

Palaeontology & Evolution

Fieldwork

The Palaeontology & Evolution programmes include a range of field courses, including dedicated palaeontological field trips. The cost of these are included in the tuition fee. In the first year there is an optional pre-session field trip to North Somerset and a series of one-day field courses in the Bristol area. You will have a week of geological field skills training in Arran and a week of geological mapping training in Cumbria. In the second year there is a week-long trip dedicated to learning palaeontological field skills at the classic fossil sites in Dorset and on the Isle of Wight. In the third year you will learn palaeoecology field techniques in southern Spain. If you choose to study the MSci, then the fourth year includes an advanced palaeontological field techniques course in northern Italy.

(The locations and activities shown are typical but may be subject to change at the School's discretion.)



Working at the Triassic Manor Farm site near Bristol.

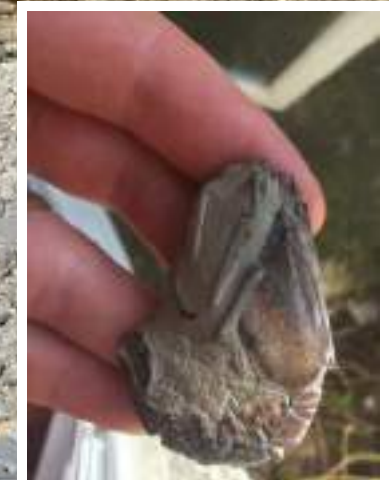


Image: Julia Buss, Wikimedia commons.

Logging sections on the second year Dorset and Isle of Wight trip.



Fourth year Advanced Palaeontological Field Skills course in northern Italy .



Fossil lobster found on the second year trip to Dorset and the Isle of Wight.



Collecting fossils on a one-day field course that is part of the second year Palaeobiology unit.



Third year field course on Evolutionary Palaeoecology studying Palaeozoic localities in eastern Spain.

Arran

Level 1 Geological Field Skills

This 7-day fieldtrip is designed as a series of field exercises where students learn and practice a wide variety of field skills essential for becoming a geologist. Arran has been a favourite destination for geologists for over 200 years because of its inspiring geology and great variety of well exposed rocks.

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Correlating strata along two sections of the Arran coast: the North and Corrie Shores.



Making a sedimentary log at "Hutton's unconformity" near Loch ranza.



Characterising the folding of the Dalradian metamorphic rocks at Catacol Bay.



Student teams design and complete a geological field investigation on their last day on the island. Past projects included investigating dyke swarms, logging fossiliferous sediment, comparing igneous intrusions with the Doon coast, mapping sediment mineralogy and glacial geomorphology in Glen Catacol (pictured).



Exploring rocks along the spectacular Doon coast.



New friends and geologists-in-the-making by the end of the fieldtrip.

The River Avon

Level 3 Environmental Geosciences Field Course

A 5-day fieldtrip where the students plan and complete a field sampling program to survey river water and sediments along the Avon River. The field course draws on theory from Level 2 taught courses (e.g. Environmental Geochemistry, Sedimentology, statistical analysis) to investigate relationships between river water, sediment and biological activity measured in the context of catchment geology and tidal influences.

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Students investigate past and current industrial uses of the river.



A canal barge is set up as a "floating laboratory" for sampling between Bristol Harbour and Bath.



Taking flow rate measurements.



Filtering water samples for later chemical analysis in the Department of Earth Sciences' research laboratories.



The hive of activity in the "floating laboratory".



Students develop skills in field logistics, sampling and analysis in the field.

Tenerife

Level 2 Environmental Geoscience Field Course

A 7-day fieldtrip where the students investigate relationships between soils, geology, climate and plant diversity on the Canary Island of Tenerife, Spain. As a result of its location and unique geography and geology, Tenerife has a remarkable diversity of climatic and vegetation zones. This zonation, coupled with multiple stages of volcanism and weathering, has led to the formation of a wider range of soil types within a very small area (<800 sq miles) than can be found in the entire UK.

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Day 2 site on the southern, desert part of the island. Here students assess unique desert vegetation, unusual soil formations, and produce a volcanic stratigraphic log.



Students dig soil pits in the highest treeline on the flank of the volcano and analyse the soils to identify the soil type and soil formation process.



Tenerife is a biodiversity hotspot with numerous vegetation zones from desert to cloud forest.



In the field, students observe and measure soil horizons, texture, root content, colour, pH, volcanic ash and carbonate content to identify soil type and history.



Analysing soils. Students develop analytical skill and collaboration in peer groups.



Exploring rocks along the spectacular Doon coast.

Brecon Beacons

Level 3 Near-Surface Geophysics Fieldwork

This course allows students to apply the knowledge and concepts they gained in the classroom in the field. Students work with their peers and acquire various practical skills such as using geophysical field equipment and analysing field data.

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Craig Y Nos Castle, where we stay on the trip. The former home of famed 19th Century Opera singer Adelina Patti. [source: google images]



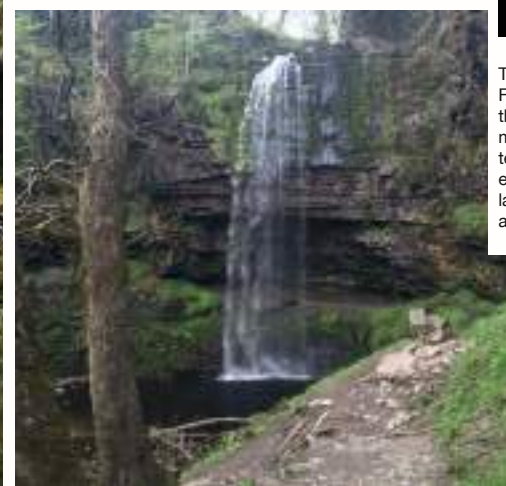
The hotel is complete with its own theatre, which we use for presentations on the field trip. [source: trip-advisor]



Our field site is in the former quarrying community of Penwylt. These cottages, which once housed miners is now the headquarters of the South Wales Caving Club, and provide a base for our geophysics (in all weathers).



Electromagnetic conductivity imaging. This allows us to map the electrical properties of the shallow subsurface of the site, looking for evidence of buried structures and the natural (for example, hydrological) features of the site.



Waterfall in the fieldtrip area.



Acquiring ground-penetrating radar up the side of the Lime Kiln. This allows us to probe the buried part of the structure, looking for evidence of its construction.



Throughout the subsurface below the site is the vast Ogof Ffynnon Ddu cave system. It is the deepest – and third-longest – cave system in the UK, with more than 30 miles of surveyed passage. Using our deepest sounding techniques (such as microgravity surveying) we can see evidence of the upper reaches of this complex natural labyrinth. [source: educational license stock photo from alamy.com]

Scotland

Level 3 Independent Mapping

This course allows students to apply the knowledge and skills they gained in Years 1 and 2 to an independent geological fieldwork investigation. Students work with a partner to map the bedrock geology of an area ~10 km² over 3–4 weeks. Guided by the unit director and staff supervisors, students use field observations, data, and research to produce a geological map, cross section, and dissertation on the geological history of their region. Fieldwork skills are hugely valued by employers in the mining, oil and gas, environmental engineering and environmental consulting sectors.

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Training. The first two years of your degree will equip you with the tools you need to conduct your own field-based research. We'll also have a communal brush-up on field skills just before your independent fieldwork. With the guidance of staff and demonstrators, you'll map a small area of the Scottish Highlands near the village of Kinlochleven, where Dalradian sediments have been repeatedly folded by multiple tectonic events. Your data and observations will reveal the sequence of events that formed the region and the 3D geometry of rocks beneath the surface. Smiling staff cater 3 meals a day!



Independent Mapping.

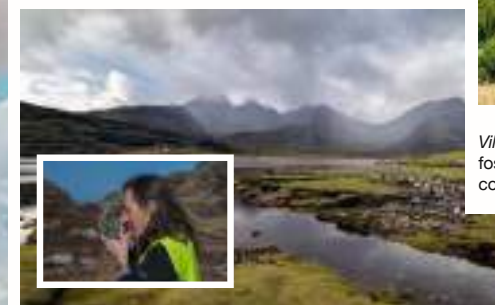
Following training in Kinlochleven, you'll embark on ~24 days of independent fieldwork with your mapping partner, having chosen from a menu of mapping regions on offer. Previous students have mapped in areas of the Scottish Highlands and the Cantabrian Mountains in northern Spain, including:



Inchnadamph and Ullapool. A classical region of British geology. Numerous faults and mind-boggling chunks of geologic time are exposed in the rocks that line the lochs.



Villamanin. A complexly faulted and folded region of fossil-rich carbonates and other sedimentary rocks, complete with tapas.



Skye. Mesozoic and Palaeozoic sediments punctuated by igneous intrusions that form the isle's dramatic crags, along with dykes and sills of varied age and composition.



Mull. Zoned igneous intrusions, metamorphosed sediments, and their minerals reveal the sequence of time, temperature, and pressure that formed this spectacular isle.



Kerrera. Metamorphosed sediments of Dalradian age cut by younger debris flows, sediments, and lavas. The island is car-free, so it's all yours to explore!

Careers for Earth Scientists

Our graduates have excellent career prospects and an outstanding reputation among employers in the sector. Many graduates go into related careers in fields such as mining, environmental consultancy, policy and government, museum curation and the oil and gas industry. Other graduates move out of the subject area and join diverse graduate schemes in fields ranging from accountancy to education to the armed services. Some graduates go on to further study. Our MSci graduates often win funded PhD positions both here and at other universities in the UK or overseas and many have gone on to successful academic careers.



Graduates often go on to careers in the Earth Sciences. James Renshaw is an exploration geologist for Shell.



Some students go into graduate schemes as varied as teaching, accountancy, law or the armed services.



Image: geograph.org.uk
The School has close links to Hinkley Point and graduates often choose careers in the nuclear and renewable energy industries.



Many of our MSci students continue to PhDs in Bristol or elsewhere. Fiann Smithwick went onto a PhD in Palaeobiology in Bristol.



Careers in the Environmental Sciences are a common destination for our graduates.

Earth Sciences Study Abroad Programs



Three programs

Environmental Geoscience with Study Abroad (MSci)
Geology with Study Abroad (MSci)
Geophysics with Study Abroad (MSci)

How does it work?

- Year 2 students choose host university in conjunction with Director of Study Abroad and the Global Opportunities Office
- Year 3 of the four year Study Abroad MSci program spent abroad
- Year 4 back at University of Bristol
- Students must maintain a 2.1 average grade to participate in Study Abroad

Highlights

A year spent studying overseas
Experience different styles of Education
Take in a New Culture
See the World
Enhance your Career Opportunities
Make Lifelong Friends
Discover yourself as you discover a new country



"The year abroad was the most enjoyable year of my degree. It was a fantastic opportunity to gain invaluable life experience but also to study alternative subjects to those offered by Bristol. I would encourage anyone even considering it to go!"

Dominic Walking, University of British Columbia, Canada

"During this year I completely redefined what I believe I am capable of. I was pushed to my limits academically, physically, personally and it was the best thing I could have done for myself. It was the hardest and most draining experience of my life and I'm so grateful that I had this opportunity."

Jennifer Harrison (EGS year abroad 18/19)

"Despite the very different style in teaching and assessment at Berkeley, I wholeheartedly enjoyed my year there. I am incredibly grateful that Bristol gave me the opportunity to study there and I think it had me a way better student/learner. It was awesome to have actual Nobel prize winners in the geology department there and going to seminars by them was fantastic."

Sam Murray (GEOL year abroad 18/19)



"Studying abroad in New Zealand has been the greatest experience of my life. I've been given the opportunity to explore a spectacular country and meet exceptional people from all over the world. Studying abroad has been a life changing, one of a kind experience, and I would strongly recommend anyone to take the opportunity."

Will Preston, Otago, New Zealand