Lancaster University

Environmental and Earth Sciences

Undergraduate Degrees 2026

Earth and Environmental Sciences are *essential* disciplines for tackling the pressing *challenges* of the 21st century.

By combining insights from geology, climate science, chemistry, and ecology, they offer a uniquely comprehensive understanding of the Earth's systems and the impacts of human activity–knowledge that is critical for creating sustainable solutions for our planet's future.

Study the challenges facing the environment with our flexible degrees. Take advantage of our unique location, near to the coast, countryside and major urban centres, and join us on some of our amazing field courses.

Earth and Environmental Sciences forms an integral part of Lancaster Environment Centre, an internationally recognised centre for teaching and learning related to the environment. Being part of a multidisciplinary environment centre means you can study topics from across the full breadth of the disciplines, all of which are taught by academics who are leading experts in their fields.

By joining us at Lancaster, you will become part of a broad community of like-minded students, academics, researchers and scientists working together to address today's biggest environmental challenges.

Director of Lancaster Environment Centre

Professor Crispin Halsall

Discover the major challenges facing environments globally

Develop your knowledge of how the Earth's system works, learn new laboratory and research skills, and join us on amazing field courses. You'll study how the environment has evolved to its present state and how it might change in the future, giving you the understanding you need to tackle some of the major challenges facing the world.

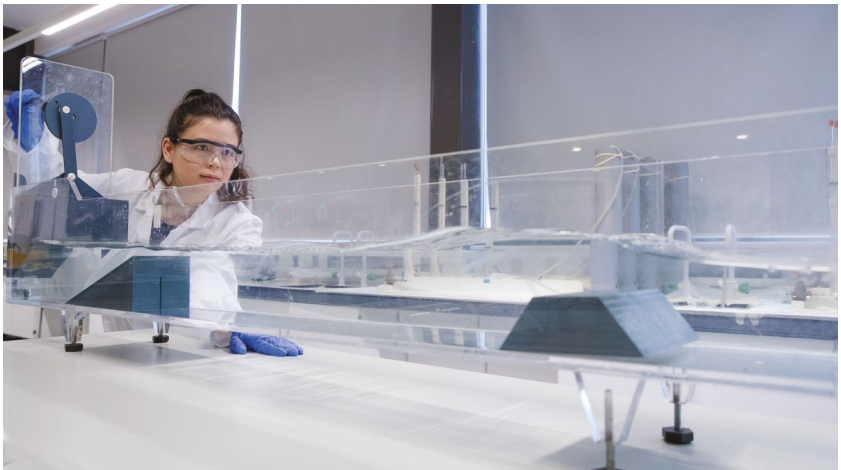
Awareness of major global challenges is mounting, including concern over climate change, water and soil pollution, food production, and the management of hazards such as flooding or volcanic eruptions. Studying the environmental and Earth sciences uniquely equips you to address challenges like these, by applying your understanding and practical experience gained across a range of scientific disciplines.

Join us at Lancaster Environment Centre and become part of a community of students, academics, researchers, scientists and commercial enterprises, working together to address today's biggest environmental challenges.

Degree title		Degree (Hons)	UCAS code	Course duration (years)	Typical A level offer
Earth and Environmental Science		BSc	FF68	3	ABB
Earth and Environmental Science		MSci	4R71	4	AAB
Earth and Environmental Science (Placement Year)		BSc	FF78	4	ABB
Earth and Environmental Science (Study Abroad)		BSc	FF7V	4	AAB
Environmental Science		BSc	F750	3	ABB
Environmental Science		MSci	F850	4	AAB
Environmental Science (Placement Year)		BSc	F752	4	ABB
Environmental Science (Study Abroad)		BSc	F756	4	AAB

Study abroad available Industry placement available

We welcome applications from students with combined or other internationally recognised qualifications. For more information, please contact the Admissions Office directly on **+44 (0)1524 592028** or **ugadmissions@lancaster.ac.uk**



Made for *learning*

There has never been a better time to study Environmental and Earth Sciences. At Lancaster, you will become part of the world-renowned, multidisciplinary Lancaster Environment Centre and be taught by leading experts in their fields.

Our team will provide you with fundamental understanding and hands-on experience related to the environment, giving you the key skills required for a wide range of careers inside or beyond the environment sector.

Lancaster offered the first environmental science degree in the country in the 1960s, representing a long track record of excellence, and since then our staff have helped to shape this rapidly evolving subject both in the UK and internationally.

Flexible and interdisciplinary

We believe that you will excel in your degree when you have the opportunity to explore in-depth the areas of the environmental or Earth sciences that interest you the most. Your first year of study will give you the foundation, knowledge and skills you need before specialising in subsequent years of your degree.

What's more, studying in a multidisciplinary department gives you the unique opportunity to expand the breadth of your degree by taking complementary modules in ecology or geography.

Practical study

You won't just learn in lecture theatres at Lancaster! We believe that the environmental and Earth sciences are best appreciated through hands-on practical experience, whether that is in the field, in our teaching laboratories or in computer classes. Practical learning enables you to put theory into practice, providing a deeper understanding of the subject, whilst developing skills which will be of use throughout your degree and future career.

Links with employers

Our in-house Enterprise and Business Partnerships team engages with hundreds of different organisations, giving you fantastic opportunities to work alongside these partners through internships or even during your dissertation project.

We give you the opportunity to enhance your career-related skills and experience during your degree, which is crucial for standing out in the graduate jobs market.

Finn, *third year*

BSc Earth and Environmental Science

Lancaster is the ideal place to study an environmental science degree, not only because of its excellent location with close proximity to the Lake District and Morecambe Bay, but also the incredible facilities on campus. I love going on field courses to the Lake District to help consolidate what I learnt in lectures and explore it for myself. Facilities such as the labs and study spaces on campus are very well equipped, I especially enjoy doing lab work, as it allows me to apply my learning into practice. It's not only the facilities in LEC that are great, as I love studying in the library and the Skylounge in the Infolab building. I spend a lot of time in the Sports Centre playing basketball and using the gym, sauna, steam room and pool.

Another reason why I love Lancaster is the collegiate system – I think it really makes Lancaster unique compared to other universities. Colleges give you a real sense of belonging as they are a much smaller community for you in a big university and both college events and sports teams are a great way to meet people and make new friends. I also love how many opportunities there are to get involved with college life, like joining the JCR Exec (Junior Common Room Executives) and contributing to big events like the Summer Ball end-of-year party as well as smaller events organised by individual colleges throughout the year.

13TH

in the UK for Geography and Environmental Studies

The Complete University Guide 2025

Adam, *fourth year*

BSc Environmental Science (Placement Year)

Wessex Water

Environmental Solutions

Overall, I absolutely loved the experience and couldn't recommend doing a placement enough!

My placement was based in Bath, UK working for Wessex Water – a water and sewerage company serving more than 2.8 million customers across southwest England. My placement was within the Environmental Solutions team and focused on monitoring constructed wetlands and reed beds as alternatives to hard engineering wastewater treatment solutions.

Over the 12 months I spent with Wessex Water, I was involved with a variety of tasks enabling me to work from the Head Office in Bath, on-site across the region and occasionally from home too. My role included weekly field sampling and water quality monitoring, site visits with stakeholders and farmers, data analysis, GIS mapping, ecological surveys and electrofishing, just to name a few! Overall, I absolutely loved the experience and couldn't recommend doing a placement enough!

Gain *real-world* experience

Volunteer

Our Green Lancaster scheme provides you with plenty of opportunities to become more sustainable and promote positive environmental choices. The many nature reserves near to Lancaster also offer numerous volunteering opportunities. Within Lancaster Environment Centre, we offer you volunteering opportunities either with external partners, specifically in the environment sector, or as a research assistant in our own laboratories or research groups.

Beyond LEC seminar series

We run a series of fortnightly seminars throughout the year in which graduate employers and recent graduates offer insights into sectors in which our students often take up careers. These include information and advice on what these careers entail, how to identify opportunities, and how to make the most of your skills and experiences.

Eco-innovation

Eco-innovation is the development of new products, processes or services that support business growth with a positive environmental impact. There is an opportunity to study eco-innovation in third year that will not only provide you with knowledge of this area and how the concept relates to business opportunities, but will also give you the insights to understand how organisations apply eco-innovation into their business planning. As part of the module, you will learn how to create proposals for eco-innovation and prepare presentations for a panel of experts.

Placement year

Taking our placement degree provides the opportunity to spend up to 12 months of your third year working in a paid, professional role as a full-time employee in the type of organisation that you might aspire to join when you graduate. Being able to demonstrate professional experience of working on a range of important and interesting projects, where you potentially get to apply the theory you've learned in your first and second year, is invaluable when competing in the job market. It's also a great way to work out what you do, or don't, want to do once you complete your studies!

Finding and securing a placement opportunity is down to you, just as it would be when applying for a graduate vacancy. However, we will provide you with plenty of support and guidance in writing your CV, applying for positions, preparing you for interviews and even taking part in assessment centres.

We also have well-established and long-standing links with many potential employers which means that we'll have a number of placement opportunities just for Lancaster students.

Internships

Students have the opportunity to gain important work experience by applying to do paid summer internships. Past LEC students have been employed on projects as diverse as applying 'Internet of Things' technologies to the agricultural sector and upcycling old bathroom fixtures into garden planters.

Learning on location

We take full advantage of our natural surroundings to create amazing fieldwork experiences, in addition to the opportunities to travel the world with residential and overseas field courses.

Local field excursions

Nestled between the Lake District World Heritage Site, Yorkshire Dales National Park, Areas of Outstanding Natural Beauty, and close to major cities such as Manchester, Lancaster is perfectly placed to study environmental, geographical and geological processes. We take full advantage of our natural surroundings to create exceptional fieldwork experiences, integrated directly into our taught modules. Immersive, day-long field courses form a core part of your learning journey, enabling you to connect theoretical knowledge with real-world, hands on experience. In addition to these local field courses,, there are opportunities to travel the world with residential and overseas field courses.

Lake District

The aim of this module is to develop key environmental and Earth science field skills that bring together laboratory, analytical, and interpretative approaches to allow you to critically examine a contemporary environmental challenge: the potential contamination of water courses by historic mining activity. You will learn important field skills that span a range of relevant disciplines including geology, hydrology and erosion, and apply these during a residential field course to the Lake District. Subsequent laboratory analysis will allow you to measure water chemistry to determine the extent of contamination, and you will apply a range of statistical techniques to process and interpret your results.
You will learn how to present your results in a professional manner in the form of an environmental report.

11TH

for Geography and Environmental Science

The Times and Sunday Times Good University Guide 2025

Mull

Having the skills and confidence to work outdoors is key for many Earth scientists. This module will provide you with context and training in geologic field skills. Geologic maps provide information about processes on and beneath the surface of the Earth. Useful in both commercial and academic work, they show the geographic distribution of rocks and sediments at the Earth's surface; they can be used to determine the histories of past events and locations of subsurface resources. This module, with workshops ahead of a residential held on the Isle of Mull, Scotland, provides training in geologic mapping plus a visual demonstration of geologic processes. You will collect field data to make a geologic map, in parallel with learning how to record information in field notebooks, use professional geologist's tools, map read and navigate, keep safe in the field, and work effectively both within a team and as a team leader.

Please note: Availability of field options is subject to pre-requisites.

Learning on location

Fieldwork is a fascinating way to develop your practical skills. You'll gain hands-on experience of a wide range of environmental, ecological and geological situations that will place your studies in the context of real-world issues.

Etna

This module develops your theoretical and practical knowledge of volcanic processes by studying the evolution of a basaltic volcano. Pre-trip classroom sessions are used to support the main residential field course component of the module (usually at Mt. Etna, Sicily). The module covers a wide range of the complex physical volcanic processes that take place both on the surface, within and beneath volcanoes. It explores geological evidence for constructional (eruptive and intrusive) events as well as for destructive (collapse) events. You will be introduced to volcanological concepts that are then evaluated and used to interpret field observations over scales varying from millimetres to kilometres. A problem-based learning approach is taken to addressing large-scale challenges such as understanding the magmatic plumbing system and how this influences contemporary hazard analysis and mitigation efforts.

Please note: Availability of field options is subject to pre-requisites.

Bali

The third year field course focuses on the governance of dynamic and rapidly changing socio-ecological systems in tropical Southeast Asia – places often conceived as utopias. You will explore the concept of "utopia" and how it relates to environment and development challenges addressed by scholars across LEC, considering why they succeed or fail. We will visit a range of sites that reflect a continuum of different management trajectories. Through these cases, we will explore related trade-offs and approaches to natural resource management. There will be opportunities to engage with different stakeholders, including policy makers, tourists and local farmers, to explore their differing views of utopia and preferred development and conservation trajectories, and their implications for society and the biophysical landscape. This is a multidisciplinary trip that will be of interest to natural and social science students alike, and will press you to engage literature, concepts, methods and assignments from areas outside the experiences of your degree and worldview.

105TH

in the world for Environmental Sciences

QS University World Rankings

by Subject 2025

Your global *experience*

Lancaster is a truly international university, with students and staff from over 100 different countries and partner institutions around the world. Your global experience is about living and learning with people from different cultures whether through your course, your college or your Students' Union.

Study abroad

Broaden your academic horizons by spending a year studying abroad in either North America or Australasia. You'll study similar modules to those available in Lancaster while gaining an understanding of a different culture and society. You will spend Year 3 overseas, returning to Lancaster to complete your degree in Year 4.

Visit **lancaster.ac.uk/study-abroad** to see a full list of the overseas institutions with whom we currently have a partnership arrangement.

Vacation travel

Alternatively, there are often shorter options in the Easter or summer vacation to destinations such as China, Germany, Ghana, India, and Malaysia. These programmes include meeting local students and businesses as well as some academic study and cultural discovery. You may also be able to attend a summer school at one of our many overseas partner universities.

Find out more at **lancaster.ac.uk/your-global-experience**.

“By completing a year abroad, I believe that my social confidence has increased, and I feel more resilient than before.”

University of Waterloo, Canada

Lancaster University

Harry, *fourth year*

BSc Earth and Environmental Science (Study Abroad)

I have recently returned from a year abroad in Canada, where I studied Earth Science at the University of Waterloo. I decided to transfer onto the study abroad variant of my course in the summer before starting first year, after researching the programme further and finding that it would enable me to experience new cultures abroad and explore a country which I had never been to before.

By completing a year abroad, I believe that my social confidence has increased, and I feel more resilient than before. Of course, the teaching I have received has been helpful but this opportunity has also opened the door to a wider cultural understanding. The experience has also enabled me to network with students and researchers abroad and has inspired me to consider continuing my studies in Canada, under the supervision of the faculty I worked with whilst I was there. This opportunity has truly been a once-in-a-lifetime experience.

Earth and Environmental Science

BSc Hons, MSci Hons

Geoscientists are increasingly recognised as playing a crucial role in meeting global challenges such as climate change, sustainable development, resource provision, and natural hazards. By placing your geoscience training within the broader context of the environment, you will gain knowledge of both the challenges and the potential solutions.

Covering both natural and man-made environments, you will explore the main factors and processes that control today's environment; how the environment has evolved to its current state, and how environmental conditions may change in the future.

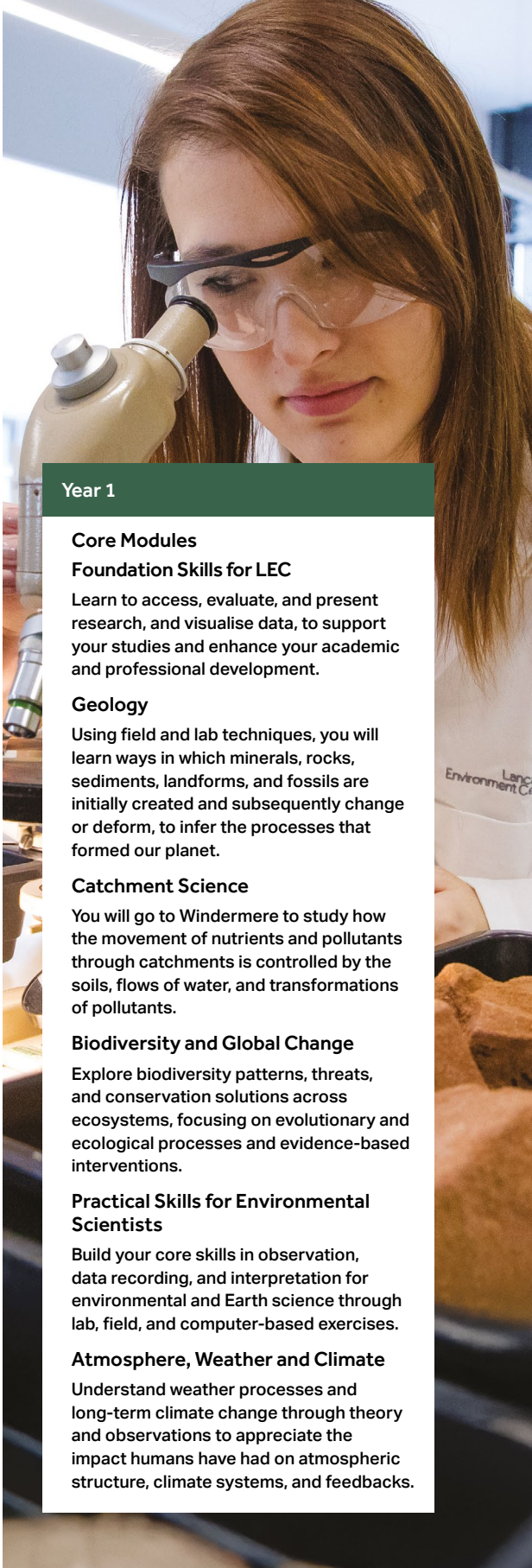
In addition, the degree draws upon the expertise of a number of our staff who specialise in Earth science including volcanologists, geophysicists, hydrogeologists and glaciologists, who deliver an exciting range of specialist topics to choose from. You will study six modules per year in Year 1 and Year 2. In Year 3 you will complete your dissertation and choose an additional four option modules.

Second and third year modules build upon the themes in Year 1, and you will have the opportunity to take part in popular field courses.

Enhancing your curriculum

We continually review and enhance our course curricula to ensure we are delivering the best possible learning experience, and to make sure that the subject knowledge and transferable skills you develop will prepare you for your future.

Information within this publication with respect to courses and modules is correct at the time of publication, and the University will make every reasonable effort to offer courses and modules as advertised. In some cases, changes may be necessary and may result in new modules or some modules and combinations being unavailable, for example as a result of student feedback, timetabling, staff changes and new research.



Year 1

Core Modules

Foundation Skills for LEC

Learn to access, evaluate, and present research, and visualise data, to support your studies and enhance your academic and professional development.

Geology

Using field and lab techniques, you will learn ways in which minerals, rocks, sediments, landforms, and fossils are initially created and subsequently change or deform, to infer the processes that formed our planet.

Catchment Science

You will go to Windermere to study how the movement of nutrients and pollutants through catchments is controlled by the soils, flows of water, and transformations of pollutants.

Biodiversity and Global Change

Explore biodiversity patterns, threats, and conservation solutions across ecosystems, focusing on evolutionary and ecological processes and evidence-based interventions.

Practical Skills for Environmental Scientists

Build your core skills in observation, data recording, and interpretation for environmental and Earth science through lab, field, and computer-based exercises.

Atmosphere, Weather and Climate

Understand weather processes and long-term climate change through theory and observations to appreciate the impact humans have had on atmospheric structure, climate systems, and feedbacks.

Year 2

Core Modules

Environmental Field Skills

You will apply field and lab techniques to investigate historic mining-related water contamination, culminating in an environmental report using interdisciplinary skills.

Practical Geoscience

Combine theory and practice to explore geological processes and their environmental impacts, with an emphasis on interpreting geological histories and sustainability.

Geologic Mapping

Develop your professional skills in geological mapping and interpretation on the Isle of Mull in Scotland, to learn about the processes that have shaped its history on and beneath the surface of the Earth.

Environmental Data Analysis and Visualisation

Teaches you the foundations of programming for environmental data analysis and visualisation, covering coding basics, statistical tools, and application to large datasets.

Optional modules currently include

+ Glaciology
+ Ecology and Conservation
+ Hydrology and Water Quality
+ Soil Science
+ Atmospheric Science

Year 3

Core Modules

Dissertation

Working with your supervisor, this will be the largest piece of work in your degree, and a chance to enhance your skills and show your passion for a topic of your choice.

Environmental Geophysics

Explores the wide range of geophysical techniques now available, including ground penetrating radar, electrical, seismic, gravity and magnetic sensors, and how to apply these within different industries.

Optional modules currently include

+ Eco-Innovation for Sustainable Development
+ Spatial Data Analysis
+ Climate Change
+ The Earth's Interior
+ Water Resources Management
+ Governing Socio-Ecological Systems in Tropical Asia Field Course
+ Cryosphere in a Changing Climate
+ Sustainable Agriculture
+ Geological Hazards
+ Volcanic Processes Field Course
+ Managing the Energy Transition

Year 4

For Placement Year and Study Abroad students

See core and optional modules described above for Year 3.

For MSci students

Core modules

MSci Dissertation

Physical Volcanology

Plus a selection of optional modules that includes

+ Geoinformatics
+ Environmental Governance and Management
+ Groundwater Resources and Protection

Environmental Science

BSc Hons, MSci Hons

This flexible programme draws from a wide range of scientific disciplines to build a degree that matches your interests and career aspirations.

You will learn about the individual components of the Earth system, including the atmosphere, aquatic and terrestrial ecosystems, and the role of living organisms within the biosphere, alongside how these individual components interact with each other. The degree focuses on natural environments and also on how human society has modified the Earth system.

Throughout your degree you will be taught by internationally-renowned academics, and will have access to our state-of-the-art laboratories which offer excellent facilities for practical work. You will study six modules per year in Year 1 and Year 2. In Year 3 you will complete your dissertation and choose an additional four option modules.

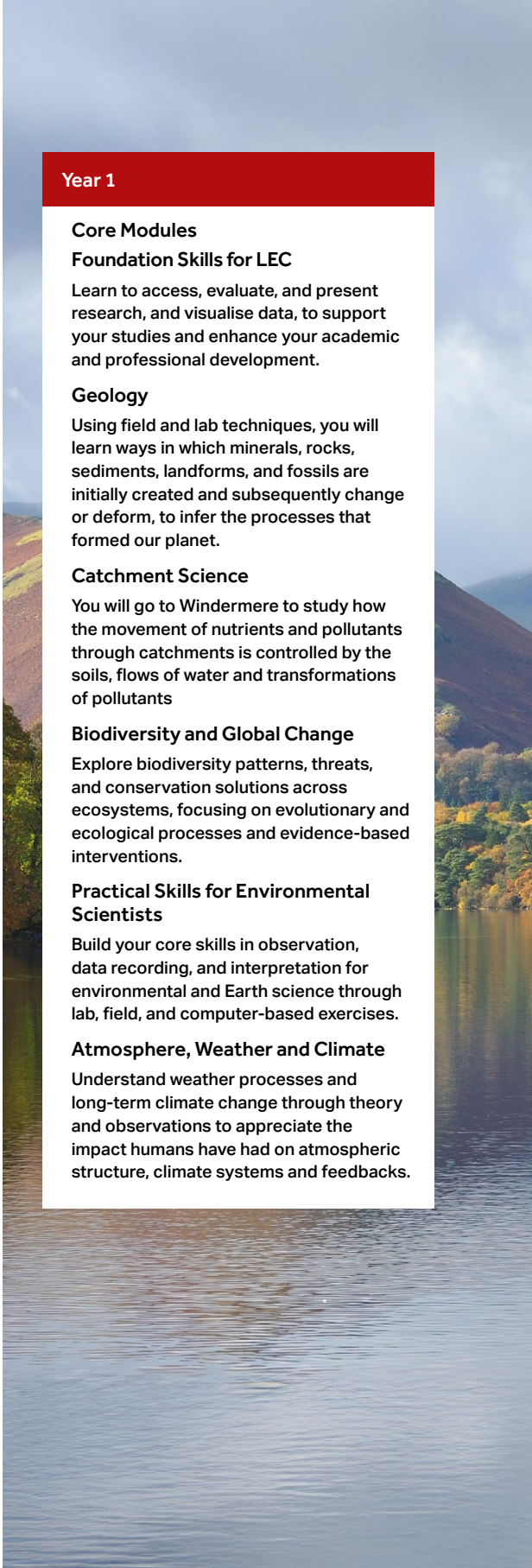
Your first year will address many of the fundamental themes of environmental science, from understanding hydrology and flood risk to learning about weather and climate. Second year modules build on themes introduced in Year 1.

From your second year onwards, you begin to specialise by choosing modules that interest you the most. In addition, you will begin to prepare for your third year dissertation project, which gives you an opportunity to research a subject that really interests you. You may choose a project with a substantial fieldwork component or, alternatively, conduct your dissertation through laboratory research or computer modelling.

Enhancing your curriculum

We continually review and enhance our course curricula to ensure we are delivering the best possible learning experience, and to make sure that the subject knowledge and transferable skills you develop will prepare you for your future.

Information within this publication with respect to courses and modules is correct at the time of publication, and the University will make every reasonable effort to offer courses and modules as advertised. In some cases, changes may be necessary and may result in new modules or some modules and combinations being unavailable, for example as a result of student feedback, timetabling, staff changes and new research.



Year 1

Core Modules

Foundation Skills for LEC

Learn to access, evaluate, and present research, and visualise data, to support your studies and enhance your academic and professional development.

Geology

Using field and lab techniques, you will learn ways in which minerals, rocks, sediments, landforms, and fossils are initially created and subsequently change or deform, to infer the processes that formed our planet.

Catchment Science

You will go to Windermere to study how the movement of nutrients and pollutants through catchments is controlled by the soils, flows of water and transformations of pollutants

Biodiversity and Global Change

Explore biodiversity patterns, threats, and conservation solutions across ecosystems, focusing on evolutionary and ecological processes and evidence-based interventions.

Practical Skills for Environmental Scientists

Build your core skills in observation, data recording, and interpretation for environmental and Earth science through lab, field, and computer-based exercises.

Atmosphere, Weather and Climate

Understand weather processes and long-term climate change through theory and observations to appreciate the impact humans have had on atmospheric structure, climate systems and feedbacks.

Year 2

Core Modules

Environmental Field Skills

You will apply field and lab techniques to investigate historic mining-related water contamination, culminating in an environmental report using interdisciplinary skills.

Hydrology and Water Quality

To prepare you for potential careers in water-related sectors, you will learn how to monitor and model water systems, how pollutants are transported, and the impacts of climate change.

Soil Science

Highlights soil's role in ecosystems, food security, and carbon storage, while addressing threats and mitigation, through fieldwork and lab classes.

Atmospheric Science

Explore the physical and dynamical properties of the atmosphere and how they affect the movement of air, from small scale flows through to global scale circulation, including monsoons and El Niño.

Environmental Data Analysis and Visualisation

Teaches you the foundations of programming for environmental data analysis and visualisation, covering coding basics, statistical tools, and application to large datasets.

Optional modules currently include

+ Glaciology
+ Ecology and Conservation

Year 3

Core Modules

Dissertation

Working with your supervisor, this will be the largest piece of work in your degree, and a chance to enhance your skills and show your passion for a topic of your choice.

Optional modules currently include

+ Eco-Innovation for Sustainable Development
+ Spatial Data Analysis
+ Climate Change
+ Environmental Pollution: Management and Remediation
+ Water Resources Management
+ Governing Socio-Ecological Systems in Tropical Asia Field Course
+ Cryosphere in a Changing Climate
+ Sustainable Agriculture
+ Geological Hazards
+ Managing the Energy Transition

Year 4

For Placement Year and Study Abroad students

See core and optional modules described for Year 3.

For MSci students

Core modules

MSci Dissertation

Groundwater Resources and Protection

Plus a selection of optional modules that includes

+ Environmental Impact Assessment
+ Agriculture, Climate Change and Food Security
+ Data Assimilation and Integration

“Field trips have been a key part of many modules I have undertaken.”

Amy, *third year*

BSc Earth and Environmental Science

My degree follows a pathway similar to Environmental Science, but instead of focusing on subjects like atmospherics, it emphasises geological processes and their influence on the environment. It offers a wide variety of modules, allowing me to study areas such as biodiversity and conservation, alongside my core subjects.

I've really enjoyed the field courses my degree offers, as they provide hands-on learning of skills important for my career and desired by employers. These included travelling to the Yorkshire Dales to observe glacial valleys and cave systems, the Lake District to study water contamination, and the Isle of Mull to map the local geology.

I also appreciate the option to do my dissertation with an external partner, which allows me to gain experience working with environmental organisations, learn crucial skills, and make valuable connections in the industry.

After completing my undergraduate degree, I plan to either continue my studies with a Master's degree in environmental management or a similar discipline or apply for a graduate job in the conservation or hydrogeology sector.

Conservation or Hydrogeology Sector

Master's in Environmental Management

BSc Earth and Environmental Science

86%

Lancaster Environment Centre graduates in employment or further study within 15 months of graduating

Graduate Outcomes Survey

2024

Hello future

From environmental consultancy through the water industry to the Met Office, a degree in the environmental and Earth sciences provides a platform to enter a wide range of different professions spanning the private, public and third sectors.

When you graduate from Lancaster, you will take with you not only the subject knowledge from your degree, but also the skills and experiences valued by employers across a wide range of different sectors. We also provide many opportunities that focus on the development of your career aspirations and your preparation for life after Lancaster, ranging from networking with recent alumni to training for job interviews.

Examples of the types of career path that our recent graduates have followed include:

+ Air Quality Consultant
+ Chemical Analyst
+ Environmental Engineer
+ Environmental Regulator
+ Geotechnical Engineer
+ Hydrogeophysics Technician
+ Meteorologist
+ Nuclear Waste Scientist
+ PhD Researcher
+ Recycling Site Chemist
+ Sustainability Consultant
+ Waste Water Engineer
+ Graduate scheme, for example in the Water Industry

Whatever your career aspirations may be, or even if you're still not quite sure, we're here to support you to reach your goals.

Dedicated careers support

Within the department, you will receive careers-focused support from your academic tutor, who will invite you to one-to-one meetings to discuss future plans for work or study. Lancaster Environment Centre also offers a range of events including lunchtime talks from a broad variety of employers interested in environmental and Earth sciences graduates.

Lancaster University's dedicated Careers Service are also here to support you. From helping you identify the types of career you'd like to explore to ensuring you are well prepared for interviews and assessment centres, they are able to offer you tailored and personalised support.

Find out more

FSC
www.fsc.org
MIX
Paper | Supporting responsible forestry
FSC® C015185

Planting trees to catch carbon
3043871
Carbon Captured Material

recycle

Lancaster Environment Centre
lec.ug@lancaster.ac.uk
lancaster.ac.uk/env-sci