UNIVERSITY OF LIVERPOOL

Marine Biology with Oceanography

BSc (Hons)

COURSE DETAILS

- A level requirements: ABB
- UCAS code: C1F7
- Study mode: Full-time
- Length: 3 years

KEY DATES

- Apply by: 29 January 2025
- Starts: 22 September 2025

Course overview

From microscopic algae to giant whales, most of our planet's life is found in the oceans. As a marine biologist, you will learn about the behaviour, physiology, and ecology of marine organisms.

INTRODUCTION

Life first emerged in the ocean and has spread throughout this dynamic environment. The distribution, growth and success of marine organisms is affected by the interaction of biological, chemical and physical processes operating in the ocean.

You will discover how individuals, populations and communities respond to environmental drivers such as temperature and food availability, as well as to the challenges presented by a changing climate and human interaction. You will also gain the varied skills necessary to examine the marine environment and relay your findings to audiences from the general public through to government bodies.

You will study the interaction between the biology of marine organisms, the composition and properties of seawater and the physical processes operating in the oceans.

There is a strong emphasis on marine sustainability and ecosystem management, marine biogeochemistry, the climate system and numerical skills. Training at sea, in the field, and in the laboratory in years one, two and three will provide you with the essential skills required to be a successful marine scientist including practical experience of data collection and processing, analysis and interpretation.

A number of the School's degree programmes involve laboratory and field work. Fieldwork is carried out in various locations, ranging from inner city to coastal and mountainous

environments. We consider applications from prospective disabled students on the same basis as all other students, and reasonable adjustments will be considered to address barriers to access.

WHAT YOU'LL LEARN

- Evolutionary processes
- Laboratory and field techniques
- Diversity of live in the marine environment
- Human threats to ecosystems
- Quantitative skills
- Coastal biodiversity
- Analysis of environmental data
- Conducting independent research

ACCREDITATION

Our degree is one of only a handful in the UK to be accredited by the Institute of Marine Engineering, Science and Technology (IMAREST), opening up opportunities for students and graduates of our programmes.

Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

YEAR ONE

The required modules in year one provide grounding in ocean sciences and marine biology, as well as developing essential and transferrable skills. Optional modules are available in biology and ecology. There are fieldwork opportunities in ocean sciences and marine biology in year one.

ENVS117 is a compulsory module for those without A level Maths or similar. Students with A level Maths must choose either ENVS117 or PHYS107.

COMPULSORY MODULES

CLIMATE, ATMOSPHERE AND OCEANS (ENVS111)

Credits: 15 / Semester: semester 1

Climate, Atmosphere and Oceans provides an understanding of how the climate system operates. The module draws on basic scientific principles to understand how climate has evolved over the history of the planet and how the climate system is operating now. Attention is particularly paid to the structure and circulation of the atmosphere and ocean, and how they both interact. The course emphasises acquiring mechanistic insight and drawing upon order of magnitude calculations. By the end of the module students will understand how the oceans and atmosphere combine to shape Earth's climate. Students gain quantitative skills by completing a series of coursework exercises and a final exam. Students address the Net Zero carbon goal via group work involving digital storytelling.

LABORATORY AND FIELD TECHNIQUES FOR ECOLOGISTS (ENVS171)

Credits: 15 / Semester: semester 2

This varied practical module will provide training in a range of ecological skills through a series of field and lab exercises, either in person, or through online equivalent exercises, as necessary. Fieldwork will expose you to diverse and beautiful natural environments where you will learn to develop identification and sampling skills for both terrestrial and marine animals and plants. The skills used will have a wide application to many fields of environmental science including biology, ecology, and physical geography. You will learn quantitative skills in field ecology and use these to solve fundamental and applied problems. Assessments include a mix of MCQ tests and practical portfolios.

LIFE IN THE SEAS AND OCEANS (ENVS121)

Credits: 15 / Semester: semester 1

This module is designed to deliver an introduction to the diversity of life in the marine environment. You will be introduced to the range of living organisms in the oceans from microscopic plants and bacteria to whales through a blended learning approach that combines e-lectures with a series of interactive workshops, practical activities and field visits. You will have the opportunity to examine marine organisms in our award-winning teaching facilities and during field visits, which will allow you to explore some of the diverse adaptations marine organisms have adopted to meet the challenge of survival in the marine environment. Your knowledge and understanding will be assessed via online tests, a group project in which you will create a guide to a specific group of marine organisms, and a practical workbook.

MARINE ECOSYSTEMS: DIVERSITY, PROCESSES AND THREATS (ENVS122)

Credits: 15 / Semester: semester 2

This module is designed to deliver an introduction to the diversity of marine ecosystems across the globe. Each week during in person lectures you will be introduced to a new ecosystem and will learn about this habitat, specifically the main organisms, key processes, and human threats to each ecosystem described and explored. Central to this module are interactive discussion sessions (workshops) that will build an understanding of how marine ecosystems are expected to respond to the human-induced changes of the anthropocene. During these workshops you will learn to critique a piece of scientific research in small group discussions guided by academics. Your knowledge and understanding will be assessed via open-book online tests, and a group project in which you will create an infographic outlining the threats a particular ecosystem faces.

STUDY SKILLS (OCEAN SCIENCES) (ENVS103)

Credits: 15 / Semester: whole session

This module is designed to introduce students to key concepts and skills in ocean and climate sciences, for instance key software tools for data analysis and illustration, laboratory skills, and fieldwork experience. Students will also develop more generic skills, particularly in communication through essay writing, technical reports, and oral and poster presentations. This will involve both individual and teamwork and will help students develop time management skills. The module also introduces students to academic integrity and shows students how to access scientific literature and how to use bibliographic software. All students are assigned to a tutorial group with one of the academic staff as their tutor. Teaching is carried out both to the whole year group and also during tutorial group meetings. The module is assessed via a series of coursework assignments.

OPTIONAL MODULES

ECOLOGY AND CONSERVATION (ENVS157)

Credits: 15 / Semester: semester 2

The zone of life on earth, or the 'biosphere', is a highly dynamic system responding to external pressures including changing human activities. The biosphere obeys a numbers of simple natural principles, but these often interact to create complex and sometimes unexpected responses. Using a wide range of examples we will explore these interactions between organisms and the environment. We will examine how species organise into communities, and how energy and other resources flow through ecosystems. We will explore how ecosystems respond to change, including gradual environmental shifts, sudden disturbance events and the effects of human activities. We will also learn how the key principles of ecology can be applied to conservation. We will assess the current state of the biosphere, and evaluate the major current threats. We will also look towards the future of ecosystems, including whether we can restore degraded habitats, and recreate "natural" landscapes.

ENVIRONMENTAL CHEMISTRY (ENVS153)

Credits: 15 / Semester: semester 2

This module will give students an understanding of the fundamental properties of elements and matter, either solid, liquid or gas, in the context of the environmental sciences. It will introduce the fundamentals of atomic structure, elements and molecules from simple inorganic to large organic ones and the bonding forces that hold them together. It will look at the basics of chemical reactions such as the processes of oxidation and reduction, the solubility of solids and gases in water and acid-base properties. Students will learn how to make quantitative predictions, for instance on the amount of products that will be produced based on balanced chemical reactions, and will see how basic chemistry can be used to explain many environmental properties. The module is taught through lectures, tutorial sessions and online formative quizzes with automated feedback. Assessment is through online tests and an open book final exam. This module is largely an introduction to chemistry and might therefore not be well suited for students who did A-level chemistry or equivalent.

EVOLUTION (LIFE103)

Credits: 15 / Semester: semester 1

This module describes the evolutionary processes that have resulted in the generation of the diverse life forms that populate the planet.

This includes the theory of evolution by natural selection, and the genetic processes that result in gene evolution and diversity.

Selected scenarios and case studies will apply evolutionary concepts, showing the fundamental importance of evolution to a broad range of the life sciences.

The module is split into two parts: the first part (A) is the same for all students, the second part (B) contains a number of parallel strands tailored to students interest.

Students will be advised by their programme director which strand to follow.

The lectures will be supplemented with a variety of on-line resources.

Students will be given guided reading, and regular formative assessment exercises will enable students to evaluate their understanding of the module.

The module will be assessed by coursework and final examination.

ESSENTIAL MATHEMATICAL SKILLS (ENVS117)

Credits: 15 / Semester: semester 1

This module is designed to provide students without a A-Level GCE level (or equivalent) background in mathematics a foundation to their degree programme. The module covers pure maths, maths mechanics and statistics developing the required knowledge and skills to be able complete degree programmes in Ocean Sciences, Earth Sciences, Geography, Environmental Science and Marine Biology. The module is taught as weekly lectures following a ten-chapter book developed for the module by world leading experts in the fields. Lectures are supplemented with workshops where concepts can be discussed and skills improved. The module is assessed though online pop-quizzes and a formal written exam.

QUANTITATIVE SKILLS FOR ECOLOGY AND MARINE BIOLOGY (ENVS128)

Credits: 15 / Semester: semester 1

This module will help students to develop the quantitative skills needed for ecology, marine biology and related subjects, including basic mathematics, statistics and computing. It will be delivered via a series of lectures, practical classes and problem-solving sessions. No mathematical knowledge above GCSE level will be assumed.

MOLECULES AND CELLS (LIFE101)

Credits: 15 / Semester: semester 1

This module describes the detailed composition of cells and the processes by which they obtain and generate energy, grow, replicate and eventually die.
The lectures will be supplemented with on-line resources and illustrated with some of the latest research methods that are used to study cell structure and function.
Students will be given guided reading, and regular formative assessment exercises will enable students to evaluate their understanding of the module.
The module will be assessed by coursework and final examination.

Programme details and modules listed are illustrative only and subject to change.

YEAR TWO

In year two, there is an emphasis on the development of practical, analytical and numerical skills through training in fieldwork, laboratory skills and practical oceanography. There is an opportunity for students to be trained in the industry standard software used in ocean sciences, Matlab, or R software used in much of the biological sciences.

There are fieldwork opportunities in ocean sciences and marine biology in year two.

COMPULSORY MODULES

STUDYING UK COASTAL MARINE BIODIVERSITY (ENVS241)

Credits: 15 / Semester: semester 1

This module is a fieldwork-based module which will be co-taught with the Marine Biological Association (the UK's learned society for Marine Biologists) in Devon prior to the start of semester one. You will learn about the diversity of coastal marine taxa and techniques used for sampling marine taxa, both at sea on a research vessel and in the field on the rocky shore. In the lab you will learn how to identify marine species, and you will conduct your own research to enhance your knowledge on the coastal marine taxa sampled. This will include information on their distribution, taxonomy, habitats, and key features. Your knowledge and understanding will be assessed via an online exam covering the materials taught on the field course and via a group project in which students will research a particular group of common UK marine taxa and produce an accessible guide that can be used by the public.

MARINE ECOPHYSIOLOGY, ECOLOGY AND EXPLOITATION (ENVS251)

Credits: 15 / Semester: semester 2

The marine environment presents a particular set of challenges for the organisms which inhabit it and these conditions are constantly changing as a result of human interventions. This module will provide a solid grounding in a number of topics, concepts and issues in the marine environment relating to the physiology and ecology of marine organisms and how they are affected by the activities of humans. Module content will be delivered primarily through interactive lectures supported by computer-based practical exercises and assessed by examination and coursework. Students will be guided to specific sections of textbooks, online resources and scientific papers to shape their learning.

MARINE POLLUTION (ENVS232)

Credits: 15 / Semester: semester 2

Students are taught how marine systems are changing due to globally increasing water temperatures and increasing carbon dioxide concentrations in the atmosphere, which are affecting the chemistry, physics and ultimately biology of the marine systems at unprecedented rates. These changes are expected to accelerate in the coming decades. Localised anthropogenic stressors such as excess nutrients, plastic debris, trace metals (e.g. mercury, copper), marine heatwaves and/or other emerging contaminants affecting coastal and open ocean waters are covered. Students will gain an understanding of the causes and processes that drive marine pollution issues as well as techniques used to monitor, remediate and/or regulate those issues. Assessment is done through group work, coursework and a final in-person exam.

SAMPLING THE OCEAN (ENVS220)

Credits: 15 / Semester: semester 2

This module provides some of the fundamental skills required for surveying and sampling the ocean, either for research or for commercial environmental surveying work. The module covers the methods and skills used in oceanography for navigation and survey design, the measurement of physical parameters such as temperature, salinity and currents, and the measurement of biogeochemical parameters such as nutrients, phytoplankton and dissolved oxygen. Students are taught the importance of assessing data quality and instrument calibration, metadata and data banking. Laboratory work develops skills in the analyses for key oceanographic parameters (e.g. salinity, chlorophyll, dissolved oxygen and nutrients), and computer laboratories develop skills in sensor calibration, data quality control and data analysis. The module components are all relevant to the subsequent planning and sampling as part of the ENVS349 Sea Practical. Assessment is by two pieces of coursework.

RESEARCH AND CAREER SKILLS (ENVS204)

Credits: 15 / Semester: whole session

This module aims to develop research and careers skills required by marine biologists, ocean scientists and environmental scientists as they prepare for their final year of study. These aims are achieved through blended learning approach including: interactive tutorials, workshops, and the School of Environmental Sciences careers week. Students will focus on developing skills in critiquing and reading the scientific literature, assessed through a literature review essay. Students will also be introduced to the process of scientific research, learning how to analyse and synthesise real scientific data, create professional display items and write a research report, which is assessed, in standard scientific format. Students will develop knowledge of careers in their field and enhance their employability taking part in an assessment centre exercise and job video interview, which is assessed.

UNDERSTANDING MARINE AND TERRESTRIAL SPATIAL ECOLOGY USING GIS (ENVS255)

Credits: 15 / Semester: semester 2

This module explores the concepts and applications of Geographical Information Systems (GIS) to solve contemporary questions in spatial ecology. The module involves applied case studies and practical work designed to develop both an understanding of GIS principles and concepts, such as data acquisition, integration and spatial analyses. The hands-on workshops allow students to learn the basic skills before applying them to a real world authentic assessment.

OCEANOGRAPHY, PLANKTON AND CLIMATE (ENVS245)

Credits: 15 / Semester: semester 1

The tiny plankton are the base of marine food chains and also affect the Earth's climate. If you want to understand how and where these organisms live in the ocean, you need to step out of your own experience as a terrestrial animal and learn how the physics, biology and chemistry of the ocean come together to control the lives of plankton. In this module we will get you to think about how turbulence and stratification in the ocean control the growth of different sizes of plants and animals by determining how they can acquire light, nutrients and food. You will learn how plankton play a key role in shaping Earth's climate, but that this depends on the plankton species and plankton size. We will also consider how plankton respond to changes in Earth's climate, with important shifts in species distributions currently being caused by our warming climate. In this module we take you from the micron scales of the tiniest plankton up to the scale of the global ocean to illustrate the fundamental links between the ocean's physical and biogeochemical processes, plankton communities and Earth's climate. Teaching is structured around a series of short videos on key topics and concepts, with class work then looking at relevant case studies, discussing some of the important implications of our changing climate on plankton, and gaining practice in quantifying plankton responses to changes in their ocean environment. Assessment is by one coursework assignment halfway through the semester, and an online open-book exam.

STATISTICS FOR ENVIRONMENTAL SCIENTISTS (ENVS222)

Credits: 15 / Semester: semester 1

This module provides training in statistics for environmental scientists. We provide training in industry-standard software – R and RStudio – to allow students to explore, present, and analyse data, and we ensure that the practical training is fully supported by explanations of the underlying theory. The practical work is focused on real environmental data, often generated by the students themselves so that they understand where the data have come from and have access to the full context as they learn how to describe and explain the findings of their analyses. Students will leave with the tools to collect, work with, and present data necessary for scientific writing.

Programme details and modules listed are illustrative only and subject to change.

YEAR THREE

In year three, there is an emphasis on the development of skills in research and critical analysis through the independent research project and tutorials covering current hot topics in ocean and climate sciences. Students are introduced to the fundamentals of the global carbon cycle and select options to suite their interests in either marine biology or ocean sciences.

There are fieldwork opportunities in ocean sciences and marine biology in year three.

COMPULSORY MODULES

GLOBAL CARBON CYCLE (ENVS335)

Credits: 15 / Semester: semester 2

Increasing amounts of carbon dioxide in the atmosphere are having a profound impact on our Earth system. This module will introduce students to the fundamental theory behind the global carbon cycle. Students will see how carbon is partitioned between the atmosphere, land and ocean in the contemporary and past Earth system, understand how the ocean stores 50 times more carbon than the atmosphere, and consider the impact of increasing carbon dioxide on the organisms living on land and in the ocean. Teaching is through lectures, workshops focusing on key components of the carbon cycle, and guided reading. Assessment is by two pieces of coursework.

SEA PRACTICAL (ENVS349)

Credits: 30 / Semester: semester 1

Measurements made at sea are a key activity in oceanographic research. This module introduces the collection of data and samples including navigation, meteorological parameters, temperature and salinity, currents, dissolved oxygen, nutrients, chlorophyll and plankton. We will use the Field Studies Council Site at Millport in Scotland, where students will gain experience of sampling at sea and use skills developed in the second year to calibrate and analyse their data. Laboratory work, analysing water samples for nutrients and plankton, will take place in Millport and in the Central Teaching Laboratories in Liverpool. The Sea Practical introduces students to the way in which professional ocean scientists work in both research and commercial surveying. It involves collecting data and samples at sea, analysing samples in the laboratory, processing and analysing data using computer software, assessing, and reporting on the data and its quality, and finally presenting the methods, results and interpretation in an accurate and comprehensive report. By following professional ways of working, it provides students with both subject-specific and generic employability skills. Research integrity is an integral component of this module. The module is assessed by a group presentation on components of the data analysis and quality, a record and laboratory book, and a scientific report/paper addressing a key question arising from the data collected off Millport.

INDEPENDENT RESEARCH PROJECT (ENVS306)

Credits: 30 / Semester: whole session

This module consists of a two-semester dissertation research project, carried out individually by a student with supervision by a member of academic staff. Projects can be field-, laboratory- or desk-based studies on a predefined project and the student will learn about project design, data collection, analysis and interpretation of results.

OPTIONAL MODULES

MARINE ECOLOGY: THEORY AND APPLICATIONS (ENVS383)

Credits: 15 / Semester: semester 2

This module develops the connections between ecological theory and management of marine communities and ecosystems. The theory will mainly focus on mathematical models of the dynamics of populations and communities, and will include practical work with software. The second half of the module aims to give a rounded overview of the current understanding of vulnerability of marine taxa to human activities and climate change, and enable students to evaluate consequences of loss of species on ecosystem structure and functioning, as well as on human wellbeing.

OCEAN DYNAMICS (ENVS332)

Credits: 15 / Semester: semester 1

Ocean dynamics addresses how the ocean and atmosphere circulate. Fundamental questions are addressed, such as how heat, salt, and dissolved substances are transported, how jets and weather systems emerge on our planet, why there are western boundary currents in the ocean, and how seafloor topography shapes the ocean circulation. Students will improve their understanding of how the ocean and atmosphere behave, including comparing the importance of different physical processes in the climate system. The module is delivered via lectures and formative workshops to gain skills at problem solving. There is significant mathematical content, requiring familiarity with calculus and algebra. The module is assessed through two online tests and an essay.

SURVIVING THE MARINE ENVIRONMENT: ADAPTATION, BEHAVIOUR AND CONSERVATION (ENVS310)

Credits: 15 / Semester: semester 1

This module aims to foster a broad understanding of contemporary theory in behavioural ecology, evolutionary biology and ecophysiology, with special reference to the marine environment. We will consider processes that operate at scales from individuals to populations and consider implications of these processes for the conservation of marine species and ecosystems. This 15 credit module builds on knowledge acquired about techniques, theory and processes acquired in Year 1 (e.g. Marine Biology: Life in the Seas and Oceans & Marine Ecosystems: Diversity Processes & Threats) and Year 2 (e.g. Marine Ecophysiology, Ecology & Exploitation) and provides the opportunity to experience the integration of current research themes in marine biology.

CONTEMPORARY ISSUES IN ECOLOGY AND MARINE BIOLOGY (ENVS301)

Credits: 15 / Semester: whole session

This module aims to develop a number of skills, attributes and experiences required by graduates in ecology and marine biology with a focus on careers, an appreciation of the current state of their field and an international perspective. This is achieved through a programme of interactive tutorials and associated activities, directed via the virtual learning environment. In doing so, students will engage with up to date reasearch and scientific communication in the fields of ecology, conservation, biodiversity and marine biology. To complement this, students will undertake a series of activities to boost their employability, tailored to their specific needs, to prepare students for life after graduation.

CONTEMPORARY ISSUES IN OCEAN AND CLIMATE SCIENCES (ENVS366)

Credits: 15 / Semester: semester 2

This research-led module aims to promote interest, awareness and understanding of current important research topics within Ocean and Climate Sciences. It also aims to develop generic skills such as team working and communication skills. The module considers recent reports such as the IPCC (Intergovernmental Panel on Climate Change) and the associated 2019 SROCC (Special Report on Oceans and Cryosphere in a Changing Climate), with students working with one of the lead IPCC authors based in Liverpool. Students will also attend the bi-weekly Ocean and Climate Sciences research seminars that are given by invited national and international experts on a range of subjects related to the marine and climate system. Assessment is by individual oral presentations by students presenting what they have learnt from recent research papers of particular interest to them, and a group presentation on a research topic of current importance (e.g. as highlighted in the latest SROCC report). A final in-person exam is focused around a recent high-impact scientific paper provided to the students.

INTRODUCTION TO QUATERNARY MICROPALAEONTOLOGY (ENVS342)

Credits: 15 / Semester: semester 2

This module intends to give a holistic insight of a number of marine and terrestrial microfossils that are conventionally used for reconstructing past environmental conditions for the Quaternary period, including recent past. Microfossils are biological indicators that can help to either qualitatively and/or quantitatively estimate environmental conditions such as atmospheric temperature and precipitation (pollen), sea-surface conditions (foraminifera, diatoms, radiolarians, dinoflagellate cysts), salinity (ostracods, diatom), pH (diatoms), sea-ice cover (diatoms, dinoflagellate cysts), etc. These conditions are of paramount importance for modelling past climate conditions and the data derived from microfossil assemblages enable to better calibrate models, which in turn, are essential to forecast future climate. In addition, microfossil assemblages help to understand the natural evolution of our environment as well as measuring the amplitude of human activities over time.

KEY SKILLS FOR ENVIRONMENTAL DATA ANALYSIS (ENVS202)

Credits: 15 / Semester: semester 1

The module provides a generic training in manipulating environmental data sets using the industry-standard Matlab software. Skills are provided in reading in data, manipulating and plotting the data, and interpreting the data signals. The assumption is that students have little or no experience in programming. The module begins with an introduction to Matlab – what it is, what it can do, how to operate it – and then develops a series of programming skills, each week using data collected in the staffs' own research to provide real-world examples of the use of Matlab. The aim is to provide students with sufficient grasp of programming in Matlab to enable its use in subsequent project work, as well as providing the foundations in one of the key tools used in science and industry.

Programme details and modules listed are illustrative only and subject to change.

HOW YOU'LL LEARN

Teaching strategies include a mix of lectures, tutorials, workshops, field classes, research vessel cruises, laboratory work, computer sessions, group projects and individual work under supervision. You will typically receive around 15 hours of formal teaching each week, as well as about 60 hours on residential field courses each year. You will study four modules per semester. A module might involve two one-hour lectures each week, and a laboratory or computer-based practical as well. Tutorials are an integral part of our approach, involving groups of 5-7 students meeting regularly with a member of academic staff to discuss study skills, careers, current research and topical issues.

As you progress through your degree, you are increasingly challenged to engage with current debates, to think critically and to study independently. You will do an 'Honours Project' throughout year three, which is a piece of independent research (field, lab or data analysis) on a topic of your choice, supervised by a member of academic staff. If you opt for the four-year integrated master's programmes, you will spend 50% of your final year on a master's project working closely within a research group on an area which may well generate publishable results.

A number of the School's degree programmes involve laboratory and field work. The field work is carried out in various locations, ranging from inner city to coastal and mountainous environments. We consider applications from prospective students with disabilities on the same basis as all other students, and reasonable adjustments will be considered to address barriers to access.

HOW YOU'RE ASSESSED

Assessment matches the learning objectives for each module and may take the form of written exams, coursework submissions in the form of essays, scientific papers, briefing notes or lab notebooks, oral and poster presentations and contributions to group projects. Coursework is designed around the types of problems encountered, and the skills needed, in commercial, research and public sector jobs. Emphasis is placed on good laboratory practice and maintaining useful lab notebooks in the context of scientific integrity and scientific data management.

LIVERPOOL HALLMARKS

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

Careers and employability

We produce highly employable marine biologists, trained in industry-relevant skills and modern equipment and software, and who can apply their knowledge to a wide range of fields including conservation, aquaculture, pollution and environmental monitoring.

Our graduates have a diverse range of careers in the following areas which include: the media, environmental consultancy, administration, academia, teaching, local and national government and international banking. Examples of recent graduate careers in the sector include: fisheries observers, surveyor, seabird research assistant, turtle conservation field leader, field assistant on mammal surveys, rangers and conducting environmental surveys for construction work. Many choose to continue their studies at master's or PhD level on topics such as fish assemblages in mangroves, marine ecosystem responses to climate change and carbon sequestration in soils.

RECENT EMPLOYERS

- Joint Nature Conservation Committee (JNCC)
- United Utilities
- Fairbanks Environmental
- Wildlife Sense
- Earth and Marine Environmental Consultants
- International Pole and Line Foundation

89.5% **OF ENVIRONMENTAL SCIENCES STUDENTS ARE IN WORK AND/OR FURTHER STUDY 15 MONTHS AFTER GRADUATION.**

Discover Uni, 2018-19.

Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

TUITION FEES

UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)	
Full-time place, per year	£9,250
Year in industry fee	£1,850
Year abroad fee	£1,385

International fees	
Full-time place, per year	£27,200
Year abroad fee	£13,600

Fees shown are for the academic year 2024/25. Please note that the Year Abroad fee also applies to the Year in China.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support. Learn more about paying for your studies..

ADDITIONAL COSTS

We understand that budgeting for your time at university is important, and we want to make sure you understand any course-related costs that are not covered by your tuition fee. This includes the cost of a lab coat, food and drink during compulsory field courses, and dissertation expenses.

Find out more about the additional study costs that may apply to this course.

SCHOLARSHIPS AND BURSARIES

We offer a range of scholarships and bursaries to provide tuition fee discounts and help with living expenses while at university.

Check out our Liverpool Bursary, worth up to £2,000 per year for eligible UK students. Or for international students, our Undergraduate Global Advancement Scholarship offers a tuition fee discount of up to £5,000 for eligible international students starting an undergraduate degree from September 2024.

Discover our full range of undergraduate scholarships and bursaries

Entry requirements

The qualifications and exam results you'll need to apply for this course.

Your qualification	**Requirements** About our typical entry requirements
A levels	ABB Applicants with the Extended Project Qualification (EPQ) are eligible for a reduction in grade requirements. For this course, the offer is **BBB** with **A** in the EPQ. You may automatically qualify for reduced entry requirements through our contextual offers scheme. If you don't meet the entry requirements, you may be able to complete a foundation year which would allow you to progress to this course. Available foundation years: • Earth Sciences (4 year route including a Foundation Year at Carmel College) BSc (Hons) • Biological Sciences (with a Foundation Year) leading to BSc (Hons)
GCSE	4/C in English and 4/C in Mathematics
Subject requirements	Acceptable sciences for A level: Mathematics, Further Mathematics, Physics, Chemistry, Geology, Geography, Applied Science (Double Award), Environmental Science/Studies*, Economics, Computer Science. *Not in combination with each other For applicants from England: For science A levels that include the separately graded practical endorsement, a "Pass" is required.
BTEC Level 3 National Extended Diploma	D*DD in relevant diploma

Your qualification	Requirements About our typical entry requirements
International Baccalaureate	33 points including 5 at Higher Level in Biology and one other science, no score below 4.
Irish Leaving Certificate	H1, H2, H2, H2, H3, H3 including H2 or above in Biology and a second science
Scottish Higher/Advanced Higher	Not accepted without Advanced Highers at ABB including Biology and 1 other science
Welsh Baccalaureate Advanced	Accepted at Grade B with AB at A levels including Biology and 1 other science
Access	45 Level 3 credits in graded units in a relevant Diploma, including 30 at Distinction and a further 15 with at least Merit. 15 Distinctions are required in each of Biology and a second science. GCSE Mathematics and English at grade C/4 also required.
International qualifications	Many countries have a different education system to that of the UK, meaning your qualifications may not meet our entry requirements. Completing your Foundation Certificate, such as that offered by the University of Liverpool International College, means you're guaranteed a place on your chosen course.

ALTERNATIVE ENTRY REQUIREMENTS

- If your qualification isn't listed here, or you're taking a combination of qualifications, contact us for advice
- Applications from mature students are welcome.

THE ORIGINAL REDBRICK

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