90% of our research impact has been judged as world-leading or internationally excellent.

The School of Ocean Sciences is one of the oldest University marine science centres in the UK.

We have over 50 years of teaching experience across the breadth of the marine sciences.

Our alumni are now leaders in marine science roles across the globe.

Continued development of offshore industry, renewables and aquaculture has led to increased demand for marine science graduates.

*did you know...?*
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. We have been based in Menai Bridge on the Isle of Anglesey, close to Bangor since the 1950s.

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 they support influence 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 under explored, 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, geosciences 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 graduates through our vibrant alumni society and they continue to support the School by revisiting regularly to inspire our current students.

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 “hands on” educational opportunity in the marine sciences.

Professor David Thomas
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 2015.
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 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 a fleet of small and larger research vessels. 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 Environmental Sciences and Engineering. The College is one of the leading centres in the UK for teaching in environmental science, biology, geography, engineering and ocean sciences, and students benefit from these links by being able to study a diverse range of subjects.

Manchester Airport is within one and a half hour’s drive along the Expressway; rail connections to Crewe, Cardiff and London are direct and ferry connections from nearby Holyhead to Ireland are fast and frequent.

Stunning beaches, areas of outstanding natural beauty and one of the most picturesque National Parks in the UK make 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.

www.bangor.ac.uk/oceansciences
WHY STUDY AT BANGOR?

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. We use these different local environments to teach concepts such as rocky shore zonation at Cable Bay, where organisms organise themselves into bands, and 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.

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.

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 funded summer projects to second year undergraduates, providing real experience of working within a research environment.

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.

International and work experience
The University has an active International Office that offers an international experience year that can be taken during any degree in the University. The School has links with Oregon State University (international exchange) and the Virginia Institute for Marine Science (marine biology third year field course). Our students are offered summer internships and work placement years allowing them to gain work experience while studying for a degree.
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.

Affordable and safe
Coming to University is a life changing decision, and both cost and personal safety come 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.

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 frequently invite industry professionals to the School to speak about their careers. The University also offers the Bangor Employability Award, where students can enhance their immediate and longer term employability prospects.

TEF Gold - highest rated teaching
Bangor University achieved a Gold Award, the highest rating possible, in the national Teaching Excellence Framework (TEF). The TEF assessment took into account teaching quality, learning environment and student outcomes and learning gain. We were judged to deliver consistently outstanding teaching, learning and outcomes for our students and our teaching is of the highest quality found in the UK.

Student Satisfaction amongst the best in the UK
Other recent successes include Bangor University being amongst the top 10 universities in the UK for student satisfaction, according to the National Student Survey 2017.

Our clubs and societies were also voted the best in the UK at the What Uni Student Choice Awards 2017 and Bangor was placed third overall in the University of the Year category, as well as being in third place in the ‘Courses and Lecturers’ and ‘Giving Back’ categories.
We take advantage of our unique setting to teach students in the field. Here, students are studying the geology of South Stack, West Anglesey.
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 1800s, 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.

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.

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.

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.

Professor 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 adjacent 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.

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.

To help prepare you, we actively contribute to the University’s Bangor Employability Award, as well as providing support for CV writing and interview practice. We regularly invite companies to give lectures on career paths and to provide advice. Ocean Sciences also runs an annual student-focussed career fair, with large multinational companies in attendance. 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. We continually work towards enhancing the career prospects of our students. Through discussion with employers we ascertain the skills our students require and tailor our teaching to bring out these skills in our graduates.

Marine science is a challenging and rewarding career path. A marine scientist has a broad range of skills which can make a valuable contribution towards issues like climate change, sustainable resources and environmental protection. By choosing the right degree and studying hard, you will put yourself on the path to a fulfilling career.

MORE INFO

Visit: http://seasci.uk/career, see page 33 or scan the QR code to learn more about career support and the Bangor Employability Award at Bangor University.
WHERE ARE THEY NOW?

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

Joe Lavery
Following graduation from the School of Ocean Sciences at Bangor University, Joe now works as the Senior Aquarist at SEA LIFE Manchester, a new aquarium that was opened in summer 2013. Whilst the most obvious part of his job is looking after aquatic organisms, there are many other tasks essential to the successful running of the department. As the Senior Aquarist, he’s also responsible for in-situ conservation, improving husbandry practices, and conducting/facilitating research. He also runs a successful volunteer programme.

David Todd
David is now a Scientist working at HR Wallingford, a consultancy specialising in hydraulic engineering, in the Coasts & Estuaries department. David uses numerical modelling techniques to aid the design of structures such as ports, harbours, bridges, and access channels. David says “Almost every aspect of the degree has come up in my job. We model flows and sediments in coastal and estuarine environments to help design ports and other marine structures, so the physics of the degree was essential, but we also need to understand and deal with biological impacts.”

Leah Arlott
Leah is a marine geo-consultant and geophysicist for Fugro EMU Limited. She works on interpretation of sub-bottom seismic data for offshore renewables, cables and aggregate extraction projects and constructs impact assessment chapters, scoping documents and feasibility studies for future developments. Leah says “SOS gave me a thorough grounding in physical marine science, which has been useful on a daily basis. I also made friends at Uni who have gone on to work for other companies so it’s a good opportunity to start networking early!”

Lorna Teal
After finishing her BSc at Bangor Lorna went straight into a PhD at the University of Aberdeen where she studied links between Biodiversity and Ecosystem function in marine soft sediment systems. After her PhD, Lorna started work as a researcher at IMARES (the Netherlands) where she continues to study interactions between species and their environment. Lorna offers advice to prospective students: “Think carefully about what you want out of a future career in marine science, select your course accordingly and then make the most of it.”

www.bangor.ac.uk/oceansciences

MORE INFO
Visit: http://seasci.uk/profiles or scan the QR code to read some informative and inspiring career profiles from former students.
During the residential fieldtrip in Laugharne the students take a core, in order to study the history of the environment through the changing sediments over thousands of years.
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. On 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 to 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 is likely to 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 follow 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/VCE A and AS levels 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.
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.

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. If you select a four-year course, you will undertake a research project in your final year.

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

Visit: http://seasci.uk/courses or scan the QR code to learn more about our different degree courses, along with information on modules and entry requirements.

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. Bangor is also ranked amongst the UK’s top universities for student satisfaction, including being top in Wales! [NSS 2014].

We offer honours 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.

**Marine Biology BSc**
We are increasingly aware of the value of marine organisms for food, medicine and other products as well as for their role in influencing the climate. Marine Biology is the study of organisms that occupy 95% of the biosphere of our planet. The majority of phyla are found in the oceans; the sizes of organisms range from the smallest micro-organism on the planet to the largest invertebrates and mammals. This very popular course allows you to study the fundamental aspects of the biology of marine life as well as more specialised aspects such as aquaculture, fisheries and marine biotechnology.

**Applied Marine Biology BSc**
Our four-year degree in Applied Marine Biology provides you with the background in marine biology that is 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.
**Marine Biology and Oceanography BSc**
Our Marine Biology and Oceanography degree is the study of the organisms 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 and Zoology BSc**
This degree programme is offered in conjunction with the School of Biological Sciences, and provides a wide overview of the huge diversity of animal life and ecosystems on the planet, ranging from the mountains to the deep sea. In this challenging course, we will demonstrate the principles of interactions between different groups of animals and between animals and their environments. You can choose to study modules from across the offerings of both Ocean Sciences and Biological Sciences, with content that focusses on anatomy, physiology, behaviour, ecology and whole-animal biology.

**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. These sediments in turn provide the fundamental evidence for understanding the history of the oceans and their role within the climate system. This degree has a very strong record of placing graduates in employment in the offshore geoscience sector.

Bangor and Menai Bridge are amongst the safest areas in the UK to study.
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 this degree course the general principles of biology, marine biology and marine sciences will be explored, with focus on taxonomy, physiology, behaviour and ecology of marine vertebrates. 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.

Ocean and Geophysics BSc
On this course you will learn how to use the laws of physics to understand how the ocean works and how it interacts with the atmosphere and ice to control the global climate. You will be taught to develop computer models of the ocean as well as learning about the different techniques used in observing the ocean and the sea bed. Graduates with these skills are in great demand across the globe by the petroleum and marine renewables industries, as well as national and international organisations like the Met Office or consultancies who use computer models to predict the weather and climate.

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.

**Physical Geography and Oceanography BSc**
The coastal zone is the interface between land and 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.

**FOUR YEAR DEGREES**

**MSci Physical Oceanography**
Our four-year Physical Oceanography MSci 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.

**MSci Geological Oceanography**
Our four-year MSci Geological Oceanography programme is similar to the three-year BSc in Geological Oceanography but allows (i) even more hands-on practical experience in the Fourth Year, using industry-standard survey equipment; (ii) the development of specialist knowledge about sediment engineering properties, which combines with the geophysics to make graduates highly employable; and (iii) the development of research capabilities as you conduct a substantial individual practical project, culminating in the production of a professional scientific article; all ideally placing you for industry placement or PhD.
These extended undergraduate degrees are designed to produce graduates who have significant research skills in biology-based courses.

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 your first three years of study, subject to meeting progression criteria, you will 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 a substantial piece of research, supervised by one of our leading academics. You will present your findings in the style of a scientific paper that may be suitable for publication.

Recently completed projects include: mathematical modelling of the Irish Sea, global tide simulation, saltmarsh ecology, behavioural studies of hermit crabs, defences of macroalgae, studies of tropical corals, marine mammal distribution modelling and many more.

The offshore renewable energy industry has contributed to continued growth in the marine science sector.
Students learn about past climates by searching for fossilised organisms during the physical and geoscience field week on the Taf estuary, Laugharne, 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. Our MSc courses provide extra training that can help students enter their desired graduate career. The School of Ocean Sciences offers five taught MSc degrees across our subject disciplines. Each MSc is a full-time one-year course, consisting of 9 months taught course and 3 months research project. These are assessed by coursework and on some courses, examinations.

**Applied Marine Geoscience MSc**

The MSc in Applied Marine Geoscience has a 50 year pedigree of placing graduates, predominantly in the offshore industry and oceanographic research. The course concerns itself with unconsolidated sediments of the seafloor: the controls on depositional environments, their geotechnical (engineering) properties, and how to map their occurrence. There is emphasis on modern-day sedimentary processes complemented by high resolution marine geophysics. Graduates are sought-after in industry because they are known to have a strong combination of practical skills and theoretical understanding. The course is unique in the UK in bridging the gap between geophysics and geotechnics; and that’s an area of particular demand for the future.

**MORE INFO**

Visit: http://seasci.uk/amg or scan the QR code below to learn more about this MSc. Including contact details, entry requirements and key training areas.
Marine Biology MSc
The course provides theoretical and practical training in the field and laboratory to provide advanced marine biological training and aims to elevate students to the level of being capable and independent marine biologists. You will study a variety of practical and theoretical modules, including taxonomy, statistical analysis and experimental/survey design. Specialist training is centred on fisheries, invertebrates, marine mammals and ecology. Typically, graduates have entered employment in the following career paths: PhD research, research assistants, teaching, private sector or public sector employment, and non-governmental organisations.

Marine Environmental Protection MSc
The Masters in Marine Environmental Protection was established in 1988 and has developed a reputation for its high quality multidisciplinary training. The course recognises diverse threats to the earth’s life support systems through a range of anthropogenic impacts. It is important to predict impacts accurately and mitigate those impacts accordingly. The course provides graduates with field skills and advanced techniques needed to operate in the marine environment, quantitative skills, a realistic understanding of commerce and governance and communication and interpersonal skills to work together to bring their findings before the decision makers so that future development is more likely to be sustainable.

Marine Renewable Energy MSc
This MSc was developed in response to climate change and the finite nature of fossil fuels. There is an urgent need to support our electricity generating capacity through the development of low carbon technologies. The ocean represents a vast and largely untapped energy resource that could be exploited as a form of low carbon electricity generation, and there is much commercial and R&D activity in this sector. The aim of this MSc is to equip students with the skills necessary to identify and quantify potential regions for marine renewable energy installations, with an emphasis on the resource, time series analysis, numerical modelling, and the challenges faced when placing arrays of devices in the marine environment.

Physical Oceanography MSc
Run since 1965, this course is specifically designed for those who want to pursue careers as scientists forecasting the impacts of future climate change, in the renewable energy industry or in natural resource exploration. This course is specifically aimed at those with a background in numerical or environmental sciences who have an interest in developing their theoretical knowledge of the oceans and gaining practical skills working at sea. Practical skills are gained through participation in survey work. You also learn to program in MATLAB, and study the development and testing of numerical models. Theoretical modules cover waves, dynamics and tides, oceanic processes and climate.
Many of our students are divers, and the Student Union has an active dive club for novices and experienced divers alike!
Once students have completed their Undergraduate degree, some choose to continue their study by pursuing a Higher degree. Options include a taught MSc (see previous pages) or a research based degree, such as an MSc by Research, MPhil or a PhD. This provides extra training that can help students enter their desired graduate career, and can be important for those wishing to enter into a research environment.

As a research student, you will be based in your chosen School, but also embedded within the College of Environmental Sciences and Engineering Graduate School. This route provides support for students by providing the finest environment for personal and academic development. We run our own quality assured taught and support courses as well as postgraduate conferences and welcome events. In addition postgraduates have access to courses from the University’s Graduate Skills Programme. The Graduate School also provides intellectual and social contact between students of different disciplines and from many different backgrounds and countries.

MSc by Research, MPhil and PhD are research degrees awarded after the examination of a candidate’s thesis, produced following a period of research. MSc by Research degrees are usually of one year duration, MPhil usually two years and PhD usually three. All options can be taken part-time.

More information on Ocean Sciences, see here: http://seasci.uk/pgr

Postgraduate research can be undertaken in many different habitats and can take you around the world.
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.

Many of our academic and technical staff work on 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. We bring this expertise into the classroom. You will learn about new concepts from active research scientists throughout all years of your degree.

Marine biologists collect samples of fish that they will use in later practicals, and many students conduct a multidisciplinary ship-based research project as part of their course. These skills and experience will be vital for helping you find work in the marine science sector after graduation.

Scientists from Ocean Sciences work all over the globe, from the tropics to the poles.
Learning to dive is not a vital part of becoming an ocean scientist as many highly successful graduates have never dived. However, diving is a skill that can set you apart from your peers with a whole new experience and respect for our oceans. Whilst Ocean Sciences does not train you directly, the University Dive Club and others within North Wales provide excellent opportunities to learn.

DIVE TRAINING AT BANGOR

Bangor University has a highly successful student-led sub-aqua club that is affiliated with the British Sub-Aqua Club (BSAC), the UK’s leading dive club and the sport’s National Governing Body, providing an internationally-recognised diver training and development programme with courses and experiences from novice to advanced and technical levels.

PROFESSIONAL QUALIFICATIONS

Recreational diving qualifications will only take you so far, but if you want to dive professionally as a career, then advanced diving courses are available at many institutions around the UK and the world.

Further information:
https://www-bsac-com
https://www-undebbangor-com
http://www-nwsac-wales
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.

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. Our research has been recognised for world-leading impact in fisheries, marine genetics and ocean physics.

Ocean Sciences has 29 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, geosciences and physics:

David Assinder studies marine biogeochemistry and in particular pollution including radionuclides, metals and plastics.

Martin Austin researches the hydrodynamics and sediment transport that occurs in the shallow coastal ocean.

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

Tomas Cornwell has an interest in individual behaviour and ecology of intertidal organisms.

Line Cordes is a marine population ecologist with particular interest in understanding the dynamic drivers of change in mammal and bird populations.

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

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

Adel Heenan is interested in the development and monitoring of sustainable fisheries globally.

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

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

Suzanna Jackson is interested in the physical processes controlling the size of suspended sediments and how these change in time and space.

Colin Jago’s research interests encompass the sedimentary processes of continental margins from estuaries to continental slopes.
Stuart Jenkins is an experimental benthic ecologist with interests in both rocky intertidal and sublittoral sedimentary habitats.

Jonathan King primarily researches the growth of bivalve aquaculture and fisheries, with a focus on environmental sustainability.

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

Margot Saher has a background in climate reconstruction using marine microfossils.

Yueng-Djern Lenn is interested in ocean eddies and mixing and how they impact stratification at in high latitude oceans.

Peter Robins uses computer models to simulate shallow seas including interactions between oceanographic and biological processes.

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

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

John Turner researches marine ecology and coastal zone management, especially coral reef ecosystems and conservation through Marine Protected Areas.

James Waggitt researches whales, dolphins and seabirds, including the impacts of human activities on vulnerable populations.

Gareth Williams studies marine ecology and focuses on the natural and anthropogenic drivers of coral reef communities.

Sarah Zylinski is interested in the visual ecology of marine animals, particularly how they camouflage and communicate in different habitats.

Tom Rippeth focuses on the role of the winds and tides in processes linking the ocean to the atmosphere and sea-ice.

Gareth Williams studies marine ecology and focuses on the natural and anthropogenic drivers of coral reef communities.

Shelagh Malham’s research focuses on impacts of anthropogenic change on sustainable shellfish production

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

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 students to apply to spend their second year studying in Oregon. Exchanges within Europe and China are also 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 in American culture.

Bangor has introduced an additional option whereby you can take an ‘International Experience Year’ on any degree programme. On successful completion of your ‘International Experience Year’, where you will study or work abroad for an entire academic year, you will have ‘with international experience’ added to your degree title.

Visit: http://seasci.uk/vims and watch one of our videos from the VIMS overseas field course in 2012. More videos can be viewed at: http://seasci.uk/mov

Visit: http://seasci.uk/ie to learn more about Bangor’s ‘International Experience Year’, including student experience blogs, information sessions and funding opportunities.
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.

You can learn more about Welsh Medium at: http://seasci.uk/cym

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 redeveloping the campus, including an extensive upgrade of the main student accommodation at the Ffriddoedd Village and the new St Mary’s Village. 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://seasci.uk/acc and learn more about the accommodation available at Bangor.
Seagoing experience is a vital part of the skillset of a marine scientist
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.

Visit: http://seasci.uk/career

Students returning from surveying salt marsh vegetation in the pristine area of Shell Island, Gwynedd.
The compact size of Bangor 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.

“Pontio is a £42m Performing Arts and Innovation Centre, home to cutting-edge teaching and learning facilities, a theatre with a capacity of 450 seats, cinema space, and 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 and well 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:

School of Ocean Sciences,
Bangor University
Menai Bridge,
Anglesey,
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Telephone: +44 (0)1248 382851
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 (February 2018), but it may be subject to change.