

Lancaster  
Environment Centre

Lancaster  
University



**Geography  
Earth and Environmental Science  
Biology**

Free resources and activities  
to inspire beyond the classroom



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## Sharing our passion

**At Lancaster, we're proud of our position as a UK top fifteen university. We're ranked 9th in the UK for Geography and Environmental Sciences in the Sunday Times Good University Guide 2023, and 11th for Biosciences in The Times Good University Guide 2023, establishing ourselves as leaders in modern teaching and research.**

The expertise of our staff spans the full breadth of environmental studies, covering Biology, Ecology and conservation, Environmental and Earth Sciences, Geography, and Zoology. We aim to share our passion to address today's biggest environmental challenges with the next generation. This brochure offers you some resources and activities to help you inspire your students,

and experience what it's like to study at Lancaster Environment Centre. Everyone in our department that contributes to our teaching and research relishes the chance to engage with schools and colleges like yours, and we're looking forward to working with you. To contact us about any of the activities in this brochure, please see each page for details.

**Dr Peter Wynn**  
 Reader in Physical Geography  
 Director of Undergraduate Admissions and Outreach  
 Lancaster Environment Centre

# Geography, Earth and Environmental Science Masterclasses

If you teach any budding geographers, ecologists, or environmental scientists, our masterclasses are ideal for them! Year 12 and 13 students will get a taste of studying subjects at Lancaster Environment Centre, building on their core knowledge to experience what it's like to take their skills and studies to the next level.

Your students will get their hands on our state-of-the-art equipment and learn how we link key concepts of physical and human geography, and environmental and Earth sciences, to gain an understanding of the planet, its people, and how we can tackle 21st century environmental issues.

## Key details

**Age:** Years 12 -13

**Location:** On campus

**Subject/s of interest:** Geography, Earth and Environmental Science

**Additional costs:** Pupils will be required to bring a packed lunch

## Natural Hazards

Learning about natural hazards is as much about understanding the impact on people as it is about understanding the physical nature of the hazard itself. But, would your students know what to do in the face of a natural disaster? In our fast-paced natural hazards simulation game, students will work in teams to unearth the causes of a natural disaster and make life-affirming decisions affecting the populations involved. Students will take on the role of a first response team and put theory into practice – will they be able to keep their cool as the pressure heats up after a natural disaster strikes? The session focuses on building upon students' existing knowledge of natural hazards. They will look at the causes of a disaster, be able to measure the environmental and human impact, and understand how to conduct hazard assessments.



## Geographic Information Systems

We can show your students the science of the world around them, how it has developed over time, and advance their map reading skills using our GIS mapping software. Using real-time data, students will be offered the opportunity to undertake various tasks which may include change over time analysis to measure rates of glacier retreat, monitor changing coastal geomorphology, determine the changing shape of volcanic islands, or track the rate of deforestation. The session will equip students with the ability to perform industry-related tasks by applying their critical thinking skills to apply GIS in real-world scenarios.

## Energy

The energy demands of the planet have changed significantly. The methods we now use to generate energy, the community perception of these technologies, and the increasing frequency of extreme weather driven by climate change, are all impacting the relationship we have with energy generation.

The 'Energy Day' is a full day's activities hosted by the Environment Centre, The School of Engineering and The Energy Centre. The activities are designed to give your students an impression of the interdisciplinary collaboration required to tackle carbon reduction in energy production. Workshops include getting up close to the University's wind turbine, an explanation of turbine function and generating capacity; wind turbine design; and a demonstration of energy generation capacity within a UK renewables context.

Please contact us to find out more and to book your masterclass: [stemengagement@lancaster.ac.uk](mailto:stemengagement@lancaster.ac.uk)

# Biology Masterclass

As we look around the world it can be easy to throw up our hands in despair. The climate crisis, global food security, mass extinction of animal populations caused by human activity, all seem to have become the new normal. Meanwhile, healthcare systems facing novel diseases and pandemics combined with rising levels of obesity and ageing populations create additional pressures globally. These are immense challenges facing humanity and represent problems that won't just go away.

## Key details

**Age:** Years 12-13

**Location:** On campus

**Subject/s of interest:** Biology, Biochemistry, Biomedicine, Ecology & Conservation, Sports and Exercise Science, Zoology

**Additional costs:** Pupils will be required to bring a packed lunch

Join us for a full day of activities where your students will gain an understanding of the

interdisciplinary approaches tackling these global problems.

Hosted by the Division of Biomedical and Life Sciences, Lancaster Environment Centre and the Department of Sports and Exercise Science, your students will take part in practicals and workshops that demonstrate the whole of biology, from disease and ageing in humans to the effects of climate change and the human impact on our planet.

Students will also have the opportunity to see the fascinating research taking place to address some of the world's most pressing challenges.

Please contact us to find out more and to book your masterclass: [stemengagement@lancaster.ac.uk](mailto:stemengagement@lancaster.ac.uk)



# Inspiration Days

Our Inspiration Days are designed to do exactly that – inspire! Bring your Year 9 and Year 10 pupils to our campus to dive into a day of taster sessions from our range of subject areas and get involved in our fun-filled activities delivered by our current students.

This is a great way for your pupils to experience university life first-hand, discovering the exciting opportunities that extend beyond our degree courses at Lancaster.

Your students will take part in a variety of taster sessions introducing them to key topics such as food production, energy consumption, environmental issues and conservation. There is an opportunity to experience the University campus with a tour through our buildings and facilities and go home inspired to learn more about environmental issues of the 21st century.



## Key details

**Age:** Years 9 - 10

**Location:** On campus

**Subject/s of interest:** Geography, Earth and Environmental Science, Ecology and Conservation

**Additional costs:** Pupils will be required to bring a packed lunch

Please contact us to find out more and to book your inspiration day: [stemengagement@lancaster.ac.uk](mailto:stemengagement@lancaster.ac.uk)



For more information visit [www.lancaster.ac.uk/lec](http://www.lancaster.ac.uk/lec)








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15029900255

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#### Important information

The information in this leaflet relates primarily to the academic year 2023/24 and every effort has been taken to ensure the information is correct at the time of printing. The University will use all reasonable effort to deliver the course as described but the University reserves the right to make changes after going to print.

Further legal information may be found at [www.lancaster.ac.uk/compliance/legalnotice](http://www.lancaster.ac.uk/compliance/legalnotice).

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