Welcome in Scotland for Earth Systems and Environmental Sciences, Archaeology and Geosciences Research Impact.

Research Excellence Framework, 2014

1st in Scotland for Earth Systems and Environmental Sciences, Archaeology and Geosciences Research Impact.
Welcome

The School of Geosciences incorporates four departments; Archaeology, Geography and Environment, Geology and Geophysics, and Planetary Sciences. Our diverse community of academics and students is united by a common interest in the Earth – its past, present and future – and how we as humans interact with the planet we inhabit.

As a student here in Aberdeen, you will join us in tackling some of the most pressing issues facing society today, ranging from energy transition to water security and from environmental protection to heritage conservation.

Our undergraduate programmes are shaped by our world-leading research; here you will enjoy access to state-of-the-art facilities and gain practical skills in the latest research methods. Our location in Aberdeen means our students benefit from easy access to superb natural environments as well as interesting socio-economic environments to study up close.

We offer a wide range of undergraduate programmes to choose from based on your particular interests or career aspirations. These are all delivered within a flexible framework which enables us to provide key transferable skills demanded by employers today. That is why University of Aberdeen graduates have some of the highest rates of employment in the UK.

I very much hope you enjoy learning about our programmes and the considerable opportunities we have to offer you here at the University of Aberdeen.

Dr David Muirhead
Head of School
Archaeology

Archaeology is a diverse and wide-ranging discipline that spans the humanities and physical sciences and is unique in exploring the human past in its entirety.

Archaeology (BSc, MA)

In seeking to understand how ancient people lived their lives, structured their world, and engaged with their environment, archaeologists ask the big questions that can provide us with the tools to tackle global challenges in the present.

Courses cover subjects such as the origins of modern humans, colonisation of the North, history and theory of archaeology, Scottish archaeology and excavation and research skills.

Archaeology at Aberdeen has a distinctive northern flavour, focusing on Scotland, Northern Europe, Scandinavia, Northeast Asia, the North Atlantic and the circumpolar region from Siberia to the Canadian Arctic.

Closer to home, our staff and students take full advantage of our setting amongst some of the richest archaeological remains in the UK, with excursions to ancient monuments and museums throughout Scotland.

In the Honours years, there is an emphasis on field and research skills, with a required fieldwork component. A dissertation provides students with the opportunity to tackle an original piece of research.

Students are strongly encouraged to undertake appropriate field or placement work, excavation-based or otherwise, to gain practical skills and staff currently involved in research are happy to advise and help with such opportunities.

You can choose between studying Archaeology either as a Bachelor of Science (BSc) or Master of Arts (MA) degree programme. The main difference between the BSc and MA programmes is in the subsidiary subjects taken alongside Archaeology. For the BSc, these will be mainly science subjects, while MA students will take subsidiary courses in the humanities and social sciences.

Careers and Employability

Archaeology graduates may go on to work as professional archaeologists or find positions in Museums, Conservation or the Heritage and Tourism sector. If you combine your degree with other disciplines there are many more careers open to you within the heritage tourism and protection area at a global level.
Single Honours Programmes
• BSc Archaeology (F420)
• MA Archaeology (F421)

Joint Honours Options with Archaeology
• MA Archaeology and Celtic & Anglo-Saxon Studies (5V6Q)
• MA Archaeology and History (FV41)
• MA Archaeology and History of Art (FV43)
• MA Anthropology and Archaeology (LF64)

Find out more at abdn.ac.uk/ug/archaeology

100% of students agreed that staff made the subject interesting
National Student Survey, 2019
Geography

Geography is the study of the Earth’s surface, with particular emphasis on the relationships between people and their environment.

Geography (BSc, MA)

In First and Second Year, students are taught across the full breadth of the subject, covering major theories, perspectives and approaches in both human and physical geography. Honours years (Third and Fourth Year) allow for specialisation, when you will engage with the subject in greater depth. Honours courses link directly to staff research areas and include, for example, topics such as transport, rural change, environment and conservation, hydrology, and glaciology.

These options complement a set of core courses which deal with major conceptual and theoretical debates, as well as techniques and methods in Geography, including data analysis, GIS, mapping, and classic field-based and remote sensing techniques.

You can choose between studying Geography as either a Bachelor of Science (BSc) or Master of Arts (MA) degree programme. The main difference between the BSc and MA programmes is in the subsidiary subjects taken alongside Geography. For the BSc, these will be mainly science subjects, while MA students will take subsidiary courses in the humanities and social sciences.

Both the BSc and MA Geography degree are accredited by the Royal Geographical Society.

Careers and Employability

Geographers have a wide range of opportunities within local government such as a Transport Consultant, Planner, Environmental Consultant and researcher with broader opportunities with combined degrees to work overseas, within wider earth science areas and as specialists.

Over 86% of our Geography graduates are in employment or further study 6 months after graduating (HESA Destination of Leavers from Higher Education, 2016-17).
I knew that Aberdeen had a good reputation for environmental sciences and because I was unsure what specific part of Geography I was interested in, the range and flexibility of the degree meant that I could explore different options and try new things.

The mixture of practical classes and field trips, alongside lectures also made it feel like I could engage more with the course and could actually learn to apply my skills at the same time. Knowing this and after visiting on an open day and exploring the department, I felt like the city and campus really appealed to me as somewhere that I would like to study.

This degree has expanded my knowledge in areas that I had never considered before - the ability to choose course options outside of Geography, such as Geology, Archaeology or Ecology highlights that geography overlaps with many other subjects and is multidisciplinary.

Since Geography often incorporates both humanities and sciences, I have developed both my literacy skills through report writing and public speaking, but have also been able to develop my scientific skills through things such as statistics, ArcGIS and conducting practical research projects.
Geoscience (BSc)

By combining our expertise in the disciplines of geology and physical geography, the BSc Geoscience is designed to give you a broad, multidisciplinary understanding of the major environmental challenges we face today, including climate change, natural hazards, population, energy and natural resources, and the impact of humans on the environment.

Through lectures, coursework, field study and access to geographical information systems, this programme covers the fundamentals of geoscience, from the origin and formation of the Earth to the causes of climate change, to equip the next generation of experts with a deep appreciation of the science behind the way the Earth works.

In addition, students also acquire practical field skills in the main geosciences techniques including mapping, field geology, remote sensing and GIS, to apply to your research and future career.

This programme emphasises the multidisciplinary nature of earth sciences, offering you the opportunity to specialise in the areas that interest you the most, through your choice of optional courses and your final year research project.

Single Honours Programmes
- BSc Geography (F800)
- MA Geography (L700)
- BSc Geoscience (F610)

Joint Honours Options with Geography
- BSc Geography and Geoscience (FF68)
- MA Geography and German (LR72)
- MA Geography and International Relations (LL72)
- MA Geography and Sociology (LL73)
- MA Geography and Spanish & Latin American Studies (LR74)
- MA Anthropology and Geography (LL67)
- MA Business Management and Geography (LN72)
- MA Economics and Geography (LL17)
- MA French and Geography (LR71)
- MA Gaelic Studies and Geography (QL57)

Find out more at abdn.ac.uk/ug/geography
Geology and Geophysics

Geology (BSc)

The BSc Geology programme provides you with the skills you need to explore the processes that have shaped the Earth and its surface and subsurface environments through time, equipping you with powers to address the major modern world challenges, from climate change to sustainable energy, and from water security to natural disasters.

This programme is ideally suited to students who are interested in the physical processes that have shaped our planet and its near neighbours over the last 4.5 billion years, and who want to use our understanding to anticipate and protect the earth’s future.

You will learn how to use the latest fieldwork, digital and technological skills and techniques to extract valuable information recorded in Earth's rocks, minerals and fossils: an archive that holds the keys to many of the issues we face today such as climate change, water management, natural hazards and transition from fossil fuels to geothermal energy and other sources of renewable energy.

You will examine the origin, structure and composition of the three major rock groups; igneous, metamorphic and sedimentary, learning about the most fascinating and important geological events and how we date them, and developing the professional geological skills needed to gather and interpret data in the field.

In the final two years, you will specialise more in the topics that interest you, for example, climate change through deep time, planetary geology and the effects of life, geology for society, and imaging and interpreting the Earth.

Careers and Employability

Geology graduates can enter careers directly related to the earth sciences, including finding and maintaining water resources (hydrogeology), energy (including for example geothermal, moving us to a sustainable future), mining (including for the precious metals needed in all modern technology, and for noble gases needed for medical equipment), and environmental management.

Planetary Sciences

Geology at Aberdeen extends beyond the Earth to other planets. Using a combination of the vast online resources provided by NASA, and the UK Virtual Microscope’s Apollo collection, students make their own investigations of aspects of the geology of the Moon and Mars and compare results with the geological evolution of Earth.
Geology and Petroleum Geology (BSc)

Geology and Petroleum Geology is the study of how the Earth works, and in particular, the nature and origin of the Earth’s natural resources.

Petroleum geologists use their deep understanding of the Earth’s geological structures to help find and extract hydrocarbons cleanly and efficiently.

The BSc Geology and Petroleum Geology is fully accredited by the Geological Society for London and begins with a thorough examination of main geological principles and disciplines that underpin our understanding of the structure and evolution of the Earth, and how this knowledge can be used to discover and extract natural resources.

In particular, you will learn about the origin, structure and composition of the three major rock groups; igneous, metamorphic and sedimentary while also gaining an understanding of how we, as geologists, date geological events and the main methods of geophysical exploration data we use in the field today.

In the final two years (Honours) you will specialise further in the geology related to the petroleum industry, including field and mapping techniques, structural geology & tectonics, petrology and sedimentology.

One of the main components of the final year is the 5-week independent field project, when students undertake an independent research over the summer between years 3 and 4, and much of the autumn term is focused on working up the report.

Careers and Employability

The University’s location at the heart of the oil and gas industry means that our degree programmes benefit from direct industry involvement, including industry advisory panels, guest lectures, field trips, site visits, networking and careers events, and industry supported student projects.

Over 93% of our Geology graduates are in employment or further study 6 months after graduating (HESA Destination of Leavers from Higher Education, 2016-17).

Geology and Petroleum Geology graduates enter a variety of professions, particularly in exploration and production in the oil and gas industry, but also in other sectors including the groundwater industry, environmental consultancy and geological surveying.
Geology (MGeol)

The five year MGeol degree is the professionally recognised route towards becoming a Chartered Geologist and the most usual route taken by Earth Scientists into a PhD degree.

This five year undergraduate degree is designed for students looking to delve deeper into Geology and to fast track their academic or professional geological career.

The first four years of the MGeol programme mirrors the courses taken as part of the BSc Geology and Petroleum Geology programme. During the additional fifth year, you get to further develop your research skills and gain experience working with data and software from industry.

Students already on the four year BSc Geology and Petroleum Geology degree can also apply to transfer to the MGeol. Similarly, students who commence the MGeol from year 1 can opt to graduate a BSc Geology and Petroleum Geology after four years.

Student Profile

Name: Tom Theurer
Programme: BSc Geology & Petroleum Geology

The geology department at the University of Aberdeen is a wonderfully diverse and welcoming place, filled to the brim with extraordinarily passionate and skilled individuals.

Aside from the numerous fascinating field excursions and research opportunities within the course itself, I was also given the opportunity to assist in departmental research, studying microfossils within a sedimentary core from a Ukrainian impact crater. This gave me the chance to work with a variety of skilled individuals in the department, and test some of my skills and knowledge previously taught in classes.

Staff are always happy and willing to discuss opportunities to assist their research, and further your geological training - all you have to do is ask!
Geophysics (BSc)

Geophysics is the study of the Earth from the near-surface to the deep interior through the use of quantitative physical methods.

On this programme, you study forces such as gravity and magnetism and learn about how these forces act on the Earth’s interior, crust, oceans and the atmosphere.

You will learn to combine a deep knowledge of geology and physics and apply practical field-based skills to areas ranging from hydrocarbon exploration to plate tectonics and from environmental services to archaeological excavations.

The teaching of physics at Aberdeen has a long and illustrious history, with notable great physicists such as James Clerk Maxwell and G.P. Thomson counted amongst its former staff.

Careers and Employability

While traditionally, graduates from the University of Aberdeen have been attracted to careers in the oil and gas industry, graduates have also gone on to work in other diverse areas including mineral exploration, environmental geophysics or associated service industries.

Single Honours Programmes

- BSc Geology (F601)
- BSc Geology and Petroleum Geology (F602)
- MGeol Geology (F600)
- BSc Geoscience (F610)
- BSc Geophysics (F660)

Joint Honours Options with Geology and Geophysics

- BSc Geology and Physics (FF63)
- BSc Geography and Geoscience (FF68)

Find out more at abdn.ac.uk/ug/geology
Fieldwork

The School’s disciplines are united in teaching and researching field-based subjects.

**Fieldwork in Archaeology**

Our degree gives you hands-on experience with the archaeology of the last 10,000 years. Your studies can include introductions to archaeological fieldwork methods at sites in the North East of Scotland and on Orkney. Student involvement in research and fieldwork is an important part of our teaching and we will guide you into field-based research if you choose to pursue fieldwork as part of your honours dissertation in level 4.

**Fieldwork in Geography**

Our undergraduate Geography programme offers a choice of residential field courses including field courses to the Cairngorms, Inverness and Stirling. Students study topics of national and international relevance by examining Scottish case studies including the legacy of glaciation on the Scottish landscape, recent climate change and its impact on the skiing industry, transport planning and depopulation in the Highlands. In the third year, we run various day trips in Aberdeenshire as part of our Techniques in Physical Geography course for students to improve their fieldwork skills. Our Honours field course has taken students to the Mont Blanc massif in the Italian Alps to study the dynamics of glaciers, the impact of climate change on alpine hazards, hydrology and biogeography. Other previous international excursions have included the city of Boston, USA and Gdansk, Poland.

**Fieldwork in Geology**

With some justification, Scotland can claim to be the birthplace of geology and many fundamental ideas and concepts have been inspired by the wonderful field locations around the country. At Aberdeen you can visit sites of major geological interest such as Arran, Skye, the North West Highlands, as well as a range of locations across the UK. There is a compulsory field course as part of the final year of BSc programmes and we offer choices that evolve over the years. If you are studying the MGeol there is an integrative overseas geotraverse across the Southern Apennines of Italy.

Aberdeen provides easy access to world-class field sites including many of the “The Geological Society’s 100 Great Geosites”
Facilities

Students in the School of Geoscience have access to lots of equipment including:

- 3D Seismic Interpretation Facilities
- ACEMAC Nano Scale Electron Microscopy and Analysis Facility
- Archaeological Chemistry Laboratory
- Bioarchaeology Laboratory and Faunal Reference Library
- Dirty and Clean Sedimentary Laboratories
- Geochemistry Laboratory
- GIS Equipment
- Hydrology Laboratory
- Osteoarchaeology Laboratory
- Palynology Laboratory
- Petrographic and Stereomicroscopes
- Petrophysics Laboratory
- Soil Chemistry Laboratory
- Trace Element Speciation Laboratory

Study Abroad

The University of Aberdeen has academic links around the globe and there are many opportunities for current students to spend a semester or a year abroad at some of the most distinguished universities in Europe, the USA, Canada or Hong Kong, to name but a few.

Students who choose to go on an exchange programme normally go in their second year of study. The year they spend abroad is an integral part of their Aberdeen degree and not an additional year.

Credits gained are recognised by the University of Aberdeen and incorporated into the student’s academic record.
Student Societies

There are over 100 clubs and societies to choose from at Aberdeen, including a number related to the study of geosciences:

- Archaeology Society
- Geography Society
- Geology Society

Our student societies are a great way to meet other students who share your passion for geosciences, to develop your career and of course to have lots of fun.

Each society arranges a packed schedule of events to complement your studies including field trips, guest lectures and social events.

Find the student societies on Facebook and Instagram to keep up to date with upcoming events.

American Association of Petroleum Geologists Student Chapter

The American Association of Petroleum Geologists (AAPG) is one of the world’s leading geological bodies. The University of Aberdeen AAPG student chapter provides an opportunity for students to enhance their studies through a programme of talks, company visits, field trips and social events.

In 2019, the University of Aberdeen student chapter received the “Best Small Student Chapter” award and the L. Austin Weeks Undergraduate Grant from the AAPG.