THE SCHOOL OF OCEAN SCIENCES
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The School of Ocean Sciences is one of the oldest University marine science Schools in the UK and has produced thousands of alumni who are now leaders in academia, industry and the civil service.

Studying at Ocean Sciences will teach you key skills that will be useful for a career in the marine science sector, as well as more general skills that can be transferred to other graduate positions.

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Welcome to the School of Ocean Sciences, one of the largest university Marine Science departments in Europe.

We are a multidisciplinary marine science department located on the shores of the Menai Strait, North Wales, UK. Since the 1950s we have been based in Menai Bridge on the Isle of Anglesey.

Humans rely on the marine environment, we use it to obtain food, for leisure, as a repository for our waste and as a transportation medium. The oceans and the organisms within them touch each of us every single day. They regulate global climate by transferring heat throughout the world. Marine algae and plants absorb carbon dioxide and contribute to oxygen production.

Understanding the oceans is a major challenge for modern science. Even after a hundred years of intense study, much of the oceans remain underexplored, and our knowledge of many of the key processes occurring within the oceans are still fragmentary.

At Bangor we are justly proud of our long-established tradition of excellence in research and teaching in marine science. The School of Ocean Sciences is a leading international research institution, and one of the largest teaching departments in Europe.

We have well-resourced groups in the principal disciplines of biology, chemistry, geology and physics. Our emphasis on multidisciplinary research effectively ensures ready access to expertise in all aspects of marine science.

Over many decades we have produced successful and highly employable graduates within all of our disciplines. We remain in contact with over 3,000 through our vibrant alumni society and they continue to support the School by revisiting regularly to inspire our current students.

We recognise how the Higher Education sector has changed, and we place great emphasis on our student support and their career development. The unique teaching and research environment of The School of Ocean Sciences offers potential students a rigorous and exciting educational opportunity in the marine sciences.

Professor Chris Richardson
Head of School and Professor of Marine Biology
We have taught marine science in Menai Bridge for over 50 years, our new state-of-the-art building the Marine Centre Wales was completed in 2014.
The School of Ocean Sciences is one of the largest university marine science departments in Europe and a leading international research institution.

The School of Ocean Sciences is based across the bridge from the University in Bangor, North Wales, in the small town of Menai Bridge. Menai Bridge is known as the gateway to the Isle of Anglesey, the largest Island in the Irish Sea.

Anglesey’s beautiful rural coastline has sandy beaches, dramatic cliffs and numerous small bays, and has been designated an Area of Outstanding Natural Beauty. A coastal path that nearly encircles the entire island represents a great challenge for our students to explore and complete!

Not only is Bangor one of the most beautiful university settings in the whole of the UK, it is also an ideal place to study geological processes and terrestrial and aquatic habitats, with easy access to both the mountains and the sea for field trips. The School’s teaching laboratories are a few metres from the shore, enabling students to study coastal and physical processes. Our students can collect marine organisms and study them in the laboratory during the same practical period.

The School has excellent support facilities for both teaching and research. These range from large, modern, well equipped teaching laboratories to state-of-the-art research laboratories.

We have powerful computer workstations that are used in numerical ocean modelling, in-house electrical and mechanical workshops capable of designing and building oceanographic equipment and a filtered seawater supply direct from the Menai Strait to marine aquaria. Our strong seagoing capability is enabled by the RV Prince Madog, a 35 m long research vessel, and an inshore small boat fleet. Whilst we have our own teaching facilities in Menai Bridge, the School also makes use of lecture theatres, computer rooms and libraries on the main University site, allowing students easy access to a range of educational resources.

The School of Ocean Sciences is part of the College of Natural Sciences, together with the School of Biological Sciences and the School of Environment, Natural Resources and Geography. The College is one of the leading centres in the UK for teaching in environmental science, biology, geography and ocean sciences, and students benefit from these links by being able to study a diverse range of subjects.

Stunning beaches, areas of outstanding natural beauty and one of the most picturesque National Parks in the UK makes Bangor one of the most impressive areas to study. We are well connected to the rest of the UK, as the A55 Expressway along the North Wales coast gives fast and easy access to and from the main UK motorway networks. Much of North West England, for example, is little over an hour away.
WHY STUDY AT BANGOR?

1. **One of the best University locations in the UK**
   Surrounded by the Irish Sea, a short drive to Snowdonia and a stone’s throw from the Menai Strait, the School is well situated for marine science. Our teaching uses different areas to teach concepts such as rocky shore zonation, where organisms organise themselves into bands at Cable Bay, or weathering processes of coastal cliffs, beaches and dunes at Newborough Beach. Many of our students take full advantage and enjoy the great outdoors, including walking, climbing, kayaking and diving.

2. **Our degrees teach key skills**
   At Ocean Sciences we place great emphasis on teaching students practical skills as well as literacy and numeracy. Our degrees ensure that you leave with skill sets that are in demand by employers, and that you have the confidence to use these in your career. These can include computational, observational and experimental skills, and depending on degree, may include elements such as taxonomy, conducting experiments and using state-of-the-art oceanographic and geophysical equipment.

3. **Unique learning atmosphere**
   Over many decades, Ocean Sciences has developed into a unique, cohesive and inclusive environment. Our students have excellent links with academics, as well as amongst themselves. The student-led Endeavour Society ensures that like minded students socialise together, and our staff offer summer projects to second year undergraduates, providing real experience of working within a research environment.

4. **Taught by leading researchers**
   At Ocean Sciences you will be taught by leading UK biologists, geologists, physicists and chemists during your entire degree. This means that our staff integrate their cutting edge research and skills into their teaching, providing a stimulating and fresh learning experience. Our staff also offer research opportunities for motivated undergraduates that can run parallel to their studies or occur during the summer.

5. **International experience**
   The University has an active International Office that offers an international experience year that can be taken during any degree in the University. Our Applied Marine Biology degree also allows students to undertake an international work placement during their third year, and the School has links with Oregon State University (international exchange) and the Virginia Institute for Marine Science (marine biology third year field course).
6 **Professional accreditation**
Many of our degree programmes are professionally accredited by the Institute of Marine Engineering, Science and Technology (IMarEST). This shows that they reach the high standards required by employers. There are also opportunities to gain additional qualifications. For example, through the University Diving Club there you can learn to dive and there are companies offering powerboat training on Anglesey.

7 **Teaching since the 1950s**
Ocean Sciences has existed for many decades and continues to be one of the few solely marine science Schools in Europe. Our longevity is testament to the staff and students who have elevated Ocean Sciences into one of the most famous marine science departments in the world. You will study with fellow students and staff who are passionate about the marine environment, and join our alumni who all feel a genuine sense of belonging to the School.

8 **Seagoing experience**
Ocean Sciences is one of the few University departments with its own dedicated ocean-going research vessel in Europe. The vessel supports our high concentration of seagoing scientists and is also a vital tool for our teaching activity. During your degree, you will have the unique opportunity to gain real seagoing experience on board the RV *Prince Madog*. Depending on degree, you will conduct fish surveys, deploy oceanographic sensors or undertake a multidisciplinary sampling programme in Conwy Bay. There may also be opportunities to train aboard our small boats that are frequently used for inshore research and teaching.

9 **Affordable and safe**
Coming to University is a life changing decision, and both cost and personal safety comes into consideration. Bangor has been ranked as one of the safest cities in the UK, and still has many amenities that are found in larger cities in the UK. The area is also highly affordable, and the University prides itself on the financial support it offers for many new students. Our School is based in Menai Bridge, a quiet town with a variety of restaurants and pubs and good bus links to Bangor.

10 **One eye on the future**
The School places great emphasis on employability of our graduates. We offer careers advice, CV writing courses, interview skills training, and we often invite industry professionals to present about their careers at the School. The University also offers the Bangor Employability Award, where students can enhance their immediate and longer term employability prospects.
We take advantage of our unique setting to teach students in the field. Here, they are studying the geology of South Stack.
OUR HISTORY

The origins of Ocean Sciences can be traced back to some of the earliest developments in the study of marine science in the UK. In the late 1800’s, several marine laboratories were established, including the Marine Biological Association in Plymouth and Millport in Scotland. In the spring of 1885, W.A. Herdman started the Liverpool Marine Biological Committee, and he established a research station on Puffin Island (also known as Ynys Seiriol), a small island just off the coast of Anglesey (below). The vacation until the tides were known in order to provide the best access to the intertidal zone. By 1947, the course had been attended by 400 students from almost every University in the British Isles. Applications far exceeded capacity, a fact that remains true for our undergraduate courses today.

The success of the course was proof to Brambell (below) that Bangor was the right place to establish a Marine Biological Station, and in 1941 he wrote to the Principal of the University suggesting such a plan. It was approved in 1947, with a committee established to oversee the development of the Station, the acquisition of a research vessel and the appointment of a Station Director and staff.

The next major activity in the marine sciences in Bangor was in 1932, when the Easter Vacation Course in Marine Zoology developed by F.W. Rogers Brambell FRS began at Bangor. It was then that Marine Science in North Wales began to develop rapidly.

Whilst there were other courses at the time in Plymouth and Millport, Brambell’s course was the largest and ran uninterrupted for 18 years. Brambell often insisted that the University did not set the dates for the Easter vacation until the tides were known in order to provide the best access to the intertidal zone. By 1947, the course had been attended by 400 students from almost every University in the British Isles. Applications far exceeded capacity, a fact that remains true for our undergraduate courses today.

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Due to internal issues, and the unfortunate ill health of the first Director Professor Fabius Gross, the development of the station slowed. In 1951, Dennis Crisp FRS was appointed Director and oversaw the development of the Station into what has now become The School of Ocean Sciences.

Crisp (above) oversaw the purchase of a house, Westbury Mount, in Menai Bridge and its transition into a laboratory in 1951.

The department acquired the Craig Mair site in 1964, developing the building that we have now in two main stages, with the final development of the Undergraduate Teaching Laboratory in 1998. In 2012, the newest chapter in our history came when Westbury Mount, the New Wing and the Butterfly Building were demolished to make way for our new building, the Marine Centre Wales (below).

Ocean Sciences has been one of Europe’s leading marine science departments for many decades. With a new building, dynamic and world-leading staff, we will continue for many more.

www.bangor.ac.uk/oceansciences
CAREERS IN MARINE SCIENCE

One of the most important considerations when choosing a degree is the selection of a possible career path. At Ocean Sciences, we place great emphasis on employability, ensuring that you learn the skills needed by employers and that you will be competitive in the modern jobs market.

Over the years we have produced many graduates who have achieved great success in marine science, including some who now are Directors of major companies or internationally renowned professors at Universities around the world. Our alumni provide a valuable resource for current graduates, as many return to inspire and provide development seminars for our current students.

To help prepare you, we actively contribute to the University’s Bangor Employability Award, as well as provide support for CV writing and interview practice. We also provide a competitive test with the Ocean Sciences Summer Bursary Scheme, where students must apply and succeed in interview in order to gain a £1000 bursary to support them during a summer research project.

The marine science sector has continued to grow over recent decades, fuelled partly by the expansion of marine renewables, aquaculture, conservation and the fact that the ocean is an integral part of life on earth. A degree from Ocean Sciences can open doors into a fascinating career. For example, some of our recent graduates have entered into the following careers:

- Marine science research
- Fisheries and aquaculture
- Environmental consultancy
- Civil Service
- Offshore engineering
- Oil and gas exploration
- Water industries
- Public aquaria
- Marine renewables

You may choose to cross disciplines, for example into terrestrial environments, go into management or charity work. It is the skills that you have learnt that makes you employable, along with a good degree.

Approximately 80% of our graduates find work or enter further education within six months of graduation, and this total has continually increased since 2009 (see the graph at the bottom of this page for more than a decade of statistics). We continually work towards improving this figure by discussing with employers to ascertain the skills they require and developing these skills in our graduates.

Marine science is a challenging and rewarding career path, by choosing the right degree and studying hard you will be on the right path for success.

MORE INFO

Visit: http://bit.ly/OSprofiles or scan the QR code to read some informative and inspiring career profiles from former students.

![Destinations of leavers 2002-2012](chart)

- Work
- Work & Study
- Seeking Work
- Further Study
- Unavailable for Work
- Other
Choosing a University is one of the most important decisions a person can make. At Bangor we try to make it as simple as possible, offering help and advice throughout the application process. To the right is an “Application timeline” that shows the most common procedure for applying for University.

The very first port of call is to visit the School and the University. We hold a number of Open Days throughout the year to give you a better idea of what to expect if you decide to come and study with us. Staff and current students will be on hand to answer any of your questions and give you detailed information about your course of interest.

You can also have a look around the city and we’ll take you on a tour of the halls of residence to give you a taste of what life could be like at Bangor. For more information and to book a place please visit our website (links to the right).

ENTRY REQUIREMENTS
At Bangor, we accept students with a wide range of qualifications and backgrounds, and we consider each application individually. We consider applications from prospective disabled students on the same grounds as all other students. We also consider applications from mature students who can demonstrate the motivation and commitment to study a university programme and have relevant science-based experience.

To study a degree course with us, you’ll be asked for a minimum of UCAS Tariff points. GCE A and AS levels VCEs can be used to calculate your overall points, excluding general studies. We consider other equivalent qualifications on an individual basis, so please contact us with any questions.

You can find more specific details on entry requirements on the individual course pages on our website by following the links on the Undergraduate Degrees pages in this booklet.

HOW TO APPLY
UK and EU students must apply through UCAS and applications should be made as early as possible, quoting the course code.

International students may apply directly to us by following the procedure on the International Education Centre website.

MORE INFO
Visit: http://bit.ly/OSopenday for information on University Open days. We highly recommend visiting our department and seeing the area.

Deploying a video camera to survey the seabed from the back of the RV Prince Madog.
OUR COURSES

All degrees at Bangor are modularised into a two semester system comprising suites of compulsory and optional modules generally worth between 10 and 20 credits each. Undergraduate students undertake 120 credits worth of modules each year.

Although some modules are, by necessity, compulsory for individual degree programmes, others are optional. This enables you to increase the breadth of your studies and to specialise in particular areas. You can find details of the compulsory and optional modules for each course on our website (see More Info).

At Ocean Sciences we employ a wide variety of teaching methods ranging from lectures, laboratory practicals and fieldwork to seminars and tutorials.

Seminars and tutorials concentrate on problem solving, study skills development and reinforcing material taught in lectures. Their relaxed and informal atmosphere also encourages lively debate over current and contentious issues.

We also make use of our research vessel fleet including our ocean going vessel the RV Prince Madog. You will have the opportunity to go to sea at least once during your studies.

Courses are assessed using a variety of approaches including course work and examinations. Types of course work vary, but include written essays and reports, poster and oral presentations and, laboratory reports as well as online assignments. You might also be required to complete project work and management plans in subject areas relevant to your course of study.

Exam periods are at the end of each semester, and can consist of multiple choice or essay questions. During the third year of your degree, you are required to complete a desk-based research dissertation. This is an original piece of investigative work, in an area relevant to their degree programme.

MORE INFO
Visit: http://bit.ly/OScourses or scan the QR code to learn more about our different degree courses, along with information on modules and entry requirements.

Students gain practical experience, such as using small boats during their degree.

www.bangor.ac.uk/oceansciences
UNDERGRADUATE DEGREES

The School of Ocean Sciences offers a unique learning environment, staffed by leading marine experts and located within an area with some of the most dynamic natural environments in the British Isles. We offer degree programmes across the breadth of marine science and our unique combination of research-led teaching and student support produces some of the most in-demand graduates in marine science.

**Applied Marine Biology BSc**
Our four-year degree in Applied Marine Biology provides you with the background in marine biology needed to consider important environmental issues including exploitation and marine conservation. You will learn about the range and increasing importance of natural products produced by marine organisms and the need for a balanced and sustainable approach. Unique to this degree is that you also have the opportunity to undertake a year-long work placement with an industrial or research partner, in which you have the opportunity to apply your skills in a professional environment.

**Coastal Geography BSc**
The coastal zone is the interface between the land and the ocean. It’s a unique product of land-ocean interaction, influenced by processes on land, such as rainfall, land use and industrial activity. It is also influenced by processes in the ocean, notably waves, tides and sea level change. This combination makes the coastal zone especially complex, with a wide range of conditions that change on short time and over small geographic scales. Understanding the coastal zone therefore requires an integrated view of terrestrial and marine processes that constitutes a new approach in environmental science.

**Computing and Oceanography BSc**
Many problems in oceanography demand the use of computers for mathematical modelling or the analysis and visualisation of large and complex data sets. As our understanding of the global climate system becomes deeper, the demand for numerical scientists also increases. Our Computing and Oceanography degree focusses on the application of modern computers and programming to address novel problems in the oceans, continental shelf seas and estuaries. This degree course is ideal if you are interested in the application of computational knowledge to the complex and dynamic ocean system.
Geological Oceanography BSc
Geological Oceanography is the study of sediments in oceans and seas, their interaction with major global processes (e.g. climate change, sea-level rise), and their impact on the environment (e.g. pollution, ecosystem sustainability). It is a subject that encompasses present day marine sedimentary processes: the origin, transport and deposition of sediments in the marine environment. This requires an oceanographic perspective that emphasises the role of physical, chemical and biological processes in the world’s oceans. It is also a subject that deals with marine deposits during climate extremes.

Marine Biology and Oceanography BSc
Our Marine Biology and Oceanography degree is the study of the animals and plants living in the ocean and the environment in which they live. You will learn about life in the sea from the smallest algae to the largest mammals and also about the ocean currents, waves, tides and mixing that affect them. The multidisciplinary nature of the study of marine science is reflected in this degree, which is one of the longest established at the School of Ocean Sciences. Marine Biology and Oceanography is suitable for students interested in how the ocean works and who wish to pursue a science-based degree.

Marine Biology with Zoology BSc (Joint Honours)
This degree programme provides a wide overview of the huge diversity of animal life and ecosystems on the planet, ranging from the mountains to the deep sea. Although there are many animal groups (phyla) found in terrestrial environments, only the marine environment actually encompasses all the major animal phyla. In this challenging course, we will demonstrate the principles of interactions between different groups of animals and between animals and their environments. It combines a focus on the marine ecosystem with specialist study of animal form and function.

Marine Biology BSc
Marine biology encompasses many biological disciplines to cover the range of organisms found from viruses through to blue whales: microbiologists study the bacteria and fungi; botanists examine the photosynthetic life of the ocean that range from unicellular algae through to giant seaweeds 60 m long. Zoologists study a myriad of organisms from microscopic creatures, to crustaceans, molluscs, fish and large marine mammals. Some concentrate on a group of organisms, whilst others look at systems as a whole to study the interaction between organisms and their environment.
**Marine Chemistry BSc (Joint Honours)**
In order to understand the complex nature of the marine environment you need a wide range of skills including those of chemical analysis and evaluation of analytical data. Our Marine Chemistry degree provides specialised training that very few universities can offer. It combines the strengths of Bangor’s Schools of Chemistry and Ocean Sciences. It will be of interest if you enjoy chemistry and wish to develop an understanding of the ocean as a chemical system. This degree is accredited by the Royal Society of Chemistry and you may progress to gain professional qualifications and membership status.

**Marine Environmental Studies BSc**
The Marine Environmental Studies degree is concerned with the global marine environment. It is a fully integrated marine science course that incorporates all aspects of the marine system - physical, chemical, biological, and geological. In addition, it also covers issues such as management of the coastal zone, environmental policy, and sustainable development. The course covers the whole ocean but concentrates on the coastal and shelf seas since these are the focus of greater socioeconomic activity and are the most susceptible to climatic and human-induced change.

**Marine Vertebrate Zoology BSc**
Many marine vertebrates are now rare and it has never been more important to understand their biology and how they interact with their environment and humans. During the degree course the general principles of biology, marine biology and marine sciences will be explored, with the taxonomy, physiology, behaviour and ecology of marine vertebrates highlighted. This degree provides training in the fundamental aspects of the life of the top marine predators as well as providing opportunities to consider applied aspects of marine biology such as fisheries, aquaculture, conservation and ecotourism.

Skills such as sample identification and collection are practised throughout many of our degrees.
Ocean Science BSc
Ocean Science is the study of the global marine environment, encompassing all aspects from estuaries and coasts to the deep ocean. It combines direct observation of these environments with a systematic search to understand the processes that control it. Ocean scientists are both explorers and scientists, and much of the world’s ocean is yet to be explored. Because of the range of scientific knowledge required to understand all of the processes involved, ocean science encompasses a variety of disciplines: biology, chemistry, geology and physics.

MOcean (Oceanography and Computing)
This extension of the Computing and Oceanography three-year degree provides the opportunity to study for the fourth MOcean year. It is designed to provide advanced training to dedicated numerical scientists in the physics of our oceans, including modelling climate change and ocean processes. Numerical scientists are in great demand in industry, research and government. This degree will help prepare you to tackle subjects such as predicting future climate and sea-level change, marine pollution dispersion, offshore engineering and exploitation of marine renewable energy.

MOcean (Geological Oceanography)
Our four-year MOcean course with specialisation in geological oceanography is similar to the three-year BSc in Geological Oceanography. You study marine sediments within an Earth system science context. It is concerned with sedimentary processes (the origin, transport and deposition of marine sediment), and with marine sedimentary deposits, in particular, those formed in the past two million years but also further back in time. The MOcean differs from the BSc course in that it includes a fourth year with direct training relevant to offshore surveying and hydrocarbon industry.
MOcean (Physical Oceanography)
Our four-year Physical Oceanography MOcean degree is concerned with the physics of the ocean and understanding the forces which shape the global climate by moving heat around planet Earth. Oceanographers are in great demand and are required to tackle subjects such as predicting future climate and sea-level change, marine pollution dispersion, offshore engineering and exploitation of marine renewable energy.
In your fourth year, you will undertake advanced MSc-level modules in physical oceanography and undertake your own research project with an oceanographer.

MMBiol, MMSci
These courses are four-year, extended undergraduate degrees designed to produce graduates that have significant research skills. MMBiol is biological, and MMSci is physical science orientated. For the first three years, you will follow one of our BSc degree courses that is appropriate for your fourth year. At the end of the second year, providing you have obtained a satisfactory mark, you will continue with the 3rd year of the BSc course and proceed to the specialised 4th year. In this year, you will initially be trained in advanced research skills and either experimental design and statistics, or mathematical modelling. You will then embark on your research project supervised by one of our leading academics.

MORE INFO
F732 MOcean/PO
Visit: http://bit.ly/OSmocpo or scan the QR code to learn more about our MOcean (Physical Oceanography) course.

MORE INFO
C161 MMBiol/MB for Marine Biology
F711 MMBiol/MS for Marine Science
Visit: http://bit.ly/OSmaster or scan the QR code to learn more about our MMBiol and MMSci courses.
2nd year field week on the Taf estuary, Laugharne, South Wales.
Surveying sediment levels along the Taf estuary, South Wales.
Once students have completed their Undergraduate degree, some choose to continue their study by pursuing a Higher degree, either an MSc or a PhD. This provides extra training that can help students enter their desired graduate career. The School of Ocean Sciences offers four taught MSc degrees across our subject disciplines.

Applied Marine Geoscience
This is primarily for students with an interest in offshore geophysical and geotechnical surveying, with both practical and theoretical elements.

Physical Oceanography
This is intended for students with an interest in developing their theoretical knowledge and practical skills in physical oceanography.

Marine Biology
This course combines theory and practical training in the field and laboratory to elevate students to advanced Marine Biologists.

Marine Environmental Protection
This course provides advanced theoretical and practical training in measuring and quantifying marine resources and the effects of conflicting usage upon them.

We also offer the research-based Master’s by Research (MRes), and Postgraduate Honours Degrees, subject to funding. Many of our Higher Degrees have run since the early years of Ocean Sciences, and we have an excellent track record in producing consistently employable graduates in all of our subject areas.

For more information scan the QR code or http://bit.ly/OSmscie

In-demand laboratory skills are practised throughout our degrees.
SEAGOING

Marine scientists are the true pioneers in environmental science research, as we work in one of the most data poor and hardest to access environments on Earth. Simply, whilst studying the ocean is difficult, it is also incredibly exciting, as we continually uncover new information in the last remaining wilderness on earth.

At the School of Ocean Sciences, we take great pride in our seagoing heritage that has developed since the start of our School. Our research vessel, the RV Prince Madog is one of the most capable shelf-sea class teaching and research vessels in Europe, and is often seen sailing throughout the Irish Sea.

We bring this expertise into the classroom. You will learn about new concepts from active research scientists throughout all years of your degree.

During your degree, you will go to sea on our research vessel the RV Prince Madog (see right). This is a unique opportunity for you to gain real experience of working aboard a vessel. Marine biologists fish for samples that they will use in later practicals, and many students conduct a multidisciplinary research project as part of their course.

Many of our academic and technical staff also work on other research vessels from around the world conducting world class research. We have been to the Polar regions, working on sea-ice, circulation and currents through to the depths of the deep ocean, studying habitats such as cold-water corals and hydrothermal vents.

Scientists from Ocean Sciences work all over the globe, from the tropics to the poles.
The RV Prince Madog is a custom build multipurpose research and survey vessel, which is owned and operated in a joint venture between The School of Ocean Sciences and P&O Maritime Services UK.

The vessel is capable of 24 hour, year round, operating capability and can perform a variety of applications to support offshore operations in the Renewables, Oil and Gas and Telecommunications sectors, as well as being our main research and teaching vessel.

**Main Characteristics**

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[www.bangor.ac.uk/oceansciences]
RESEARCH

Scientific research is exciting and rewarding; there is a real thrill in discovering something new. The School is an actively seagoing research institution with an international reputation for the quality of its research in many marine environments.

At Ocean Sciences you will be taught by leading academics in the major marine disciplines of biology, chemistry, geology and physics. Our activities encompass fundamental, strategic and applied research, and active knowledge transfer. The School’s research culture is based on an Earth systems approach to the investigation of marine systems and processes.

Ocean Sciences has 25 academic staff who are active researchers and teaching staff. We have approximately 56 research staff including post-doctoral researchers, who work on a variety of projects funded by government, industry and Research Councils.

Check out some short research profiles from academics in our core disciplines of biology, chemistry, geology and physics:

Dr Martin Austin focusses on the morphological evolution of the intertidal and shallow sub-tidal regions of the coastal ocean.

Dr Jaco Baas works in fine particle dynamics and specialises in the erosion, transport and deposition of fine, cohesive sediment.

Prof. David Bowers focusses on the optical oceanography of coastal and estuarine waters, including primary productivity and sediments.

Dr Andrew Davies is an ecologist researching how plants and animals interact with the physical environment and each other.

Dr Luis Gimenez is a biologist who specialises in the larval ecology of benthic invertebrates and benthic ecology.

Dr Mattias Green’s primary research is on modelling the Earth system, especially the interaction between tides and other processes.

Dr Kate Griffith is interested in how climate change will effect the recruitment of marine invertebrates.

Dr Jan Hiddink is a marine ecologist who measures and models the response of benthic communities to disturbance.

Dr Cara Hughes specialises in intertidal infaunal (organisms that live beneath the sediment surface) community structure.

Dr Dei Huws’ research involves measuring and understanding the geotechnical and geophysical properties of marine sediments.

Prof. Colin Jago’s research interests encompass the sedimentary processes of continental margins from estuaries to continental slopes.

Dr Suzanna Jackson is interested in the physical processes controlling the size of suspended sediments and how this can change.

Dr Stuart Jenkins is an experimental benthic ecologist with interests in both rocky intertidal and sublittoral sedimentary habitats.
Prof. Hilary Kennedy focusses on stable isotopes in tracing biogeochemical process and in palaeoenvironmental reconstruction.

Prof. Chris Richardson focusses on the growth, behaviour, physiology and reproduction of marine molluscs.

Prof. Tom Rippeth focusses on the identification and quantification of the key physical processes which drive fluxes in shelf sea systems.

Prof. James Scourse’s research is on the hydrodynamic and biogeochemical processes and feedbacks in shallow marine environments.

Dr. David Thomas is a biologist who works the ecology and biogeochemical processes of sea ice including dissolved organic matter.

Dr John Turner researches temperate and tropical marine environments and the interaction between human impacts and the environment.

Dr Martin Skov has interest in the ecological functioning of coastal wetlands: salt marshes, mangroves and seagrasses.

Dr. Simon Neill investigates a wide range of oceanographic processes at a variety of spatial and temporal scales.

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Dr. Ian McCarthy’s research interests fall broadly within the fields of physiological and behavioural ecology primarily using fish species.

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Dr Lewis LeVay has a background in aquaculture, fisheries and ecology across a wide range of temperate and tropical environments.

Dr. Katrien Van Landeghem studies fundamental glacial, hydrodynamic and sediment transport processes on the shelf and the shelf margin.

Dr. Martin Skov has interest in the ecological functioning of coastal wetlands: salt marshes, mangroves and seagrasses.

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Our students practice vital laboratory skills in our state-of-the-art teaching laboratory at least once per week during their first and second years.
ACCREDITATION

Many of our degree programmes are professionally accredited by the Institute of Marine Engineering, Science and Technology (IMarEST). This shows that they reach the high standards required by employers.

By following such accredited degrees, you will automatically become a member of the IMarEST and are informed of future job opportunities, conferences and courses to attend, which help in your continued professional development. Our Marine Chemistry degree is also recognised by the Royal Society of Chemists.

Students graduating from an accredited degree programme meet the academic requirements, in part, for registration as a Chartered Scientist and Chartered Marine Scientist from IMarEST or Associate Member of the Royal Society of Chemistry.

Professional accreditation acts as an important stepping-stone in the future careers of all our marine scientists.

LINKS

The School of Ocean Sciences has many links with other institutions, both home and abroad.

At home, the Centre for Applied Marine Sciences (CAMS) spearheads how we use our science for the benefit of society and business. We have close links with relevant national and international agencies, governmental bodies and the user community. CAMS provides policy advice, and has had a profound impact on applied shelf sea science through work on particle tracking, oil spill management, and aquaculture and marine conservation.

Ocean Sciences has a student exchange scheme with Oregon State University, USA, which allows good students to apply to spend their second year studying in Oregon. Other exchanges within Europe may also be possible, if the student’s language skills are good and if the modules available are compatible with the degree programme.

We also have a long standing link with the Virginia Institute of Marine Science, and we offer an optional undergraduate field course for several marine biology degrees where students and staff spend up to 10 days in Virginia studying the marine life of the Chesapeake Bay and the Eastern Shore and immersing themselves into American culture.

MORE INFO

and watch one of our videos from the VIMS overseas field course in 2012. More videos from the School can be viewed at:
WELSH MEDIUM

At the School of Ocean Sciences students can choose to study on several modules through the medium of Welsh. The Welsh classes are small, friendly, and very supportive, ensuring that you get a considerable amount of support and attention to facilitate the learning process.

As well as benefiting from the smaller group sessions, you will join the general group for a number of other lectures and seminars, ensuring you enjoy the best of both worlds.

There are several significant benefits of studying in Welsh. Financial support is available from Bangor University, providing you study a minimum amount of credits in Welsh. You also have the chance to improve your language skills in Welsh in addition to English. Bilingual skills are an asset in terms of employment in Wales.

If you wish to learn or improve your Welsh, Bangor University offers classes to students that can be taken during your degree.

ACCOMMODATION

As a first year student you will be guaranteed a place in a University managed Hall of Residence. Most halls offer en-suite accommodation allowing for greater privacy. Over £35m has recently been spent re-developing the campus, including an extensive upgrade of the main student accommodation at the Ffriddoedd Site. Of course, if you prefer, there is also a broad range of private accommodation to be found in and around Bangor, and the Student Housing Office can help you find what you require.

A big plus is that you won’t need a car or public transport; everything is within walking distance of the halls of residence. The main accommodation site is just 10 minutes from the main University buildings and Ocean Sciences is a 30 minute walk, 15 minute cycle or 10 minute bus journey from the main accommodation.

MORE INFO

Visit: http://bit.ly/BUhalls and learn more about the accommodation available at Bangor University

www.bangor.ac.uk/oceansciences
The use of water bottles and CTD systems is taught as part of the Prince Madog module in the second year.
CAREERS AND EMPLOYABILITY SERVICE

In today’s highly competitive employment market, it is important to take full advantage of the academic, recreational and work-related activities available to you as a student. Whether or not you know what career path you want to follow, the Careers and Employability Service is committed to helping students and graduates by providing a wide range of careers guidance and employment support services, including:

• Individual and confidential careers interviews and drop-in sessions
• A year round programme of personal development, job search and employer related workshops and training sessions
• Comprehensive and appropriate careers information via our Information Centre and our Website
• A Student Employment Bureau (Job Zone), providing part-time, vacation and graduate employment opportunities
• A wide range of voluntary work opportunities including Peer Guiding and Student Mentoring
• Undergraduate and graduate paid work-experience placements
• The chance to develop enterprise skills and increased awareness of self employment via our B-Enterprising programme

BANGOR EMPLOYABILITY AWARD

The Bangor Employability Award (BEA) scheme has been designed to enhance the immediate and longer term employability prospects of Bangor University students. The scheme works in conjunction with the Careers & Employability Service, Bangor Students’ Union and private, public and voluntary sector organisations, offering accreditation for co-curricular and extra-curricular activities (e.g. volunteering, mentoring, part-time work, learning a new language); such experiences may not be formally recognised within students’ academic degree programme, yet they advance the development of skills and qualities which are valuable in the graduate jobs market.

Students returning from surveying salt marsh vegetation in the pristine area of Shell Island, Gwynedd.
The compact size of the city means that student facilities - including halls of residence, the Sports Centre and the Students’ Union - are within easy walking distance of the University buildings. High Street shops, banks, supermarkets, restaurants, pubs, and theatre are also in close proximity and help to keep travel costs to a minimum.

The cost of living is lower than in most urban areas, so you can make the most of your money in what is a very pleasant environment in which to live and study. Also worth bearing in mind is the fact that Bangor is considered to be a relatively safe place to study (the crime rate for north Wales is one of the lowest in the country).

The mixture of students from all over the world means that Bangor is always a vibrant, colourful and interesting city. Bangor is also very much a University City - the entertainment and night life is student-orientated and student-led, and there is always something going on. In addition to entertainment, the Students’ Union also organises a large number of student clubs and societies, covering a wide range of sporting, social, cultural, religious and political interests.

While Bangor itself is compact and convenient, the surrounding area offers plenty of wide open spaces. The mountains and coastline of Snowdonia are areas of outstanding natural beauty, offering wonderful recreational opportunities, whether you are interested in outdoor pursuits, or just want to enjoy the scenery. For the sports enthusiast, climbing, sailing, rowing, canoeing, surfing, fishing, and diving are just some of the outdoor pursuits available in some of the most dramatic landscapes in the UK. Indoor sports are also well catered for at Canolfan Brailsford, the University’s Sports Centre, while Bangor swimming pool offers reduced rates for students.

“The University is developing a £42m Performing Arts and Innovation Centre which will be home to cutting-edge teaching and learning facilities, a theatre with a capacity of approximately 450 seats, cinema space, a studio theatre as well as social facilities including bars, dining and park areas.”
INTERNATIONAL STUDENTS

With students from over 79 countries world-wide, the city has a thriving international community, and provides a welcoming and supportive learning environment for international students who wish to develop their full potential through our range of high quality, well-founded and established study programmes.

Bangor University strongly believes in looking after its students, and making sure that everyone is made to feel welcome and settles in with ease. That’s why Bangor has a number of International Student Ambassadors and a dedicated International Student Welfare Adviser, who can help you adjust to living in a different country, with an unfamiliar culture and possibly a new language.

Our aim is to support international students from the application process right up to their graduation day. A special Orientation Day provides an opportunity to meet other international students and external organisations, and take a trip around the surrounding area. This helps you to make friends, settle in and get to know your way around.

Throughout the year, the International Student Welfare Adviser offers assistance and advice on a range of matters such as NHS health care in the UK, opening a bank account, immigration status, applications to extend your visa, work regulations and finding work, travelling outside the UK, police registration, accommodation, bringing your family to the UK, and nurseries and schools in Bangor. We also arrange coach trips to places of interest. The British Council’s Regional Services Officer is an important point of contact for information, advice and support for students attending Bangor through the British Council.

All international students are guaranteed on-campus accommodation provided that they apply before the deadline of 31st July. Limited family accommodation is also available.

ENGLISH LANGUAGE COURSES

International students are generally required to provide evidence of their English language proficiency. The English language level normally required for entry is IELTS 6.0 (with no individual unit score less than 5.5) or equivalent.

Students who require English Language Study prior to starting their academic studies at Bangor may undertake pre-sessional courses at the University’s English Language Centre (ELCOS).

Additional tuition can be taken as follows:
- IELTS 5.5 / 3 MONTHS / JUN - SEP
- IELTS 5.0 / 6 MONTHS / FEB - AUG
- IELTS 4.5 / 9 MONTHS / SEP - JUN

Students receive close attention in order to ensure excellent progression and successful completion of the course. At the end, students are not required to undertake a further external English test, as our highly experienced and qualified staff will conduct a test and provide an official report for the University. Students on academic programmes can receive English language support throughout the year in courses specially organised for international students. These include academic writing classes and English language modules. Students can also benefit from individual consultations with a language tutor.

Students wishing to undertake further external English tests can benefit from special evening classes, which focus on preparation for these examinations. Further details of English language courses are available from ELCOS or email: elcos@bangor.ac.uk

www.bangor.ac.uk/oceansciences
ALL ENQUIRIES ARE WELCOME

For more information visit our website at:

www.bangor.ac.uk/oceansciences

or contact:

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Bangor University
Menai Bridge,
Anglesey,
LL59 5AB, UK

Telephone: +44 (0)1248 382842
Email: sos-ug-admissions@bangor.ac.uk

The University makes all reasonable efforts to ensure the information in this brochure is correct at the time of printing (June 2014), but it may be subject to change.