School of Biological Sciences
Nature is on our doorstep
With its own zoology museum, botanic gardens and field stations in key locations across Scotland, the School of Biological Sciences offers students a unique learning experience.
Welcome

From the moment you join our vibrant and friendly community we are committed to ensuring that your experience is excellent. We take pride in the diversity and quality of our teaching and research, which are world renowned.

You are part of a team that has access to state of the art facilities to underpin the teaching environment and to develop future techniques and approaches in research.

We offer a suite of undergraduate and postgraduate programmes that reflect your study aspirations and needs, within a framework of flexibility. Our exciting curriculum enables a provision of transferable skills, which explains why University of Aberdeen graduates have some of the highest UK statistics in employability. For those interested in research degrees, you will join a dynamic and productive internal looking Graduate School, committed to delivering the perfect environment for you to excel.

I very much hope you enjoy meeting the key staff in this brochure and learn more about what we have to offer. Please contact us for specific details and we will be delighted to host a visit, to let you see first-hand why you should select to join us in Aberdeen. Meet our students and our graduates and then become part of our team.

Professor Graeme Paton
Head of School
Aberdeen is a great place to study Biological Sciences because we have good access to fantastic natural habitats including coast, moorland, mountains, freshwaters and forests. We also have our own field stations, in the beautiful village of Bettyhill on the north coast of Scotland and at Cromarty on the Moray Firth where our sea mammal researchers are based.

Many of the academic staff in Biological Sciences are involved in field research in Scotland and overseas, from the Tropics to the Arctic, and our experiences influence what we teach on our courses.

Teaching at the School of Biological Sciences is research-led in three main ways:

- Firstly, we have a team of talented and enthusiastic academics who apply educational research to their teaching and learning methods. They lead the way in terms of innovation in teaching delivery and assessment.

- Secondly, our research stars are engaged in teaching, for example, by delivering lectures to first year students and specialist course options to fourth year students. Our curriculum is informed by expert knowledge and insight into the future priorities in the disciplines. Our course materials are continually updated to ensure they reflect current understanding and perspectives.

- Thirdly, our students are actively involved in scientific research. In Senior Honours (year 4), our students conduct independent research within one of our research groups or with one of our collaborating institutions. For many students, this project experience is pivotal because it influences their career choice. In years 1, 2 and 3, students conduct investigations as part of their core courses, thereby developing skills and understanding of the scientific process.

As testimony of the high quality of our student projects, more than 40 projects in the past eight years have resulted in scientific publications.

Also, one of our students Marius Wenzel recently received the Darwin Prize for the best undergraduate project in the UK in his year.
Lectures are very informative and helpful. All lecturers welcome ideas and questions which is helpful for the other students. The slides are uploaded onto My Aberdeen, which is an interactive website for all our courses.

Andrea De Costa | BSc Biology
Combining teaching with research excellence

**Dr Dan Macqueen**
Dan is a molecular biologist and leader of our popular third year course Environmental Physiology. His teaching closely matches his research interests into the role of genome evolution in the physiological adaptation of fish.

**Dr Cécile Gubry-Rangin**
Cécile teaches environmental microbiology in our Diversity of Life and Ocean Biology courses. Her research is directed towards understanding ecological adaptations of microorganism populations.
**Dr Lesley Lancaster**
Lesley coordinates and teaches our Behavioural Biology course. Her research focuses on evolution under climate change; one of her current study systems is Scottish damselflies.

**Dr Yit Arn Teh**
Yit is a terrestrial ecosystem ecologist who investigates biosphere-atmosphere exchange to understand the implications of land use change. He teaches on our first year Ecology and Environmental Science course, as well as a third year course in Ecosystem Processes.
Key teaching staff

Staff in the School are friendly, helpful and available to assist students throughout their studies.

**Dr John Baird**
John coordinates your core level 1 course Frontiers in Biological Sciences and will be one of the first people you will meet when you arrive at the University. John is an entomologist with research interests in disease-causing insects such as mosquitoes and fleas and ecologically important insects such as beetles, ants and mayflies.

**Amie Wisely**
Amie is the Undergraduate School Support Coordinator for the School. You will meet her and her team in our Student Information Centre in the Zoology Building.

**Professor Michelle Pinard**
Michelle is the Director of Teaching in the School and will be someone that you will be seeing throughout your programme. Michelle is a tropical forest ecologist with research interests in conservation science. Michelle takes overall responsibility for leading and coordinating the teaching and learning activities in the School.

Call us on 01224 272090 or email us at study@abdn.ac.uk

Any questions?
Undergraduate degree programmes

In the School we offer eleven undergraduate programmes. If you are still deciding which direction you would like to take in your studies, our programmes are designed to be flexible so that students can easily transfer from one programme to another.

**BSc Biology**

By having courses in animal and plant sciences, terrestrial ecology and marine biology as well as combining lab and field-based activities, our BSc Biology degree provides you with a broad foundation in biology. As your degree develops, you take advantage of our residential field courses and the programme’s broad scope ensures that you benefit from the range of international expertise we have across the School. As you go through the different levels, you then begin to specialise, in particular by carrying out an extended research project - this will be in an area of biology in which you have developed a particular interest.

Our programmes allow students to take courses from other parts of the University, so if you have an interest in medical sciences, geography, a language or something else, you can sample courses from elsewhere in your first two years to help you decide what best suits you.
BSc Conservation Biology

This degree provides training in both applied and theoretical biology, with courses that include animal and plant science, ecology and geography, leading to increasing specialisation in conservation from second year onwards. Practitioners from across the sector contribute to our programme, by providing lectures, hosting field visits and supporting students during their final year projects.

Conservation biology students have residential field courses during each of the first three years, learning identification and field sampling techniques, and exploring current conservation issues in Scotland. Teaching staff are actively involved in a wide range of conservation issues in the UK and beyond.

BSc Ecology

This degree combines the biology and ecology of plants, animals and ecosystems, with the opportunity to include our particular specialisms in marine biology and conservation biology in the curriculum. The degree is taught by a wide range of staff active in field ecological research, from the Tropics to the Arctic, from the deep ocean to mountain summits.

Students can gain specialist knowledge in molecular ecology, ecological modelling and evolutionary ecology. Students attend at least two residential field courses, do a major ecological research project and many choose to undertake an overseas expedition.

BSc Environmental Science

The environmental science programme combines courses in biology, chemistry, ecology and soil science, with contributions from industrial and government agency representatives to provide state of the art training in environmental science. The programme benefits from excellent input from staff with strong research interests in environmental analysis, remediation technology and biogeochemistry. Lab-based and field-based teaching is combined to provide students with a diverse skill set.

BSc Plant & Soil Sciences

The programme provides a unique opportunity for study of plant and soil interactions with excellent input from staff with internationally-renowned research expertise. The programme is enhanced by our location in Aberdeen with great laboratory, glasshouse and field facilities - as well as access to a long-standing herbarium. Students benefit from a field course where plant identification skills are taught, a soils course rich in field-based learning, practical courses that provide lab training in environmental analysis and a final year project that provides an opportunity to specialise in a chosen area.
Biology
Top in the UK for overall student satisfaction
(National Student Survey 2017)
School of Biological Sciences

**BSc Zoology**

Students on this degree study all aspects of animal life from the microscopic single-celled protozoa to the whales, in all habitats from the ultra-deep oceans to the Highlands of Scotland. Students have a great deal of flexibility in choice of courses; for example, courses are available in environmental physiology, population ecology, animal behaviour, animal evolution, parasitology and wildlife management.

Residential field courses are attended in the second and third years.

**BSc Marine Biology**

The programme combines knowledge of the biology of marine organisms with a detailed understanding of how marine ecosystems function. Students benefit from a combination of classroom, practical and field-based learning activities. The degree is taught by staff with expertise in a range of marine environments including the deep sea, open ocean and coastal zone. Students undertake independent research projects on benthic invertebrates, fish, dolphins, whales, seals, seabirds, cephalopods and sharks. Residential field courses are offered for second and third year students in Scotland and overseas.
MSci In Biological Sciences

The MSci is an undergraduate masters programme. Along with their subject-specific, disciplinary training, students gain skills in grant writing, public communication of science and complete two independent research projects rather than one as is typical in our four year degree programmes.

Students can enter this programme from year one or transfer into the programme from any of the other School of Biological Sciences programmes at the end of year 3.

BSc Animal Behaviour

Animal Behaviour is an interdisciplinary degree and field of science that examines the interactions between behaviour and biology. An organism’s evolutionary history and current environmental conditions drive behaviour, and feedback from behavioural decisions in turn drives evolutionary processes. Our Animal Behaviour degree differs from our Zoology degree in that it includes courses from Psychology in the first two years; it differs from Behavioural Biology in that it has a whole organism focus and less neuroscience.

BSc Behavioural Biology

Behavioural Biology is an interdisciplinary degree and field of science that examines the bidirectional interactions between behaviour and biology. An organism’s genetic, physiological and immunological processes drive behaviour, just as an individual’s behaviour will impact its physiological and immunological state. Our Behavioural Biology degree differs from our Animal Behaviour degree as the focus is predominantly on Tinbergen’s questions on the mechanisms and functional significance of behaviour and less on the evolutionary and development principles.

BSc Biological Sciences

This programme allows you to choose courses from the broad range of subjects offered to our undergraduate students, while ensuring that you take advantage of our core knowledge and skills-based courses that all students take. You will develop a broad understanding of the nature of living things, from molecules and cells to organisms and populations, communities and biomes, but crucially, you will become a specialist in the area that is of most interest to you.
Our facilities

Our students benefit from the School’s facilities located on campus and beyond.

Teaching labs
Students in all degree programmes have practical classes in our teaching laboratories. Students work individually and in small groups at pods (as we call them). This arrangement allows students to carry out experiments, swap ideas, get support from teaching staff while using the computers to access the latest scientific developments.

Research labs and infrastructure
Many students conduct their final year projects in one of our research labs, working alongside research scientists. Our state-of-the-art facilities for gene sequencing, analysing plant and soil samples, studying animal energetics and the deep ocean are commonly used in student projects. In Old Aberdeen, the Cruickshank Botanical Garden, the Zoology Museum, the Aberdeen Biodiversity Centre, our greenhouses and our fresh - and salt - water aquaria provide students with a diverse set of resources to draw on for their studies.
Field centres

The School of Biological Sciences uses a range of field centres throughout Scotland and elsewhere in the UK. Aberdeen-based students use the field stations during residential field courses and some will conduct their final year projects at the field stations.

The Bettyhill Field Centre is situated in the far north coast of mainland Scotland and is where students visit for the first year field course entitled, Plants and their Habitats in Northern Scotland. Generations of students have experienced the unforgettable delights of studying at Bettyhill.

The Lighthouse Field Station is situated on Cromarty firth. The research focuses mainly on sea mammals and sea birds and as well as getting involved in research, students on the Biodiversity field course work at the station as part of the course.

Our Lighthouse Field Station celebrated its 25th year in 2015; our research has been reported in over 130 publications and had important impacts on the way we understand and manage our marine ecosystems.

For more info visit: www.abdn.ac.uk/lighthouse
Study abroad

The University of Aberdeen has academic links around the globe and there are many opportunities for current students to spend a semester or a year abroad at some of the most distinguished state universities and private colleges in America, Canada or Hong Kong to name but a few.

Students who choose to go on an exchange programme normally go in their second year of study. The year they spend abroad is an integral part of their Aberdeen degree and not an additional year. Credits gained are recognised by the University of Aberdeen and incorporated into the student’s academic record.

Cindy Babirye Nzyani
“I spent my semester abroad at University College Cork in Ireland. Travelling around Ireland was incredible, since every part I visited seemed more beautiful than the one before, but it was meeting many different people, that made my time in Cork so unforgettable. Through them, I not only got the chance to learn new words in other languages, but was also encouraged to use the opportunity to reinvent myself and try out new things. I joined the choir society and started playing hockey - a sport I thoroughly enjoy and have continued playing in Aberdeen. I came back from my exchange in awe of what Ireland has to offer, with a newfound love for hockey and with the desire to visit many more places.”

Michael Gallagher
“I went on exchange to Queen’s University, Ontario during my second year as an undergraduate. Without a doubt this was the best overall year of my life. Experiencing a new university was fun but the new people and places definitely made this year what it was. During the nine academic months, I visited six different countries across North America and met countless people from all over the world.”
One of the great advantages of having a Biological Sciences degree from the University of Aberdeen is that it provides you with a very broad range of skills to offer employers. Not only do we train students in scientific methodology in the laboratory and in the field, we incorporate what we call ‘graduate attributes’ into the whole curriculum. Employers now expect an impressive list of skills, knowledge and experience in their graduate recruits and we aim to help you acquire these. 93% of our graduates go on to employment or further study within 6 months of graduating.
Professional links

We have strong local, national and international links to industry, government bodies, charities and other research institutions.

Our research and professional networks are integral to our work and benefit our students in several ways.

- First, they benefit from exposure to policy-makers, practitioners, regulatory professionals and experts in our taught classes and field trips.
- Secondly, our curriculum is informed by an employer advisory board that provides the School with insight into changing requirements of employers.
- Thirdly, many students take advantage of our collaborators’ facilities and expertise for their research projects or placement.
Professor Xavier Lambin who teaches the third year Animal Population Ecology course and a fourth year option in Wildlife Conservation and Management, carries out an annual project surveying and trapping water voles with his research group. Xavier’s research often is conducted with stakeholders and end users, for example, Forest Enterprise Scotland and Crayfish Nairn River Trust.

Dr Tara Marshall teaches a fourth year course titled Sustainable Management of Marine Resources which this year featured guest lectures from Marine Scotland, the Scottish White Fish Producers Association, and the Scottish Fishermen’s Federation. Assessments are designed to give students experiences that are relevant to working with any of these organisations. Her research includes projects that develop practical tools that can be used by the Scottish fishing industry.

Dr Alan Bowman is the coordinator of our Zoology programme. His pioneering research on varroa mites that kill off honey bee colonies resulted in Alan being named one of the world’s most influential men by Esquire magazine. Alan works closely with the Scottish Beekeepers Association and the Scottish Government’s Animal Health Division and several national and international animal health companies.
Where your Biological Sciences degree can take you

Abby Gerrard
BSc Zoology, Honours project - China

“I think the opportunity to carry out an honours project is a wonderful experience for students. I greatly enjoyed being able to work in lab settings outside of the University of Aberdeen as it improved my knowledge of how they operate and all the different people you interact with. I have gained better research skills and most importantly it has opened my mind to a more research-based career, which is not something I was particularly interested in beforehand. I have come away from the experience with improved skills and some great friends who I regularly keep in contact with, giving me a good reason to visit China again in the future.”
Craig Johnson  
BSc Zoology / MSc Ecology  
Craig is currently the Ecologist for the ‘Oman Earthwatch Program’. Most recently he has been involved in leading teams to build the capacity for monitoring processes focusing on both flora and fauna throughout the Hajar Mountains, Oman.

Kristin Skarsfjord Edgar  
BSc Zoology  
Kristin works as a Scientific Officer at the Department of Pest Control, Norwegian Institute of Public Health, Oslo where she is involved in tick and bed-bug research and monitoring.

Andy Scobie  
BSc Ecology  
Andy is Rare Plants Officer for the Cairngorms National Park, having previously done a PhD on orchids and other rare plants and worked as a plant ecologist at a research institute.

Rachel Plunkett  
BSc Marine Biology  
Rachel works as a Marine Mammal Expert for an Environmental Consultancy.

Feruzah Attah  
BSc Environmental Science  
Having completed her BSc in Environmental Science Feruzah is now studying for an MSc Environmental Technology at Imperial College London.
10 reasons to choose Aberdeen

01 The academic strength you would expect from a 500 year old university - yet right at the forefront for careers in the 21st century
A thriving, cosmopolitan community with students from 120 countries set within a beautiful, historic campus that has seen five Nobel Prizes.

02 Degrees which are recognised and respected worldwide
Unique programme options with professional accreditation, industrial placements, plus the opportunity to study abroad.

03 The very best learning resources
We pride ourselves on providing state-of-the-art learning resources for our students. Computing and library facilities are geared towards your needs and we are especially proud of our exceptional museums and special collections.

04 Choice and flexibility
It's your degree and we believe it should be planned around you, with the freedom to plan your own programme of study from a wide range of options.

05 Opportunities to develop yourself and your interests
Not only academic qualifications to rival the best, but also personal, communication and teamwork skills to make you an all-round achiever in whatever you choose to do. We boast over 150 clubs and societies for students to join and offer excellent on-campus sports facilities.

06 A proven track record for employment and the best headstart your career can get
Our experience and connections can help secure that all-important first step on the ladder to a successful career. 93% of University of Aberdeen students enter directly into good jobs, research posts or further study within six months of graduating.

07 A supportive community
A self-contained friendly campus in a friendly city; we will do everything we can to help you quickly feel at home. Our support services rank with the best in the UK and we aim to make sure, right from the start, that you have access to any guidance you might need - academic, personal, medical or financial.
Computing and library facilities are geared towards your needs and we are especially proud of our exceptional museums and special collections.

08 First class accommodation
All new students are guaranteed a place in student accommodation, either on the campus or close by - so no need to set the alarm too early!

09 A buzzing, friendly city that has it all
Aberdeen is everything a student city should be and more! Historic, international, fashionable and friendly, Aberdeen is the perfect place to live and study. Aberdeen has also been voted the best place to be a student in the UK by a leading accommodation website.

10 We’re on the map!
Aberdeen is probably closer than you think. Affordable and regular air, rail and bus connections will get you around Scotland, the UK and further afield in no time.