CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

Earth and Environmental Sciences

Undergraduate
degree programmes

cardiff.ac.uk/earth-ocean-sciences

From climate change to the sustainable use of Earth’s resources, it’s never been more important to understand the world we live in.

Giving you the opportunity to explore a range of scientific disciplines like biology, chemistry and physics alongside history and public policy, studying the Earth and environmental sciences is ideal if you’re passionate about protecting our planet.

You’ll study Earth’s evolution and its most vital resources - the planet beneath our feet, the air that surrounds us, the water we drink and the landscapes we enjoy – and learn how we can apply practical solutions to real-world environmental challenges.

Here in Cardiff you’ll discover exciting, cutting edge science. We investigate natural processes that evolve over a wide range of time and spatial scales, shaping the world around us from deep within the Earth, through the crust, into the oceans and onto the land. We also research human impacts on our environment, working in partnership with communities and industries to support healthy and sustainable environments under increasing pressure from human activities.

We prioritise hands-on experience for our students, from getting out into the field and time in our labs to using digital tools so that you can master sustainability practices. This includes dedicated skills sessions working with industry-standard GIS software, used by millions of geoscientists across the world.

Unrivalled fieldwork opportunities

Fieldwork is crucial to the study of Earth and environmental sciences, giving you hands-on experience in real-world settings.

It's at the heart of our degree programmes, and our location offers access to an incredible range of landscapes. Just beyond the city you can access diverse environments, including marine habitats, post-industrial sites, and areas of outstanding natural beauty - from the stunning coastlines of the Gower Peninsula to the dramatic peaks of Bannau Brycheiniog National Park, rich in geological rarities.

"Whilst all my flatmates were sat in lectures, I was out exploring Cardiff and the surrounding area."

Philippa Smith,
Environmental Geoscience with a Year of Study Abroad

Find out more

We'll take you on day trips across South Wales and residential trips from Wales to overseas.

You'll get the opportunity to go on an overseas field trip, with previous destinations including **Spain**, **Switzerland**, **Greece** and **Morocco**.

We believe fieldwork should be an opportunity for all, regardless of physical ability or background. The cost of travel and accommodation is included in your course fees, and we provide a PPE kit loan system for students facing financial hardship so that everyone can take part. We're one of few UK universities offering truly accessible fieldwork. We collaborate with students to remove barriers, adapting trips for individual needs—whether that means offering virtual fieldwork during religious holidays, supporting mobility aids, or enabling personal assistants to attend.

Your future career in a changing world

By studying the Earth's systems and how we interact with them, you'll be able to help build a greener, fairer, and more sustainable future.

You'll have career options across a range of sectors – from conservation, environmental consultancy, and geospatial analysis to green energy, water management, or government policy. You might find yourself restoring habitats, supporting sustainable transport, advising on climate resilience, or even shaping national environmental policy.

Whether your interests lie in the oceans, landscapes, minerals, or cities, one of our degrees can open up a career where you'll work with others to tackle real-world problems – and help protect the planet for future generations.

"I work as a Sustainability Manager at a major UK university, managing utilities and carbon reduction, while facilitating some of the UKs largest research infrastructure projects to date."

James Daly,
Environmental Geoscience graduate

"I currently work as an exploration geologist on projects across western and north Africa, and my work involves remote and early-stage exploration for gold and base metals."

Jean-Jacques Ferguson,
Geology graduate

"As a hydrographic surveyor, I will spend between 4 to 6 weeks at a time working on a ship in the North Sea. We clear the seabed of old munitions in preparation for building wind parks."

Claire Thomas,
Marine Geography graduate

Expand your horizons

“Honestly, I wouldn’t have changed it for a moment, having adventures that will last a lifetime, from being in the surreal midnight sun in the Arctic Circle to swimming in the fjords of Norway to witnessing the Northern Lights 3 times. It also provided the chance to have an extra year studying and therefore increasing my knowledge of a wide variety of geological topics that I would not have covered during my time in Cardiff.”

Sion Way,
Geology with a Year of Study Abroad

Flexibility

It’s ok if you haven’t decided yet which Earth and environmental sciences discipline is for you. Most of our degrees have a common first semester, which gives you the flexibility to swap between any of our programmes* during the first term, and degrees within the same stream up until the end of the first year. Exploration Geology, Geology and Environmental Geoscience make up our geoscience stream and Environmental Geography, Marine Geography and Physical Geography comprise our Geography stream.

All our BSc programmes* are also available as a four year option. This means spending your third year on either a professional placement or a year of study abroad.

Study a year abroad

You can apply for a year abroad when making your UCAS application, or you can add this to your programme once your studies are underway. A once-in-a-lifetime opportunity to see the world, studying abroad for a year will challenge your assumptions and introduce you to new ways of learning. You’ll be able to explore a new city and immerse yourself in a new culture and expand your network beyond the UK to create new links in a world that is more connected than ever. Many of our students who studied a year abroad have pursued work placements, postgraduate courses, or even a job in or near their overseas destinations.

If you’re intending to pursue a year abroad you need to achieve a reasonable baseline grade of 60% overall in your year 1 assessments. Because there are a limited number of places at our partner universities available, there is a competitive selection process for these places.

Do a professional placement

Graduate employers often name sector awareness as the number one attribute they look for in applicants, and the best way to develop an understanding of the sector is to do a placement year.

With options for a year in industry both in the UK and overseas, our dedicated Placements Officer will help you find, apply for, and secure a suitable placement.

Our previous students have spent time at Shark Lab, the Environment Agency, notable ports, environmental consultancies, construction firms and large-scale utilities companies, often receiving offers of employment on graduation as recognition of their efforts.

You won’t find the professional placement year course as an option in UCAS, but it’s easy to switch to the four-year option during your studies. You’ll need to achieve a reasonable baseline grade of 55% overall in your year 1 assessments.

*Flexibility to transfer to a different course, year abroad and placement options are not available on the Environmental Sustainability Science BSc, which is delivered via innovative problem-based learning. See page 26 for more information.

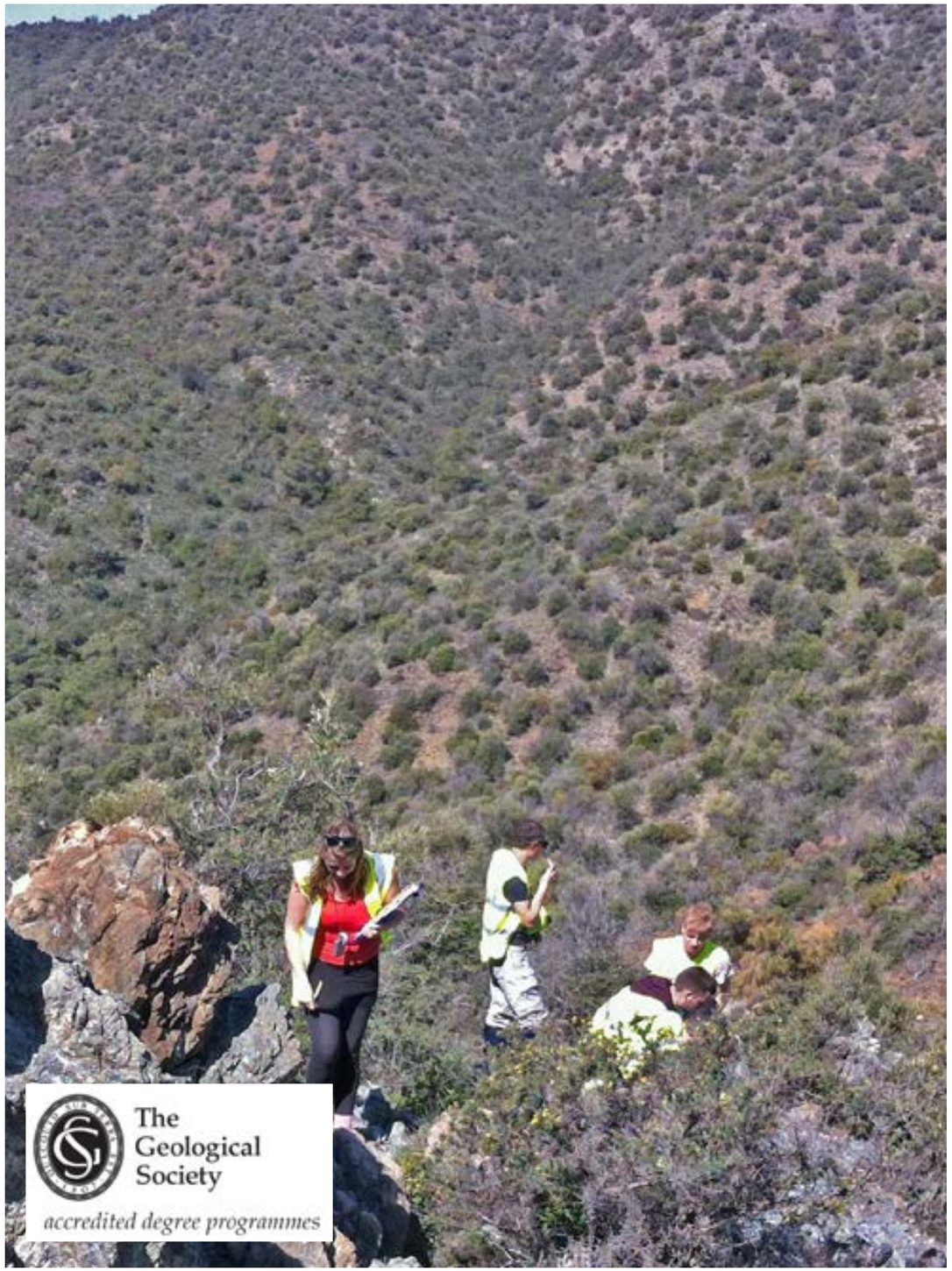
BSc or MSci?

A BSc, or Bachelor of Science, is a three year degree programme.

It becomes a four year programme if you enrol on a professional placement or year of study abroad, which would take place after your second year. A well-respected introduction to a variety of professions in environmental sciences, the BSc option might suit you if you prefer applied project work and aren't considering a career as a research professional.

An MSci, or Master of Science, is a four year degree programme that gives you the opportunity to explore your subject to a higher level than the equivalent three-year BSc. It includes a research project in the fourth year and increased flexibility to choose research topics and modules that match your interests and talents. This option would suit you if you were considering a more research-led career.

You can apply directly for entry onto the MSci via UCAS, or you can transfer onto an MSci once you're here. MSci students need to achieve an average of over 60% in all final year assessments.



Environmental Geoscience

Environmental Geoscience (BSc), UCAS code: **F648**
Environmental Geoscience (MSci), UCAS code: **F649**
Environmental Geoscience with a Year of Study Abroad (BSc), UCAS code: **F643**

An environmental geoscientist uses their understanding of the planet and its processes to predict hazards like floods and earthquakes to mitigate their effects, clean up the dangerous waste left by spills and antiquated industrial practices, and help civil engineers plan the construction of new public infrastructure.

On our Environmental Geoscience course, you'll explore the different processes that happen on our planet like earthquakes, volcanoes and global warming. You'll use this knowledge to solve real problems where the geological aspects of civil engineering, environmental monitoring and remediation, and climate change are relevant in the UK and globally. Plus, we'll help you develop high level skills in mapping, research, analysis and problem-solving.

There's no requirement for any previous geology study. You'll start from the ground up in the first semester, ensuring all our students understand sound geological principles before proceeding.

Our degrees were designed with industry in mind, so you'll graduate with the specialist practical skills you need to excel as a professional environmental geoscientist. These skills cover fieldwork, the use of instrumentation for environmental monitoring, data capture and presentation using Geographical Information Systems (GIS) software, and technical report writing.

Accredited by the Geological Society, the professional body for geosciences in the UK.

> **After graduating from three amazing years studying Environmental Geoscience, I became a Conservation Officer for the National Trust where I manage 270 acres of green space in Bermuda.** I am constantly aided by the experiences and processes taught during the course. I gained invaluable international experience and made many lifelong friends.”

Lawrence Doughty, Environmental Geoscience with a Year of Study Abroad

Exploration Geology

Exploration Geology (BSc), UCAS code: **F625**
Exploration Geology (MSci), UCAS code: **F626**
Exploration Geology with a Year of Study Abroad (BSc), UCAS code: **F627**

Learn how to sustainably explore for Earth's natural resources on this unique degree, one of the only undergraduate courses in the UK to focus on specialist training in resource exploration.

People have been using natural resources like metals, minerals, oil and gas for centuries to build our towns and cities, power our homes, and to make the vehicles, devices and tools that society depends on. New resources are increasingly hard to find and require specialist skills and technology to locate and utilise responsibly. Our Exploration Geology course will appeal to anyone interested in unravelling Earth's mysteries whilst seeking out the essential resources that will maintain our society into the future.

You'll learn how the Earth's processes have created the planet's natural resources and how to explore for them to meet future demand with care. Exploration geologists will be central to delivering a low carbon future by helping meet the surging demand for metals to supply the renewable energy industry that's needed to tackle climate change.

You don't need to have studied geology already as you'll start from the ground up, cementing basic principles and a responsible mindset to bring everyone to the same level.

We've worked with industry to design our course, so you'll graduate with the specialist skills needed to be a professional exploration geologist. These skills include fieldwork, experience of modern exploration software, critical analysis of data, and how to apply your findings in an industrial context.

Accredited by the Geological Society, the professional body for geosciences in the UK.

"I realised that my true career aspirations lay within the renewables sector. I now work for an Integrated Service Provider supporting the offshore wind industry, and will shortly be completing postgraduate study in the area of Marine Renewable Energy."

Sam Strivens,
Exploration Geology

Geology

Geology (BSc), UCAS code: **F603**
Geology (MSci), UCAS code: **F604**
Geology with a Year of Study Abroad (BSc), UCAS code: **F607**

Finding solutions to our planet's most immediate challenges requires accurate, wide-ranging understanding of the Earth's history and processes.

How can we use what we know about past climates on Earth to understand the effects of climate change today? Or use what we know about earthquakes and volcanoes to predict hazards and make sure people and buildings are safe in the future? These are just some of the challenges that we'll explore.

Geologists study the minerals and rocks that form the solid Earth, the processes that occur on and within our planet, and the evolution of life on its surface. On this course you'll explore Earth's fascinating history, internal systems and materials through a mix of inspiring lectures, hands-on practical work, frontier research and field trips in the UK and abroad across your three years. You'll discover how rocks and minerals are formed, how animals evolve over geological time, what causes earthquakes and volcanoes and how the science of Geology impacts on our lives today.

No previous geology study is necessary as we'll start everyone from the ground up, and we've worked with industry to design our degree, to make sure you graduate with the specialist skills needed to be a professional geologist. These skills include fieldwork, experience of data capture using Geographical Information Systems (GIS) software, critical analysis of data, and the confidence to make key decisions from limited information.

Accredited by the Geological Society, the professional body for geosciences in the UK.

Environmental Geography

Environmental Geography (BSc), UCAS code: **K32K**
Environmental Geography (MSci) , UCAS code: **Y32N**
Environmental Geography with a Year of Study Abroad (BSc), UCAS code: **K32L**

If you're concerned about the health of the planet and want to make a positive difference, our Environmental Geography course could be for you.

Having an in-depth scientific understanding of the natural environment is key to finding and addressing issues like climate change, water pollution, soil degradation and erosion.

You will explore surface processes occurring within the natural environment and develop a scientific understanding of the impact that people have had on the chemistry and ecology of our planet's environment over time. You will study different environments across the world on land and at sea, from extreme polar environments to tropical coral reefs. The course will also address the pressures that our environments currently face, covering topics such as water quality chemistry and mapping vegetation and soils. You will get hands-on with mapping and monitoring, producing your own maps using state-of-the-art, professional mapping software. Graduates leave with experience of hands-on fieldwork and cutting-edge research as well as a range of geographical skills in mapping, research, analysis and problem-solving that are transferable across a range of roles and industries.

"I've just graduated and I've accepted a job at the Wildlife Trust. I'm super thrilled and looking forward to what comes next!"

Nathalie Nicholaus,
BSc Environmental Geography

Marine Geography

Marine Geography (BSc), UCAS code: **F845**
Marine Geography (MSci), UCAS code: **1D78**
Marine Geography with a Year of Study Abroad (BSc), UCAS code: **F848**

The ocean is arguably the last major frontier on Earth for exploration and discovery, with marine geographers instrumental in solving physical, hydrographical and managerial issues relating to the ocean and its coastlines.

The world's oceans and coasts are full of amazing habitats and wildlife, sustaining crucial industries including shipping, energy, agriculture and tourism. As a marine geographer you'll need the skills and knowledge to keep our oceans healthy and make sure that the growth in marine industry and economy happens in a sustainable way.

As the UK's only degree in marine geography, we focus on the science behind marine conservation and sustainability and associated challenges. You'll examine the influence of climate change, increased coastal erosion and flooding and the need to adapt to such coastal futures.

We'll make sure you graduate with the skills to solve a range of complex marine and coastal environmental problems and with experience of hands-on fieldwork and cutting-edge research. Our previous students have completed placements in a range of topics including offshore surveying, ecosystem mapping and port environmental management.

RICS Accredited Course

"**During my placement at Parc Natural, I examined the uses of the marine park protecting the Medes Islands.** I was involved in a range of projects including coastal monitoring, sand dune restoration and research diving, which allowed me to witness much of the biology the islands had to offer, including barracudas, moray eels, amberjack tuna and eagle rays."

Destiny Newman,
Marine Geography with a Year of Study Abroad

Physical Geography

Physical Geography (BSc), UCAS code: **F843**

Physical Geography (MSci), UCAS code: **F844**

Physical Geography with a Year of Study Abroad (BSc), UCAS code: **F849**

Our planet is constantly evolving and reshaping itself.

We need to understand the science behind physical processes and hazards like flooding and coastal erosion so we can adapt and find solutions to the challenges we'll face in the future.

This course will look at the science behind Earth's physical processes, including geomorphological processes and hydrology, so you'll better understand the immediate issues that we face as global citizens, helping you to make a positive impact into the future.

You'll discover how landscapes have evolved, the current processes, impacts and influences on our planet, and how we can predict changes in the future. You will hone skills in mapping, research, analysis and problem-solving using state-of-the art field and laboratory equipment. You'll learn how to utilise high-level, professional software applications to model future landscape changes.

We'll make sure you graduate with the skills to solve a range of complex real-world problems related to the physical environment and with experience of hands-on fieldwork and cutting-edge research with world leading scientists.

Environmental Sustainability Science

Environmental Sustainability Science (BSc), UCAS code: **F651**

Designed specifically to tackle the challenge of environmental sustainability, this programme will give you knowledge and skills across both human and physical geography so that you're ready to take urgent action for our planet.

This programme uses an innovative approach to learning, integrating fieldwork, skills and theory using a problem-based learning approach. You will explore three key areas: clean water, land degradation and climate action, by looking at real-world scenarios to help you develop sought-after transferable skills. Working across multiple disciplines you will critically analyse, discuss and debate environmental sustainability issues in order to offer practical solutions to these complex global problems.

You will have the opportunity to conduct your own research project, which will provide valuable skills and knowledge in an area that is interesting and important to you. To support the next steps in your career, you will produce a portfolio demonstrating your progress and achievements.

This distinctively focused course explores topical environmental areas based around the United Nations' Sustainable Development Goals (SDGs). This means our graduates develop highly sought-after skills and knowledge in major attention areas for researchers, governments and non-government organisations.

Due to the specialised nature of this degree, it is not possible to transfer onto one of our other Earth and environmental science programmes.

Applications

To be considered for entry onto any of the undergraduate courses we offer, you should apply through UCAS: **www.ucas.com**

Entry requirements

Our entry requirements are the same across all our programmes. All applicants offering all types of qualification must have at least 1 STEM subject (Chemistry, Psychology, Physics, Maths, Statistics, Geology, Biology, Geography, Computer Science, ICT or Environmental Science) in their highest-level entry qualifications, with the same requirements for the BSc and the MSci. All applicants normally require GCSE Mathematics grade C/grade 4 and GCSE English grade C/grade 4, or equivalents.

International applicants

We welcome applications from international students. Your qualifications must be comparable to UK qualifications, and the Director of Recruitment and Admissions can provide more details. More information is also available on our website at: **www.cardiff. ac.uk/international**

For overseas students whose first language is not English, the minimum requirement is at least 6.5 in the British Council IELTS Exam or equivalent with at least 5.5 in each component, i.e., speaking, reading, writing and listening.

Qualification	
GCE A levels & Scottish Advanced Highers	ABB if taking one science and BBB if taking two sciences (from the STEM subjects above).
International Baccalaureate (min. 5 points in English)	32 overall or 665 in 3 HL subjects (with 1 HL science subject) or 31 overall or 665 in 3 HL subjects (with 2 HL science subjects).
Welsh Baccalaureate	ABB if presenting one science and BBB if presenting two sciences (from the STEM subjects above) WBQ will be accepted in lieu of one A level excluding the required science A-level(s).
Access to HE Diploma	60 credits, including at least 45 at level 3 in a science or maths based QAA-recognised Access to HE Diploma with a minimum of 15 credits at Distinction and 15 credits at Merit.

Visit our undergraduate course page to **find out more**.

How to find the School

Earth and Environmental Sciences is located in Main Building, on our Cathays Campus.

Key

- Earth and Environmental Sciences
- University and NHS buildings
- Student residences

Important Legal Information

The contents of this brochure relate to the Entry 2027 admissions cycle and are correct at the time of going to press in June 2026. However, there is a lengthy period of time between printing this brochure and applications being made to, and processed by us, so please check our website at: **www.cardiff.ac.uk** before making an application in case there are any changes to the course you are interested in or to other facilities and services described here. Where there is a difference between the contents of this brochure and our website, the contents of the website take precedence and represent the basis on which we intend to deliver our services to you.

Your degree:
Students admitted to Cardiff University study for a Cardiff University degree.

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Thank you.

Mae'r ddogfen hon hefyd ar gael yn Gymraeg.

This document is also available in Welsh.

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This prospectus can be made available in alternative formats, including large print (text), Braille and on audio tape/CD.

To request an alternative format please contact Laura Roberts:

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