year:
- Fish Biology, Fisheries and Aquaculture
- Research Project *.

See our website for the optional modules you may select to develop your specialist interests.

* also available partially or entirely through the medium of Welsh.

Key Facts

Typical offer:
UCAS tariff points: 120-104 to include B in A level Biology
IB: 30-28 with 5 points in Biology at Higher Level.

Assessment weighting: Typically 100% coursework, or 40-60% coursework and 60-40% exams.

Field trips/fieldwork: Yes.

Also available:
C166 Integrated year in industry
C16F Integrated foundation year
C169 Integrated Masters
C06F Integrated Masters with integrated foundation year

Plant Biology

BSc (Hons) | C200 | 3 years

Excellent career opportunities await Plant Biology graduates, and Aberystwyth University is an ideal place for the first step in your career. We host internationally acclaimed plant breeding programmes for high-sugar grasses, plant genetics resources and databases, botany gardens and the National Plant Phenomics Centre. Our campus is also set within beautiful and accessible countryside that hosts a range of habitats and species.

On this degree you will study all aspects of plant life, from the molecular to the landscape levels, while also examining global issues relating to plants. You will consider how plant-based technologies can help us meet the demands of a growing human population and respond to global threats including food security and climate change. The course will also provide you with real-life opportunities to challenge your knowledge and think creatively.

You will benefit from:

- world-class facilities including botany gardens with a wide range of temperate and tropical plants, an extensive range of growth rooms and glasshouses, a museum of historic botanical specimens, and plant genetic resources collections and databases
- access to the National Plant Phenomics Centre and the possibility to engage with our world-leading plant breeding programmes
- many fieldwork opportunities, including the possibility of studying temperate, tropical and Arctic-Alpine flora
- beautiful habitats, including marine, moorland, mountain, woodland and grassland ecosystems, offering a fabulous variety of fieldwork and recreational opportunities.

Employability

Career opportunities for Plant Scientists are truly excellent, with many jobs and few trained scientists in this area, and we are perfectly placed to help you exploit UK and international links. Our graduates are working in conservation management, industrial and government-funded plant research institutes and the scientific Civil Service.

Royal Society of Biology
Accredited Degree

Module list

Below is an indicative list of modules that you may study on this course.

First year:

- Cell Biology *
- Crop, Grassland, Soil and Agricultural Land Management *
- Genetics, Evolution and Diversity
- Microbial and Plant Diversity *
- Skills for Biologists *.

Second year:

- Agronomy and Crop Improvement
- Climate Change: Plants, Animals and Ecosystems
- Ecological Surveying *
- Research Methods *.

Final year:

- Research Project *
- Frontiers in Plant Science
- Microbial Pathogenesis.

See our website for the optional modules you may select to develop your specialist interests.

* also available partially or entirely through the medium of Welsh.

Key Facts

Typical offer:
UCAS tariff points: 120-104 to include B in A level Biology
IB: 30-28 with 5 points in Biology at Higher Level.

Assessment weighting: Typically 100% coursework, or 40-60% coursework and 60-40% exams.

Field trips/fieldwork: Yes.

Also available:
C20F Integrated foundation year
C202 Integrated year in industry.

Wildlife Conservation

BSc (Hons) | C183 | 3 years

The Wildlife Conservation degree will equip you with an intimate understanding of the ecological concepts that underpin the conservation of flora, fauna and habitats on both local and global scales. Our teaching team includes academic staff who research conservation issues to inform management and policy. Aberystwyth's array of interesting and important habitats provides the ideal natural classroom for the teaching of practical skills.

By studying Wildlife Conservation, you will learn about the ecological and evolutionary processes that have shaped key habitats, and the interactions between these habitats and the wildlife they support. You will also explore the political, financial and social forces that underlie wildlife conservation and environmental management. You will recognise the importance of conserving biodiversity at a range of scales, from genetic diversity to entire biomes, and will develop the academic knowledge and practical skills to contribute to these priorities in your professional career.

You will benefit from:

- the great variety of local habitats, and access to national parks, national nature reserves, and Special Areas of Conservation (SACs) – ideal locations for studying all aspects of wildlife conservation and habitat management
- direct interaction with governmental and non-governmental conservation bodies, such as Natural Resources Wales and the RSPB, through visits and seminars
- the chance to carry out field research, both locally and abroad
- being taught by expert academics who work closely with conservation bodies to inform and advise best-practice conservation, management and policy, both locally and on a global scale.

Employability
Graduates of this degree will be well placed to pursue career opportunities in conservation biology and management within the UK and abroad. In addition, you may opt to pursue careers in allied fields such as environmental education, or to undertake postgraduate study at Masters or PhD level.

Module list

Below is an indicative list of modules that you may study on this course.

First year:
- Climate and Climate Change
- Ecology and Conservation
- Genetics, Evolution and Diversity
- Interdisciplinary Approaches to Climate Change
- Microbial and Plant Diversity *
- Skills for Wildlife Scientists *.

Second year:
- An Introduction to Landscape Ecology and Geographic Information Systems
- Research Methods *
- Wildlife Management.

Final year:
- Research Project *
- Global Biodiversity Conservation
- Wildlife Conservation.

Optional modules you may select to develop your specialist interests include:

- Tropical Zoology Field Course
- Ecological Surveying
- Terrestrial Ecology Field Course.

* also available partially or entirely through the medium of Welsh.

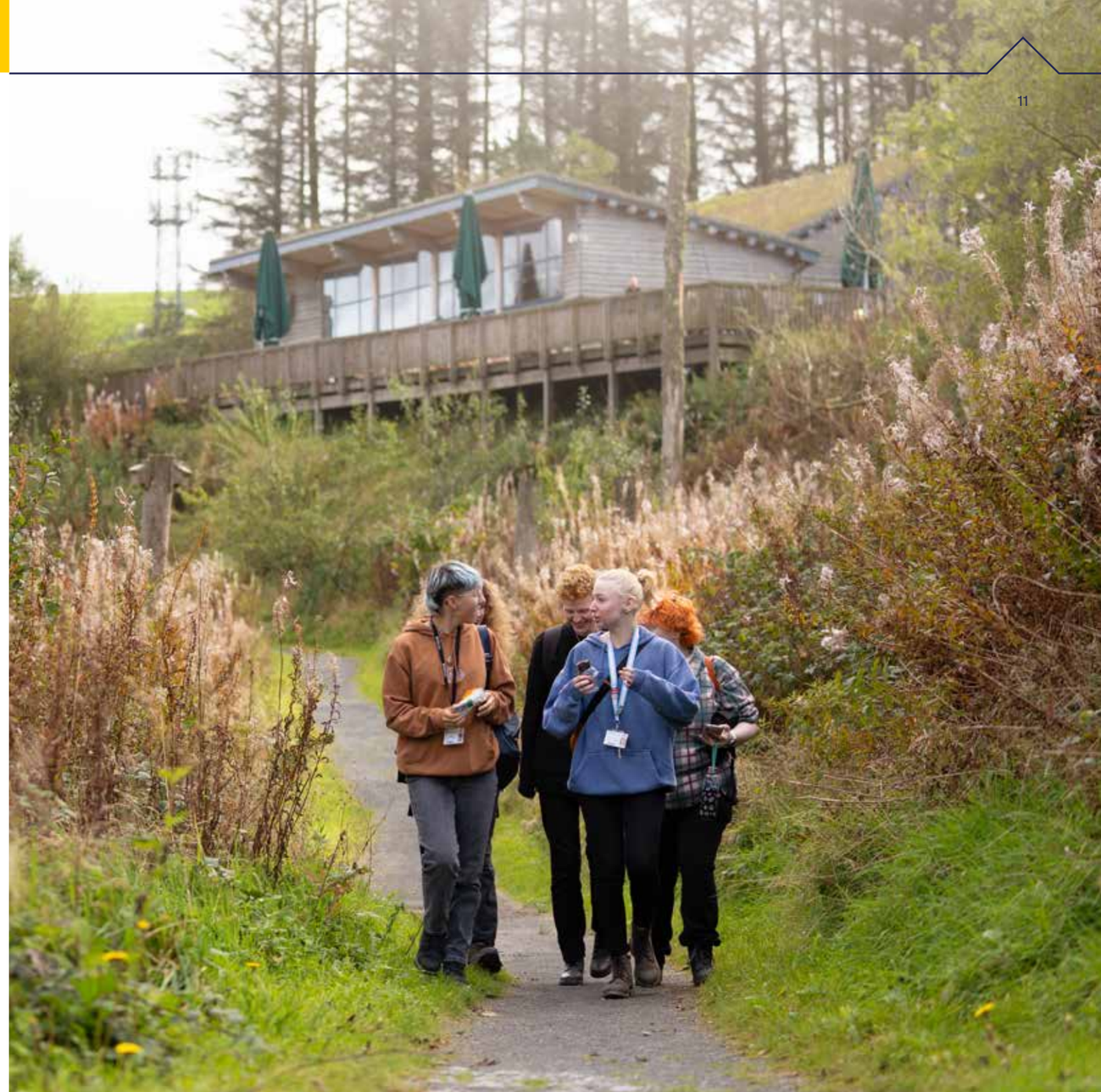
Key Facts

Typical offer:
UCAS tariff points: 120-104 to include B in A level Biology
IB: 30-28 with 5 points in Biology at Higher Level.

Assessment weighting: Typically 100% coursework, or 40-60% coursework and 60-40% exams.

Field trips/fieldwork: Yes.

Also available:
C08F Integrated foundation year
C184 Integrated year in industry.



Zoology

BSc (Hons) | C300 | 3 years

Aberystwyth is a superb place to study animal life in all its diversity. Situated in a stunning location, an array of coastlines, estuaries, woodlands and hills provide outstanding habitats for the study of wildlife. These habitats are home to rare insects, red kites, ospreys, pine martens, red squirrels, seabirds, grey seals, bottlenose dolphins and harbour porpoises.

As a Zoologist, you will develop a broad knowledge of animal diversity, evolution, anatomy, physiology, behaviour, ecology and conservation. You will gain excellent field and laboratory skills and have the option to explore animal life further afield through a residential field course. Depending on module choice, you might even study the zoology of hyper-diverse tropical rainforest environments.

You will benefit from:

- the latest zoological techniques including molecular analyses, advanced microscopy and contemporary biodiversity assessment
- a range of workshops, lab sessions and field courses to provide you with both theoretical and practical training
- the option of residential field courses overseas, currently including trips to the tropical rainforests of South America
- an array of internationally important habitats and species within the Aberystwyth area
- access to our research aquarium facilities for the study of marine and freshwater animals
- access to our natural history museum of zoological and botanical specimens.

Employability

Our graduates have developed exciting careers with a wide range of employers including zoos, education authorities, conservation and animal welfare organisations, the Natural Environment Research Council, the Veterinary Laboratory Agency, and as wildlife documentary producers. Other zoology graduates have continued into veterinary school or pursued further study at Masters or PhD level.

Royal Society of Biology
Accredited Degree

Module list

Below is an indicative list of modules that you may study on this course.

First year:

- Cell Biology *
- Comparative Animal Physiology
- Ecology and Conservation
- Genetics, Evolution and Diversity
- Microbial and Plant Diversity *
- Skills for Wildlife Scientists *.

Second year:

- Invertebrate Zoology
- Research Methods *
- Vertebrate Zoology.

Final year:

- Research Project *.

Optional modules you may select to develop your specialist interests include:

- Wildlife Conservation
- Marine Biology
- Parasitology
- Tropical Zoology Field Course.

For more details on the optional modules available, see the current list on our website, or contact us.

* also available partially or entirely through the medium of Welsh.

Key Facts

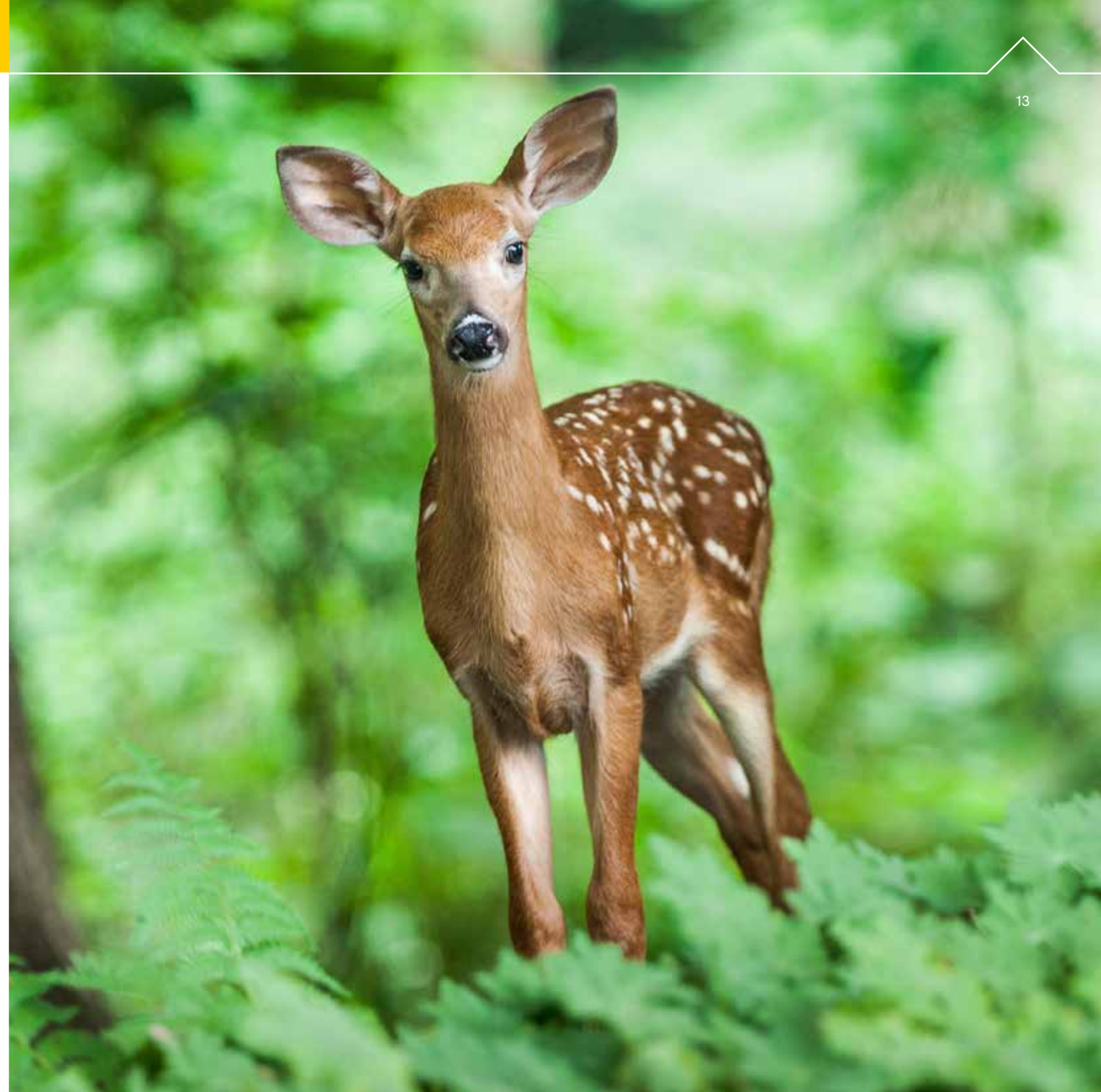
Typical offer:
UCAS tariff points: 120-104 to include B in A level Biology
IB: 30-28 with 5 points in Biology at Higher Level.

Assessment weighting: Typically 100% coursework, or 40-60% coursework and 60-40% exams.

Field trips/fieldwork: Yes.

Also available:

C301	Integrated foundation year
C302	Integrated year in industry
C309	Integrated Masters
C39F	Integrated Masters with integrated foundation year.



Integrated year in industry

If you want to broaden your horizons and get a taste of the workplace or experience a career through a work placement, then the integrated year in industry will strengthen and improve your career prospects after graduating. The majority of our single honours courses are available with the option of an integrated year in industry.

The integrated year in industry takes place in your third year, after which you will return to Aberystwyth to complete your degree in your fourth year. The year is assessed and contributes towards your final degree mark.

Advantages:

- More employable when you graduate
- More likely to have a higher starting salary
- More likely to secure a graduate level job.

Our own students have identified additional advantages:

- Find out what you would actually like to do as a graduate
- Great experience - exploring a new area which can be abroad
- Makes your final year easier
- Develop your social and professional networks.

Applications and interviews can be time-consuming and you will graduate a year later than your university friends, but the advantages of the integrated year in industry definitely outweigh the disadvantages.

What support is available?

- Support is provided by an academic member of staff primarily responsible for the integrated year in industry students and the department's own Careers consultant, working hand in hand with the Careers Service
- In your first year you will receive guidance on how to explore career opportunities and enhance employability
- In your second year you will receive help searching for posts, writing CVs, cover letters and making applications. You will receive formal interview practice and official approval of your placement(s)
- During your Year in Industry you will receive regular contact and support and will be visited by an academic supervisor.

Ben, Intern, Southern African Foundation for the Conservation of Coastal Birds.

Ben worked in the Chick Rearing Unit after specialised training in the care and hand rearing of penguin and seabird chicks.

"A great experience, travelling and working abroad. It was a very positive introduction into working within the conservation sector and brilliant in providing me with unique experiences for my CV and to discuss at interview."

Studying through the medium of Welsh

All our undergraduate degree schemes can be studied partly through the medium of Welsh. For some degree schemes, more than half the modules are available through the medium of Welsh.

You may choose to present all your coursework, including assignments and oral presentations, through the medium of Welsh and complete your written examinations in Welsh, regardless of the module's medium of instruction. The Department also ensures that all Welsh-speaking students are allocated a personal tutor and dissertation tutor who can speak the language. These teaching arrangements mean that our Welsh-medium provision is open to students from a range of different Welsh language backgrounds.

Studying through the medium of Welsh is advantageous in many ways, including:

- increased job prospects
- being taught in smaller groups
- being part of a friendly and welcoming Welsh-speaking community.

All students studying Welsh medium modules will also be eligible for the University's Welsh medium study scholarship, worth up to £250 per year. Furthermore, many of our degree courses are eligible for Coleg Cymraeg Cenedlaethol undergraduate scholarships worth £1500 over three years. For more information about these scholarships and for a list of the eligible degree schemes please see the Coleg Cymraeg Cenedlaethol website: **colegcymraeg.ac.uk/en/students/university**

Research

The Department of Life Sciences is an internationally-recognised research and teaching centre providing a unique base for research in response to global challenges such as food security, bioenergy and sustainability, and the impacts of climate change. Our scientists conduct research on genes and molecules, whole organisms and the environment.

Ecological and Evolutionary Research Group

Ecological and evolutionary research within the department spans terrestrial, freshwater and marine ecosystems. We undertake research into water, soils, plants and animals (invertebrates and vertebrates) and their interactions. We employ a range of approaches across different temporal and spatial scales to address key questions about how ecosystems work and how they operate. Whilst we are interested in the present, our research extends into the future by looking at how a wide range of climate change variables such as increased warming, CO2, ocean acidification and ultraviolet radiation will impact on ecosystems. Our research is integrated with teaching and we see our laboratories and the field as our training ground. Areas of focus include:

- soil and its component parts
- plant ecophysiology and how plants respond to abiotic and biotic stresses in semi-natural communities
- the close relationship between plants and invertebrates, including marine algae and herbivores
- how grazing animals including livestock affect plant communities
- the nature of competition and how plant and animal communities work
- techniques for making space for nature within coastal engineered structures.

Plant Biology for the Sustainable Bioeconomy Research Group

This group undertakes internationally recognised plant biology and breeding relevant to biomass production by collecting and characterising relevant germplasm in the centres of diversity; breeding high yielding hybrids with drought, cold, heavy metal resilience to allow plants to be grown on marginal lands in current and future climates; and understanding and manipulating flowering and senescence for breeding better hybrids. Key techniques used in our research include nutrient management, nitrogen-fixation, potassium-recycling and carbon sequestration.

The Aquatic, Behavioural & Evolutionary Biology Research Group

This group employs interdisciplinary approaches towards a unifying interest: how animals adapt to their environment. Within this aim we use a wide range of field- and lab-based techniques to investigate key questions in ecology, evolution and behaviour of wild populations. We combine group-wide expertise and activities to provide high quality research-led teaching. Members of this group look at:

- invertebrate behavioural plasticity and population ecology
- the evolution of aquatic organisms and their parasites
- opisthobranch biology and population genetics
- behaviour, birdsong and urban adaptation
- the cognition and neurophysiological control of animal behaviour
- invertebrate neuroethology
- the evolution of aquatic biodiversity and population connectivity
- circadian and circatidal rhythms in marine organisms.

Our 10 metre research vessel, Taliesin, with Aberystwyth town in the background.

Research highlights

Antibiotic pollution disrupts the gut microbiome and blocks memory in aquatic snails

Wastewater entering our streams and rivers contains a cocktail of chemicals used to treat humans and animals. Dr Sarah Dalesman's research demonstrates that the gut microbiome of aquatic animals can be altered by antibiotic pollution and could be detrimental to their survival. A student from the Marine and Freshwater Biology course, Ignacio A. Cienfuegos, worked on this project during his degree. The researchers found the antibiotics altered the gut microbiome substantially and changed the abundance of bacteria that have been found to relate to healthy memory formation in other animals, including humans.

Snail (*Lymnaea stagnalis*).
Photo: Dr Sarah Dalesman

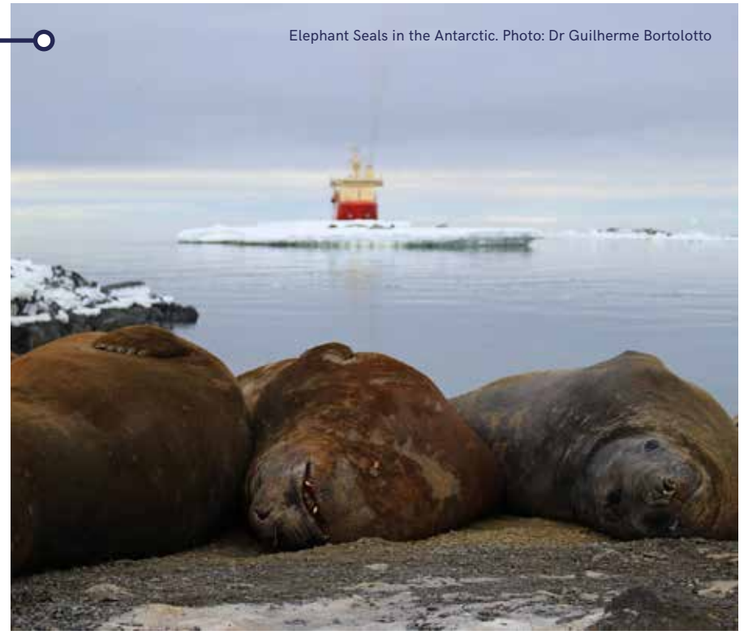
Photo: Dr Bibi Linden

Linear Infrastructure Ecology to help protect wildlife

Human infrastructure, such as roads and power lines, has countless adverse effects on global biodiversity and there are still many knowledge gaps regarding the extent of impact and how to mitigate them. Aberystwyth scientists help to fill these gaps by working on species of high conservation concern in South Africa (mainly focusing on primates) and the UK to support species conservation efforts.

Antarctic seals help Aberystwyth scientist monitor ocean warming

How far and how fast the warm current is flowing under Antarctic glaciers, melting them from below, will affect how quickly they collapse. Their disappearance could lead to a catastrophic sea-level rise, leaving major coastal settlements across the world underwater. Even with advanced equipment, measuring the temperature of deepwater in Antarctica can be extremely difficult – especially under the ice. However, Weddell and elephant seals regularly swim through the exact waters that scientists want to monitor. The Aberystwyth researcher will locate and tag seals as part of this international effort to understand the effects of climate change in polar regions. The data from the seals will be received via satellite when the seals surface above the ocean.



Elephant Seals in the Antarctic. Photo: Dr Guilherme Bortolotto

Aberystwyth nest box project looks at climate change impact on bird breeding

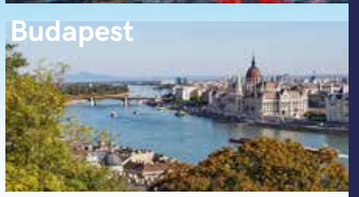
The purpose of the study is to improve our understanding of the effect that climate change has on the relationship between different species, particularly woodland birds. We know that a warmer spring is already leading to birds breeding earlier, and we hope to understand more about how this might affect the competition between different bird species. Students on the Wildlife Conservation degree course are helping with the project.

Global opportunities

Aberystwyth's Global Opportunities team offer an exciting range of options for you to go overseas as part of your degree: from short courses and volunteering opportunities in the summer, to a full semester or year abroad studying at one of our partner universities. Our partners include Norway, Japan, Denmark, Canada, Austria, Spain, and New Mexico.

If you choose to study with an integrated year abroad, the University enables you to study for one or two semesters during your third year, returning to Aberystwyth for your final year and graduation.

Reports have shown that students who study abroad are more attractive to employers and earn more than their peers. Take advantage of the opportunity of a lifetime while improving your critical skills by choosing to study abroad.



The application process

1 Apply through UCAS.com

Check the UCAS deadline on UCAS.com. Aberystwyth University institution code: A40.
TOP TIP: You'll be given a 10-digit UCAS ID number. Keep this to hand as you'll be asked for it many times.

2 The University will consider your application

TOP TIP: Use UCAS Hub to keep an eye on your application. At Aberystwyth we aim to make a decision within seven days.

3 The offer will show on UCAS Hub

The University's decision will show on UCAS Hub - if you've been made an offer, it will tell you what grades you need to achieve to secure your place.

4 Decide where to go

Once you've received all your offers, you'll need to decide which university you want to go to, within a set time. This is when you'll need to note which universities will be your Firm and Insurance choices.

5 Accommodation

Once you've chosen your Firm/Insurance choice you'll be invited to apply for accommodation.

6 Results day

UCAS Hub will tell you whether your place is confirmed at your Firm choice. If you don't get the grades you'd hoped for, you may want to consider entering Clearing.

7 Start packing!

Remember to keep an eye on your emails for information about arrival and welcome activities.

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