



THE UNIVERSITY  
*of* EDINBURGH

THE UNIVERSITY  
OF EDINBURGH  
GeoSciences  
POSTGRADUATE  
OPPORTUNITIES

2016 ENTRY

# THE UNIVERSITY OF EDINBURGH: INFLUENCING THE WORLD SINCE 1583

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“You are now in a place where the best courses upon Earth are within your reach ... such an opportunity you will never again have.”

**Thomas Jefferson, American Founding Father and President** (speaking to his son-in-law, Thomas Mann Randolph, as he began his studies at Edinburgh in 1786)

The University

## Our proud history and alumni ambassadors

For more than 400 years our staff and students have been making their mark on the world. They've explored space, revolutionised surgery, won Nobel Prizes, published era-defining books, run the country, paved the way for life-saving breakthroughs and laid the foundations for solving the mysteries of the universe. By choosing further study or research at Edinburgh you will be joining a community of scholars who have been at the forefront of knowledge since 1583.

We are associated with 20 Nobel Prize winners, including physicists Peter Higgs, Charles Barkla and Max Born, medical researcher Peter Doherty, economist Sir James Mirrlees and biologist Sir Paul Nurse. Our distinguished alumni include NASA astronaut Piers Sellers, former MI5 Director-General Dame Stella Rimington, Olympians Sir Chris Hoy and Katherine Grainger and historical greats such as philosopher David Hume, physicist and mathematician James Clerk Maxwell, inventor Alexander Graham Bell and Sherlock Holmes creator Sir Arthur Conan Doyle.

## Teaching and research excellence

We are consistently ranked as one of the world's top 50 universities. We are 17th in the 2014/15 QS World University Rankings. As host to more than 30,000 students from some 137 countries, studying across 100 academic disciplines, the University of Edinburgh continues to attract the world's greatest minds. In the Research Excellence Framework (REF) 2014, 83 per cent of our research was judged world-leading or internationally excellent. We're ranked fourth in the UK for research power, based on the quality and breadth of our research. Our excellent teaching was also confirmed in the latest report from the Quality Assurance Agency, which awarded us the highest rating possible for the quality of the student learning experience.

## Collaborations and international partnerships

As an internationally renowned centre of academic excellence, Edinburgh is the site of many world-class research collaborations. Our postgraduate students are crucial to our continued success and development and, along with our staff, they forge research links through regular travel and overseas exchanges. We take pride in our partnerships with other institutions such as the California Institute of Technology (Caltech), Stanford University, the University of Melbourne, Peking University, the University of Delhi

and the University of KwaZulu-Natal – to name but a few. We are a member of both the League of European Research Universities and the Coimbra Group, giving us strong links with leading European institutions from Barcelona to Berlin.

## Linking research and commerce

Edinburgh was one of the first UK universities to actively develop commercial links with industry, government and the professions. Edinburgh Research and Innovation (ERI) has continued, for the past four decades, to develop the promotion and commercialisation of the University's research excellence. ERI assists our postgraduates in taking a first step to market, whether it is through collaborative research, licensing technology or providing consultancy services.

## Enhancing your career

We're ranked 18th in the world for the employability of our graduates.\* With one of the best track records for graduate employment in the Russell Group, we are committed to embedding employability into your teaching and learning experience. From offering access to volunteering schemes to providing support from our sector-leading Careers Service, the University provides myriad opportunities to develop your skills, knowledge and experience giving you the edge in a competitive job market.

## An inspiring destination

Your first-class education will take place in one of Europe's most striking capital cities, a UNESCO World Heritage Site that is regularly voted one of the best places in the world to live. Edinburgh enjoys a solid reputation as a centre for innovation, whether as home to the 18th-century Scottish Enlightenment, as a modern source of pioneering science, medicine and technology, or as the host of the world's largest and longest-established arts festival. You couldn't ask for a more inspiring setting in which to further your knowledge and broaden your horizons.

## Join us

Edinburgh offers unparalleled academic breadth and diversity, making it a vibrant, challenging and stimulating environment for postgraduate study. Whether you plan to change direction, enhance your existing career or develop in-depth knowledge of your area of study, the University of Edinburgh provides a world-class learning experience.

\* Latest Emerging Global Employability University Rankings

# WELCOME TO THE SCHOOL OF GEOSCIENCES

At the School of GeoSciences we examine the interactions between the Earth's geology, atmosphere, oceans and life, as well as considering our own role and impact on our planet.

The effect of these complex relationships is vitally important to our world's future, which means the skills and knowledge you will develop as a postgraduate student here will put you in an exceptional position to help make that future better. Spanning the entire spectrum of the geosciences field, we offer opportunities that are increasingly interdisciplinary and international in focus.

We are the largest geoscience research group in the UK, with around 400 academics and researchers. The quality of our research is second to none: we were ranked top in the UK for research power in the Research Excellence Framework (REF) 2014. We were also identified as having the greatest concentration of 'world-leading' and 'internationally excellent' researchers in the UK. We offer dedicated expertise across our core teaching areas of ecology, environmental sciences, geography, geology, geophysics, meteorology and oceanography.

## Illustrious past, exciting future

While we can draw upon a rich geological heritage (James Hutton, the father of modern-day geology, was an Edinburgh alumnus), we don't rest on our laurels. The School of GeoSciences is at the forefront of new developments and thought leadership. Our current staff and research collaborations build upon established prestige and reputation, continuing to break new ground in their understanding and application of the principles of geosciences.

## Talented staff

Among our large and experienced academic team are many global leaders in their fields. Two of our academics were lead authors of the Intergovernmental Panel on Climate Change's Fifth Assessment Report, while one was a review editor for the report. We also boast a double winner of the World Meteorological Organization's Norbert Gerbier Prize and the world's first Professor of Carbon Capture and Storage.

## Industry links

Our masters programmes will not only extend your knowledge in some of the most exciting areas in geosciences, but will also give you valuable, marketable skills and expertise enabling you to work at the forefront of global resource management. We work closely with industry, through Edinburgh Research and Innovation, the University's commercialisation office, to find practical answers to tomorrow's problems. We also encourage our students to undertake work-based projects – collaborations with external organisations – which usually form the basis of your masters dissertation.

In partnership with the University's Global Environment and Society Academy, we hold the annual 'Environment and Society: Researcher and Practitioner Mixer' event. This unique forum gives you the chance to pitch your taught masters research ideas to prospective employers and develop collaborative projects to mutually beneficial ends.

## Facilities and resources

By joining the School of GeoSciences, you will gain access to outstanding facilities. From our own aircraft to state-of-the-art computing facilities, our exceptional equipment enables our researchers, staff and students to stay at the forefront of their field.

### New facilities

The new Edinburgh Centre for Carbon Innovation (ECCI) is an exemplar of social, economic and environmental sustainability where students enrolled on relevant programmes can enjoy lectures and access to contemporary study space. ECCI was the first refurbished building in the UK to achieve the industry sustainability 'BREEAM Outstanding' award at the design stage. ECCI is a collaborative project with Edinburgh Napier and Heriot-Watt universities that brings together experts in law, business, technology and policymaking.

As you would expect, we have a wide range of hi-tech apparatus for the analysis of minerals and fluids, for isotope analysis and for measuring the physical properties of materials. But few institutions can boast facilities that need a call sign for Air Traffic Control. In our case the call sign is G-GEOS and the equipment is an Eco Diamond HK36 small aircraft – invaluable for measuring trace gas concentrations up to altitudes of approximately 3,000 metres.

We also offer excellent resources for scientific computing, for instance in geographic information systems, meteorological modelling and geophysics. We place a strong emphasis on field measurement techniques in ecological, atmospheric and earth sciences.

### National facilities

The School hosts and manages a number of national analytical facilities on behalf of the Natural Environment Research Council (NERC). We are home to:

- the NERC Ion Microprobe Facility
- the Experimental GeoScience Facility (NERC recognised)
- the NERC Geophysical Equipment Facility
- the NERC Field Spectroscopy Facility
- the NERC Tephrochronology Service
- the NERC Chemical Dating Facility
- Airborne GeoSciences (NERC recognised).

Among our newest facilities is the UK Biochar Research Centre, where we are leading the way in a rapidly developing field that offers the promise of carbon sequestration on a potentially global scale.

### Collections of the University

The University's collections are unique in their depth and diversity. Managed by the Centre for Research Collections, and housed in our Main Library at the heart of our central campus, they span more than 500,000 rare books, and scientific and cultural artefacts from around the world.

Highlights include the world's oldest surviving Gaelic text; a page from the final draft of Charles Darwin's *On the Origin of Species*, as well as two copies of the first edition; philosopher Adam Smith's original library; Alexander Fleming's sample of mould used to make penicillin; original quartos of Shakespeare plays, with notes in the margins from 16th-century actors; the thermometer of chemist Joseph Black; and original Sir Isaac Newton diagrams in David Gregory manuscripts of 1692.

University archivists – with a broad spectrum of expertise – make it their priority to ensure these items are accessible to our students, researchers and staff.

### Visit us

Postgraduate Open Day  
18 November 2015  
[www.ed.ac.uk/  
postgraduate-open-day](http://www.ed.ac.uk/postgraduate-open-day)

THE UNIVERSITY OF  
Edinburgh  
School of GeoSciences

Study GeoScience  
with a world-leading  
university

The University of Edinburgh is consistently  
one of the top 30 universities in the world

[www.ed.ac.uk/geosciences](http://www.ed.ac.uk/geosciences)

## Community

Our supportive academic community provides a dynamic environment in which you can truly thrive. We offer you numerous opportunities to access study support, develop new skills, share knowledge, exchange ideas and socialise with like-minded colleagues.

You will join an active and motivated postgraduate student community, for which regular events have included a Research and Practitioner Mixer, Field Training Days, Innovative Learning Week and informal socials such as our Burns Supper and ceilidh. Additionally, staff and visiting experts deliver exciting lectures and seminars which are open to all of our students – there really is something for everyone.

If you enrol as a taught masters student, you'll receive generous support from our GeoSciences Teaching Organisation, which helps with all aspects of the administration of your studies, while our dedicated programme directors and personal tutors are responsible for your academic and pastoral care.

If you are interested in postgraduate research, you will work closely with your supervisor and an academic advisor, and

will have access to confidential pastoral support from our Research Training and Development Team.

### Collaborative culture

All academic research staff and postgraduate students are affiliated to one of our three research institutes:

- Geography and the Lived Environment
- Global Change
- Earth & Planetary Sciences

As groupings of researchers with related interests, the institutes provide a forum for the development of ideas, collaboration and dissemination of results, and an environment for training, development and mentoring of research students and early-career researchers. Each research institute has a very active seminar series drawing distinguished external guests as well as internal speakers, and you will be encouraged to attend and participate.

### Peer support

Our Research Training and Development team ensures effective delivery of all postgraduate training, as an integral underpinning of all School research activities. On joining us you will become a member of the student-run GradSchool, an excellent peer-support network that spans each of the School's sites. GradSchool organises social events, lectures and conferences, and maintains crucial links between you and our academic staff.

Each year GradSchool welcomes new research students with a range of events: there is an organised weekend away to the mountains, the GradSchool conference, which attracts industry sponsors, the regular GradTalk seminars and a spring ceilidh.

*“This has been a great course – one of the best investments I have made in my life – where I have not only studied in one of Britain’s best cities but have pushed a subject to the very limit of our current knowledge. The University of Edinburgh has looked after us so well and we definitely lucked out with our course organiser! This is not only a career enhancer but has also brought a new aspect to my life as an environmentalist and what I can achieve in the future.”*

**Ben Reid**, MSc Ecosystem Services



## Employability and graduate attributes

As a GeoSciences graduate you will have excellent academic and career prospects – working with industry, staying in academia or entering government and non-government organisations.

Observing changes in markets and external scientific developments, and incorporating these into our ever-evolving programmes, means we will equip you with those skills most in demand by employers. In addition to developing skills on field trips and during class, you will be encouraged to undertake research-skills training, including time management and academic referencing, and training in qualitative and quantitative skills provided by our academic staff and the Institute for Academic Development.

Our graduates have gone on to work for a huge array of employers across all sectors, including the Department of Energy and Climate Change, the Carbon Trust, the Forestry Commission, British Airways, Hewlett-Packard, Shell, Credit Suisse, Google, and the police.

### Institute for Academic Development

All of our postgraduate students can benefit from the University's Institute for Academic Development (IAD), which provides information, events and courses to develop the skills you will need throughout your studies and in the future.

Further information is available online: [www.ed.ac.uk/iad/postgraduates](http://www.ed.ac.uk/iad/postgraduates)

For taught postgraduates, the IAD provides a growing range of tailored study-related and transferable skills workshops, plus online advice and learning resources. These are all designed to help you settle into postgraduate life, succeed during your studies, and move on to the next stage of your career.

The IAD also offers one of the longest-established researcher development training packages in the UK. Our experts will help you gain the skills, knowledge and confidence needed to move on to the next stage in your career, be that in academia or beyond.

The Institute provides research students with dedicated training in topics such as research management; personal effectiveness; communication skills; public engagement, networking and teamworking; leadership; and career management. You can gain expertise in information technology and presentation skills; confidence in undertaking independent and creative research; the ability to critically evaluate source materials; and the capacity to construct intellectually rigorous arguments. By developing these broader professional skills and qualities, our postgraduate students are always in high demand.

### Careers Service

The University's award-winning Careers Service aims to expand the horizons of all our students, empowering you to make successful career decisions. It works closely with the University's Employability Consultancy to support students to take advantage of every opportunity to enhance your employability while studying.

The Service provides specialist support for postgraduate students to help with career planning and decision making. Its team of friendly experts can support you to explore different career options, identify your skills and what you want out of a career, think about effective job search strategies, and prepare for job applications and interviews.

The Service has a team dedicated to developing our already strong links with employers from all industries and employment sectors; from the world's top recruiters to small enterprises based here in Edinburgh. The team provides a programme of opportunities for students to meet employers on campus and virtually, and advertises a wide range of part-time and graduate jobs.

More information: [www.ed.ac.uk/careers/postgrad](http://www.ed.ac.uk/careers/postgrad)

### Connect.ed

Edinburgh encourages its alumni to stay in touch with current students who are interested in a similar career path. Connect.ed is a networking system run by the Careers Service that provides a confidential opportunity for alumni to share their occupational knowledge and experience with current students, who can contact them for advice and guidance on their future career.

More information: [www.ed.ac.uk/careers/connected](http://www.ed.ac.uk/careers/connected)

### Backing bright ideas

LAUNCH.ed is the University's award-winning programme for student entrepreneurs. Each year, LAUNCH.ed works with hundreds of students to assess their ideas and develop their business skills and helps many start their businesses. We have helped Edinburgh students and alumni launch almost 100 new businesses in the last three years, ranging from language tuition to robotics companies.

More information: [www.LAUNCH.ed.ac.uk](http://www.LAUNCH.ed.ac.uk)

### Learn to teach

We encourage all of our research students to carry out demonstrating and tutoring work for the School's undergraduate programmes. This work is strongly supported by training and coaching, to ensure you get the most out of the experience and can gain a new skillset from it.

### Rich resource

Scotland has an exceptionally rich diversity of geology, and is home to two UNESCO-supported Geoparks.

[www.european-geoparks.org](http://www.european-geoparks.org)

# Taught masters programmes

As the largest grouping of geoscientists in the UK, we are uniquely placed to offer more than 15 innovative taught masters programmes and certificates spanning the entire spectrum of the geosciences field.

We pay close attention to changes in the market and to scientific developments, ensuring our offering is up to date and that our programmes are designed with the ever-changing needs of our students at the forefront of our minds. This year we are delighted to offer MSc Sustainable Plant Health and MSc Sustainable Energy Management as well as a new online Postgraduate Certificate in Carbon Innovation. Our growing range of postgraduate taught programmes allows you to benefit from cutting-edge research knowledge and skills training in your selected subject and beyond.

## Flexibility

While each programme has compulsory courses which provide its framework, the School offers a wide range of option courses from which you can complete the credits required for your MSc. The Programme Director will proactively assist you in making the most of your course selection. Recommended options are included in each programme entry in this prospectus to allow you to see the scope for focus on areas which particularly interest you.

We are committed to supporting those already in employment or with family commitments and most of our MSc programmes can be studied part time across two or three years.

## Online distance learning

The University of Edinburgh is the biggest provider of online distance learning in the Russell Group. Just like our on-campus provision, all of our online programmes are delivered by dedicated academics, many of whom are leaders in their field. Our Postgraduate Certificates in Climate Change Management, Carbon Innovation, Global Environment Challenges, and the online version of our award-winning MSc Carbon Management are flexible options if you prefer to study at home because of professional or family commitments.

## Field trips

A number of our programmes incorporate residential field trips and day excursions that really enhance your learning experience and enable you to put valuable research and vocational skills into practice. Recent destinations include Tanzania (MSc Ecological Economics), France (MScs in Food Security and Environmental Protection & Management), the southern European coastline, the Cairngorms (MSc Ecosystem Services) and the Maldives (MSc Marine Systems & Policies).

## Dissertation

After completing the taught component of your programme, you will complete a dissertation. With direction from your Programme Director and dissertation supervisor, you will be encouraged to develop your own research focus or to select from a range of unique projects made available by academic staff from across the School. The School offers publication prizes for the top dissertations each year.

## Collaborations

The city of Edinburgh is a genuine hub for geosciences with a high concentration of businesses and other organisations working in the field. Our taught programmes are strengthened through collaborations with a range of internal and external partners, including the University of Edinburgh Business School, the School of History, Classics & Archaeology, Scotland's Rural College (SRUC) and Heriot-Watt University.

The majority of our taught masters programmes enjoy an affiliation with the University's Global Environment & Society Academy: [www.ed.ac.uk/global-environment-society](http://www.ed.ac.uk/global-environment-society)

We are additionally privileged to host lectures by representatives from government organisations and industry, who contribute to our programmes, courses and dissertation supervision, providing you with the skills and contacts needed to fulfil your ambitions.

[www.ed.ac.uk/pg/518](http://www.ed.ac.uk/pg/518)

## Carbon Capture & Storage

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

This is the only programme of its kind in the UK, giving you high-level skills and training across the rapidly developing area of carbon capture and storage (CCS).

Global energy demands are still rising, and fossil fuels remain central to meeting those demands in the medium term. CCS is a recognised solution to reducing CO<sub>2</sub> emissions until fossil fuels are entirely replaced by renewable energy technologies. With commercial trials under way, countries and industries are investing in this new technology. In the UK, all existing power stations must have a full-scale retrofit of CCS within five years of the technology being independently judged as technically and commercially proven.

This MSc draws on our world-class interdisciplinary academic research and the insights we have gained from projects involving our industrial stakeholders.

### Programme structure

The MSc has two semesters of lectures and practical classes, followed by a research dissertation. The programme includes industry guest lectures as well as opportunities for fieldwork and industry site visits to a range of locations. Designed for graduates of engineering or geoscience-related subjects, the programme provides you with high-level skills and training in the entire value chain of CCS, including combustion, transport, geoscience and legal aspects.

### COMPULSORY COURSES

*Carbon Economics; Carbon Capture and Transport; Carbon Storage and Monitoring; Dissertation. Hydrocarbons and Geology for Earth Resources* are also compulsory for students without a geoscience background.

### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Fundamentals for Remote Sensing; Novel Strategies for Carbon Storage in Soil; Seismic Reflection Interpretation; Energy & Society; Geology for Earth Resources; Principles of Geographical Information Science; Spatial Modelling; Understanding Environment and Development; Carbonate Sequence Stratigraphy; Climate Change and Corporate Strategy; Energy Policy and Politics; Hydrocarbon Reservoir Quality; Introduction to Radar Remote Sensing; Political Ecology; Separation Processes For Carbon Capture; Technology and Innovation Management.*

### Career opportunities

Graduates can enter into all manner of jobs due to the transferable and highly desirable nature of the skills gained. Typically our graduates pursue careers in business, industry, government and non-governmental organisations in the field of low-carbon energy production.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in an engineering or geosciences subject.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

**Programme Director** Dr Mark Wilkinson  
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**Email** [mark.wilkinson@ed.ac.uk](mailto:mark.wilkinson@ed.ac.uk)

[www.ed.ac.uk/pg/904](http://www.ed.ac.uk/pg/904)

## Carbon Innovation



PgCert 1 yr PT

### Programme description

Based upon our highly successful on-campus MSc Carbon Management, this online programme uses a blend of interactive content, videos, virtual case studies and weekly online discussions to explore the economics and policy of climate change management. You will gain a detailed understanding of the economics of climate change, carbon footprinting, ecosystem valuation, energy systems and energy policy through the interdisciplinary nature of the programme.

This programme is designed for graduates with a passion for tackling climate change and who require the flexibility that online learning provides. The programme is affiliated with the University's Global Environment & Society Academy (GESA): [www.ed.ac.uk/global-environment-society](http://www.ed.ac.uk/global-environment-society)

### Programme structure

This certificate may be studied as a standalone qualification. Alternatively, it may form one third of the online MSc Carbon Management, or one half of the new online diploma in Carbon Management.

### COMPULSORY COURSES

*Carbon Economics; Climate Change Measurement; Energy & Climate.*

### Studying online

As a student of one of our online programmes, you will:

- have the flexibility to study when most convenient for you;
- be able to study from anywhere with an internet connection;
- have access to all University services and relevant academics;
- become part of a rich and varied online community of people; and
- learn the latest developments from people working at the leading edge in your field.

To try our Virtual Learning Environment, please visit our demo: <http://demo.climate.ed.ac.uk>

### Career opportunities

Our existing MSc Carbon Management boasts excellent relationships with relevant employers, as well as a great alumni network covering more than 25 countries, and provides unrivalled opportunities to link up on research projects and find new positions in the field of carbon management. The main employment opportunities for our graduates are in climate change consultancy, renewable energy and carbon management project development, or as government or NGO climate change advisors. Several of our graduates are now studying for climate-change-focused PhDs.

### Minimum entry requirements

A UK 2.1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)) in any subject. Professional experience will also be taken into account.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

## See also...

You may also be interested in taught postgraduate programmes offered by other Schools within the University, particularly the University of Edinburgh Business School and the School of Engineering.

[www.ed.ac.uk/studying/prospectus-request](http://www.ed.ac.uk/studying/prospectus-request)

www.ed.ac.uk/pg/412

## Carbon Management

MSc 1 yr FT (2 yrs PT available for UK/EU students)

### Programme description

The MSc in Carbon Management is a landmark collaboration between the world-renowned Schools of GeoSciences and Economics and the Business School at the University of Edinburgh. It provides you with the expertise, knowledge and skills in the business, economics and science of carbon management. MSc Carbon Management is ranked in the top 10 World's Best Masters in Sustainable Development and Environmental Management (Eduniversal Masters Ranking 2014-15).

Carbon management is now at the heart of tackling climate change and has rapidly become a central part of the global business environment. Edinburgh has emerged as one of the most important global centres in this new discipline. This innovative programme, taught by world-leading experts in key fields of climate change and carbon management, is for graduates who want an advanced academic qualification to launch careers in carbon and climate change management in business or government.

### Programme structure

This programme consists of two semesters of taught courses. Each course consists of a balance of lectures, seminars, workshops and visits. You will then undertake individual dissertation project work.

### COMPULSORY COURSES

*Climate Change Impacts and Adaptation; Business and Climate Change; Carbon Economics; Climate Change Management; Applied Carbon Methods; Dissertation.*

### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Global Strategic Management: Issues and Perspectives; Management of R&D and Product Innovation; Emission Reduction Project Development; Corporate Responsibility & Governance in a Global Context; Low Carbon Investment; Applications in Ecological Economics; Environmental Impact Assessment; Forests and Environment; Water Resource Management; Waste Reduction and Recycling; Energy & Society; EU and National Climate Change Law; Interrelationships in Food Systems; Novel Strategies for Carbon Storage in Soil; Marine Infrastructure and Environmental Change; Innovation in Sustainable Food Systems.*

### Career opportunities

A key strength of our programme is the employability of our graduates. The programme, which has won the PricewaterhouseCoopers award for 'Teaching Employable Skills', provides the opportunity to conduct business carbon audits, work on placements with major industry groups such as the 2020 Climate Group, and conduct dissertation research as part of work-based projects with a wide range of external collaborators. Our graduates are enjoying roles ranging from government advisers and NGO researchers, to renewable energy project developers and commercial carbon management consultants. To see what more than 100 of our alumni are now doing visit: [www.geos.ed.ac.uk/homes/dreay/msccarbon.html](http://www.geos.ed.ac.uk/homes/dreay/msccarbon.html)

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)).

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

**Programme Director** Dr Simon Shackley  
**Tel** +44 (0)131 650 7862  
**Email** [simon.shackley@ed.ac.uk](mailto:simon.shackley@ed.ac.uk)

www.ed.ac.uk/pg/899

## Carbon Management



MSc 3 yrs PT (2 yrs accelerated study)

PgDip 2 yrs PT (1 yr accelerated study)

### Programme description

Our online MSc Carbon Management is a groundbreaking development of the award-winning campus-based MSc Carbon Management programme. Building on the proven success and content of the established residential programme, this new online programme provides you with high-level knowledge, skills and training in the business, economics and science of carbon management.

The programme is designed for graduates who want an advanced academic qualification in tackling climate change management by business, industry, NGOs and government, with the flexibility that online learning provides. The programme is affiliated with the University's Global Environment & Society Academy (GESA): [www.ed.ac.uk/global-environment-society](http://www.ed.ac.uk/global-environment-society)

### Programme structure

The programme is organised into three component certificates:

- PgCert Climate Change Management
- PgCert Carbon Innovation
- Applied Carbon Methods

You will graduate with the postgraduate diploma if you take only the first two components.

### COMPULSORY COURSES

*Climate Change Impacts and Adaptation; Climate Change Mitigation; Climate Change & Corporate Responsibility; Carbon Economics; Climate Change Measurement; Energy & Climate; Applied Carbon Methods; Dissertation.*

### Studying online

As a student of one of our online programmes, you will:

- have the flexibility to study when most convenient for you;
- be able to study from anywhere with an internet connection;
- have access to all University services and relevant academics;
- become part of a rich and varied online community of people; and
- learn the latest developments from people working at the leading edge in your field.

To try our Virtual Learning Environment, please visit our demo: <http://demo.climate.ed.ac.uk>

### Career opportunities

Our existing MSc Carbon Management boasts excellent relationships with relevant employers, as well as a great alumni network covering more than 25 countries, and provides unrivalled opportunities to link up on research projects and find new positions in the field of carbon management. The main employment opportunities for our graduates are in climate change consultancy, renewable energy and carbon management project development, or as government or NGO climate change advisors. Several of our graduates are now studying for climate-change-focused PhDs.

### Minimum entry requirements

A UK 2.1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)) in any subject. Professional experience will also be taken into account.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

**Programme Director** Professor David Reay  
**Tel** +44 (0)131 650 7723  
**Email** [david.reay@ed.ac.uk](mailto:david.reay@ed.ac.uk)



www.ed.ac.uk/pg/875

# Climate Change Management



PgCert 1 yr PT

## Programme description

Based upon our highly successful on-campus MSc Carbon Management, this online programme utilises a blend of interactive content, videos, virtual case studies and online discussions to explore the science and business responses to climate change. We examine the leading ways in which this global challenge can be addressed, covering adaptation and mitigation solutions across a wide range of sectors and regions. The programme is designed for those who have a passion for tackling climate change and who require the flexibility that online learning provides.

This programme is affiliated with the University's Global Environment & Society Academy (GESA): [www.ed.ac.uk/global-environment-society](http://www.ed.ac.uk/global-environment-society)

## Programme structure

The programme comprises three compulsory courses that move from the science of climate change and its impacts, through the key adaptation and mitigation solutions, to examination of the business response to climate change, and the risks and opportunities it presents.

This certificate may be studied as a standalone qualification. Alternatively it may form one third of the online MSc Carbon Management, or one half of the new online diploma in Carbon Management.

## COMPULSORY COURSES

*Climate Change Impacts & Adaptation; Climate Change Mitigation; Climate Change & Corporate Responsibility.*

## Studying online

As a student of one of our online programmes, you will:

- have the flexibility to study when most convenient for you;
- be able to study from anywhere with an internet connection;
- have access to all University services and relevant academics;
- become part of a rich and varied online community of people; and
- learn the latest developments from people working at the leading edge in your field.

To try our Virtual Learning Environment, please visit our demo: <http://demo.climate.ed.ac.uk>

## Career opportunities

Our existing MSc Carbon Management boasts excellent relationships with relevant employers, as well as a great alumni network covering more than 25 nations, and provides unrivalled opportunities to link up on research projects and find new positions in the field of carbon management. The main employment opportunities for our graduates are in climate change consultancy, renewable energy and carbon management project development, or as government or NGO climate change advisors. Several of our graduates are now studying for climate-change-focused PhDs.

## Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in any subject. Professional experience will also be taken into account.

## English language requirements

See page 30.

## Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/874

# Earth Observation & Geoinformation Management

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

## Programme description

This interdisciplinary programme will equip you with the analytical and communication skills to work in this important and growing field. It will suit students with a background in environmental or geographical sciences who have already come across remote sensing, or those with a background in physics, computer science or engineering looking for a career in an applied area. Graduates from the programme will be well prepared to pursue a research degree or find relevant employment.

This programme builds on our successful Geographical Information Science (GIS) degree, which was the first of its type in the world, with a heritage of almost 30 years.

## Programme structure

This programme consists of two semesters of taught courses followed by individual dissertation project work.

## COMPULSORY COURSES

*Principles of Geographical Information Science; Fundamentals of Remote Sensing; Spatial Modelling; Research Practice and Project Planning; Introduction to Spatial Analysis; Near-ground Earth Observations: New Platforms and Sensors; Dissertation.*

## RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Hyperspectral Remote Sensing; Introduction to Radar Remote Sensing; Atmospheric Quality and Global Change; Object Oriented Software Engineering Principles; Object Oriented Software Engineering: Spatial Algorithms; Principles of GIS; Principles of GIS for Archaeologists; Principles of Environmental Sustainability; Sustainable Energy Technologies; Marine Systems and Policies; Technologies for Sustainable Energy; Introduction to Three Dimensional Climate Modelling; Advanced Spatial Database Methods; Data Integration and Exchange; Data Mining and Exploration; Environmental Impact Assessment; Forests and Environment; Further Spatial Analysis; ICT for Development; Integrated Resource Planning; Land Use/Environmental Interactions; Querying and Storing XML; Water Resource Management; Participation in Policy and Planning; Introduction to Environmental Modelling; Management of Sustainable Development; Ecosystem Services; Business Geographics.*

## Field trip

This programme includes a residential project management and field-skills weekend in the Scottish Highlands.

## Career opportunities

Graduates will benefit from our proven track record in placing students with a diverse range of employers in the public, private and third sectors. Our GIS graduates have entered employment with well-known organisations such as Amey Infrastructure Services, British Airways, ESRI, General Electric, Google, Hewlett-Packard, Intergraph, Microsoft, Oracle, Royal Bank of Scotland, Scottish Water, Sopra Group, SLR Consulting, Food and Agricultural Organisation of the United Nations and the World Bank, as well as continuing in academia.

## Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)).

## English language requirements

See page 30.

## Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/29

# Ecological Economics

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

## Programme description

This programme is run in collaboration with Scotland's Rural College. It focuses on how to make sustainability and environmental management work in practice by applying economic principles. Graduates with postgraduate training in this area are in greater demand than ever before in business, industry and government.

## Programme structure

You will learn through lectures, group work, informal group discussion and individual study, as well as the spring study tour. After two semesters of taught courses, you will begin work on your individual dissertations. You will be able to choose from a wide selection of option courses to suit individual interests and career goals.

## COMPULSORY COURSES

*Foundations in Ecological Economics; Applications in Ecological Economics; Dissertation.*

## RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend:

Semester 1: *Ecosystem Dynamics and Functions; Principles of Environmental Sustainability; Understanding Environment and Development; Marine Systems and Policies; Atmospheric Quality and Global Change; Encountering Cities; Frameworks to Assess Food Security; Integrated Resource Management; Introduction To Spatial Analysis; Principles of GIS; Distributed GIS.*

Semester 2: *Ecosystem Values and Management; Forests and Environment; Marine Infrastructure and Environmental Change; Climate Change and Corporate Strategy; Participation in Policy and Planning; Waste Reduction and Recycling; Water Resource Management; Political Ecology; Energy and Society; Case Studies in Sustainable Development; Integrated Resource Planning; Introduction to Environmental Modelling; Environmental Impact Assessment; Sustainability of Food Production.*

## Field trip

To experience and understand conflict between ecosystem conservation and human development needs at ground level, we offer a unique 10-day study tour, usually overseas and in the developing world (previous destinations have included Kenya, Tanzania, and South Africa).

## Career opportunities

Being able to identify ecological economic problems, and apply economic principles and methods to solve these problems is increasingly valued by employers. Our graduates are working in a variety of sectors, including environmental consultancies; international and governmental agencies; NGOs; financial institutions; multinationals; environmental education and research. Additionally around a quarter of our graduates have gone on to doctoral research programmes.

## Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)). A 2:2 honours degree, or its international equivalent, with appropriate work experience may also be considered. Applicants who have not studied economics are welcome.

## English language requirements

See page 30.

## Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/701

# Ecosystem Services

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

## Programme description

This MSc enables you to undertake a critical analysis of how ecosystems benefit humanity, and how we tend to reshape, over-exploit and then restore the natural environment on which we depend. You will learn to identify and assess the multiple trade-offs involved in our use of the environment, paying close attention to social, economic and ecological concerns at different temporal and spatial scales. This programme addresses the growing demand for graduates who can effectively integrate natural and social science perspectives in environmental management, planning and policy-making in a range of organisations.

## Programme structure

The programme has been designed with a focus on developing skills that are in short supply in the environmental sector. Full-time, it comprises two semesters of taught courses, an Easter field trip and a dissertation.

## COMPULSORY COURSES

*Ecosystem Dynamics and Functions; Analysing the Environment; Ecosystem Values and Management; Analysing the Environment Study Tour; Research Project in Ecosystem Services.*

## RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Environmental Valuation, Climate Change and Corporate Strategy; Environmental Geochemistry; Foundations in Ecological Economics; Frameworks to Assess Food Security; Integrated Resource Management; Principles of Environmental Sustainability; Human Dimensions of Environmental Change and Sustainability; Principles of Geographical Information Science; Fundamentals for Remote Sensing; Soil Protection and Management; Values and the Environment; Marine Systems and Policies; Research Skills in the Social Sciences: Data Collection; Understanding Environment and Development; Environmental Impact Assessment; Forests and Environment; Hyperspectral Remote Sensing; Integrated Resource Planning; Introduction to Radar Remote Sensing; Land Use/Environmental Interactions; Participation in Policy and Planning; Political Ecology; Soil Science Concepts and Application; Sustainability of Food Production; Water Resource Management; Waste Reduction and Recycling; Energy & Society; Novel Strategies for Carbon Storage in Soil; Applications in Ecological Economics; Research Design.*

## Field trip

A week-long residential field trip to the Cairngorms National Park (Scotland) will develop your practical experience and skills.

## Career opportunities

UK research councils cite the skills gained on this MSc as those 'most wanted' in the environmental sector. As demand for sound evidence of ecosystem services increases, so does demand for graduates who can translate complex science into effective policies and new business opportunities. Committed to helping you meet prospective employers and network with those active in the field, we organise careers events, and encourage dissertations conducted in partnership with external organisations.

## Minimum entry requirements

A UK 2:1 honours degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in natural or social sciences or a similar subject.

## English language requirements

See page 30.

## Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/30

## Environment & Development

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

This MSc explores political, cultural and economic links between environmental management and economic development. It focuses on links between environmental change and social inclusion at local and national level, taking into account global environmental and development agendas. You will cultivate cross-cutting and globally relevant research thinking, grounded in cases that focus on particular issues, places or systems, to offer insights into effective solutions. You will develop analytical and professional skills to promote the management of the environment and natural resources in fair, sustainable development.

The programme is affiliated with the University's Global Development Academy: [www.ed.ac.uk/global-development](http://www.ed.ac.uk/global-development)

### Programme structure

This MSc comprises two compulsory and four option courses, balancing lectures, seminars, workshops and visits, followed by a dissertation.

#### COMPULSORY COURSES

*Understanding Environment and Development; Development: Principles and Practices; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with your Personal Tutor, you will choose from a range of option courses. We particularly recommend: *Ecosystem Services 1: Ecosystem Dynamics and Functions; Foundations in Ecological Economics; Frameworks to Assess Food Security; Governing Mineral Extraction in Africa; Human Dimensions of Environmental Change and Sustainability; Principles of Environmental Sustainability; Principles of Geographical Information Science; Research Design in Human Geography; Swahili; Marine Systems and Policies; EU and National Climate Change Law; International Political Economy; South Asia: Roots of Poverty and Development; Atmospheric Quality and Global Change; Governing Mineral Extraction in Africa; Introduction to Spatial Analysis; Principles of Environmental Sustainability; Soil Protection and Management; Applications in Ecological Economics; Energy Policy and Politics; Environmental Impact Assessment; Ecosystem Services 2: Ecosystem Values and Management; Forests and Environment; Gender and Development; Global Environment and Society; Global Environmental Politics; Land Use/Environmental Interactions; Participation in Policy and Planning; Political Ecology; Sustainability of Food Production; Waste Reduction and Recycling; Water Resource Management; Marine Infrastructure and Environmental Change; Anthropology and the Environment; Case Studies in Sustainable Development; Integrated Resource Planning; Interpreting Development: Institutions and Practices; Interrelationships in Food Systems; Resource Politics and Development.*

### Career opportunities

This programme is suitable for students seeking roles within international and national development agencies, think tanks, NGOs, environmental consultancies or the private sector, or those going on to PhD research.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)). A UK 2:2, or its international equivalent, may also be accepted with relevant industry experience.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/395

## Environment, Culture & Society

MSc 1 yr FT (2 or 3 yrs PT available for UK/EU students)

### Programme description

This exciting MSc gives you the breadth and background to bridge disciplinary divides and tackle the environmental issues that face us all. It provides up-to-date knowledge of the contemporary issues and debates on the relationships between the environment, nature, culture and society. This interdisciplinary programme draws on expertise from across the University, especially from geography, philosophy, theology, science, technology studies and development studies, providing a unique critical perspective. You will develop the research skills and abilities to assess the importance and implications of geographical, philosophical and other theoretical debates which shape environmental policy and practice. Our graduates are equipped to think critically, to generate new knowledge related to the environment, and to use this knowledge effectively to address urgent environmental challenges.

### Programme structure

This programme consists of six taught courses, including four option courses, studied over two semesters. In addition, you will undertake an individual dissertation.

#### COMPULSORY COURSES

*Values and the Environment; Political Ecology; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Archives: History, Geography, Politics; Encountering Cities; Ethics in a Technological Society; Foundations in Ecological Economics; Foundations of the Bioeconomy; Global Environment: Key Issues; Research Design in Human Geography; Human Dimensions of Environmental Change and Sustainability; Understanding Environment and Development; Atmospheric Quality and Global Change; Distributed GIS; International Development in a Changing World; Key Concepts in Global Social Change; Soil Protection and Management; Principles of GIS; Principles of GIS for Archaeologists; Society and Development; Ecology, Ethics and Spirit; Marine Systems and Policies; Climate Change, Justice and Responsibility; Global Environmental Politics; Green Thoughts: Landscape, Environment and Literature; Methodological Debates in Human Geography; Urban Development; Biobusiness; Case Studies in Sustainable Development; Climate Change and Corporate Strategy; Environmental Impact Assessment; Forests and Environment; Global Environment and Society; ICT for Development; Interpreting Development: Institutions and Practices; Land Use/Environmental Interactions; Man and the Natural World in the Enlightenment; Management of Sustainable Development; Sustainability of Food Production.*

### Career opportunities

Graduates have pursued careers in environmental policy, conservation, animal welfare, NGOs (environmental charities and development organisations), public consultation and PhD research.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)). A UK 2:2, or its international equivalent, may also be accepted with relevant industry experience.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/31

## Environmental Protection & Management

MSc 1 yr FT (2 or 3 yrs PT available for UK/EU students)

### Programme description

This programme is run in collaboration with Scotland's Rural College (SRUC). Human activities are recognised as having an increasingly significant effect on the Earth's biosphere. Our use of natural resources, deforestation, soil erosion, the release of potentially toxic compounds and pathogens, and the increase in greenhouse gases are all examples of pressures that have potentially serious consequences for humanity and other life on Earth. This programme will give you a fundamental understanding of the issues affecting the Earth enabling you to play a vital role in devising and enacting strategies to protect and conserve the environment, both in Europe and beyond.

### Programme structure

This programme involves two semesters of taught courses, which are a balance of lectures, seminars, workshops and visits, plus a research dissertation.

#### COMPULSORY COURSES

*Atmospheric Quality and Global Change; Analysing the Environment; Land Use/Environmental Interactions; Analysing the Environment Study Tour; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Soil Protection and Management; Integrated Resource Management; Ecosystem Dynamics and Functions; Marine Systems and Policies; Archives: History, Geography, Politics; Carbon Capture and Transport; Encountering Cities; Environmental Geochemistry; Foundations in Ecological Economics; Human Dimensions of Environmental Change and Sustainability; Principles of Environmental Sustainability; Principles of GIS; Project Appraisal; Understanding Environment and Development; Values and the Environment; Environmental Impact Assessment; Waste Reduction and Recycling; Sustainability of Food Production; Participation in Policy and Planning; Forests and Environment; Carbonate Sequence Stratigraphy; Climate Change and Corporate Strategy; Hyperspectral Remote Sensing; Integrated Resource Planning; Introduction to Environmental Modelling; Political Ecology; Ecosystem Values and Management; Soil Science Concepts and Application; Water Resource Management.*

### Field trip

Part of this programme is a week-long study tour in spring. Past study tours have been held in France, Greece, Portugal, Israel and Morocco.

### Career opportunities

Our graduates have a solid record in finding employment in the environmental sector while some choose to further their studies through a PhD. There are also opportunities in consultancy positions and with environmental regulators, government and NGOs.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in a biological, environmental or physical science, geography, engineering, economics or other relevant subject. Applicants with a UK 2:2 degree, or its international equivalent, may also be considered upon evidence of relevant work experience or career change.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/32

## Environmental Sustainability

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

Ensuring the environmental sustainability of society is one of the major challenges facing humanity in the 21st century. How can the needs of the world's growing population be met without threatening the ecological processes that support human wellbeing? How can the economy and energy systems be restructured to combat climate change? What policies foster sustainability? How can the necessary changes in the behaviour of organisations and individuals be promoted? This MSc programme explores these and related, topical questions.

In this programme, leading academics encourage you to think across different disciplines to blend scientific, socio-economic and policy perspectives for a stronger understanding of sustainability and how it can be achieved. This wider perspective is attractive to organisations which promote sustainable development or seek to reduce humanity's effect on the environment.

### Programme structure

This programme consists of six taught courses, studied over two semesters. You will also undertake a research project leading to a dissertation.

#### COMPULSORY COURSES

*Principles of Environmental Sustainability; Case Studies in Sustainable Development; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with your Personal Tutor, you will choose from a range of option courses. We particularly recommend: *Atmospheric Quality and Global Change; Ecosystem Services 1: Ecosystem Dynamics and Functions; Foundations in Ecological Economics; Human Dimensions of Environmental Change and Sustainability; Integrated Resource Management; Project Appraisal; Marine Systems and Policies; Development: Principles and Practices; Understanding Environment and Development; Energy Policy and Politics; Environmental Impact Assessment; Forests and Environment; Global Environmental Politics; Participation in Policy and Planning; Political Ecology; Sustainability of Food Production; Waste Reduction and Recycling; Water Resource Management; Climate Change and Corporate Strategy; Values and the Environment; Energy & Society.*

### Career opportunities

This programme prepares you for a wide range of roles within environmental consultancy, national and local government, non-profit organisations, education or research. The choice of option courses and dissertation projects can be tailored towards your chosen career path.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in a biological, environmental or physical science, geography, social science or other relevant subject. Due to the focus of this programme, business-related degrees are, unfortunately, not suitable for entry.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/668

## Food Security

MSc 1 yr FT (2 or 3 yrs PT available for UK/EU students)

### Programme description

This programme is run in collaboration with Scotland's Rural College. Food security has become a critically important issue for societies around the globe. Interactions between demographics, changes in diet, trade liberalisation, an increased focus on conservation, technological innovations including GM crops, the impact of climate change and new responses to climate change resource limitations (particularly in terms of energy, water and nutrients) all affect food security. With such a rapid growth in this area, there is an increasing demand for qualified experts to contribute to policy creation and legislation in food production and the supply chain. This unique MSc offers you the scope and multidisciplinary approach to address all of these issues, as well as an understanding of the technical, agronomic, environmental, economic and socio-political factors that influence food security. You will be equipped with the analytical and communication skills to contribute to humanity's efforts to achieve and sustain food security during the 21st century.

### Programme structure

The programme comprises six taught courses and a dissertation.

#### COMPULSORY COURSES

*Frameworks to Assess Food Security; Sustainability of Food Production; Interrelationships in Food Systems; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Atmospheric Quality and Global Change; Ecosystem Services 1: Ecosystem Dynamics and Functions; Foundations in Ecological Economics; Human Dimensions of Environmental Change and Sustainability; Integrated Resource Management; Principles of Environmental Sustainability; Soil Protection and Management; Understanding Environment and Development; Marine Systems and Policies; Applications in Ecological Economics; Climate Change and Corporate Strategy; Integrated Resource Planning; Interrelationships in Food Systems; Land Use/Environmental Interactions; Case Studies in Sustainable Development; Ecosystem Services 2: Ecosystem Values and Management; Environmental Impact Assessment; Soil Science Concepts and Application.*

### Field trip

Provisionally in Italy, the field trip provides an opportunity to apply some of the principles of food security to real world scenarios. A number of international organisations have their headquarters in Rome.

### Career opportunities

Graduates of this programme typically go on to work in government and non-governmental agencies as well as international bodies and businesses where they can utilise the invaluable, and highly prized, skills they have acquired on the programme, such as food security assessment.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in an agricultural, ecological, biological or environmental science, engineering, social science, economics, politics or other relevant subject. A UK 2:2, or its international equivalent, may also be considered with relevant work experience. This programme is not suitable for applicants pursuing a career in Food Safety/Hygiene or related areas.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

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## Geographical Information Science

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

This programme offers expert understanding of the latest developments in geographical information science (GIS), mixing practical training, theoretical knowledge and an ability to apply learned skills in any software environment. It can be tailored to your interests and career goals, offering hands-on experience in geographical problem solving.

### Programme structure

This programme comprises two semesters of taught courses, delivered through lectures and seminars, and a dissertation.

#### COMPULSORY COURSES

*Introduction To Spatial Analysis; Spatial Modelling; Research Practice and Project Planning; Distributed GIS; GeoVisualisation; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Principles of GIS; Business Geographics; Fundamentals for Remote Sensing; Advanced Spatial Database Methods; Object Oriented Software Engineering Principles; Object Orientated Software Engineering: Spatial Algorithms; Further Spatial Analysis; Hyperspectral Remote Sensing; Introduction to Radar Remote Sensing; Principles of Environmental Sustainability; Sustainable Energy Technologies; Marine Systems and Policies; Technologies for Sustainable Energy; Introduction to 3D Climate Modelling; Data Integration and Exchange; Data Mining and Exploration; Environmental Impact Assessment; Forests and Environment; ICT for Development; Integrated Resource Planning; Land Use/Environmental Interactions; Atmospheric Quality and Global Change; Water Resource Management; Participation in Policy and Planning; Introduction to Environmental Modelling; Management of Sustainable Development; Ecosystem Services.*

### Field trip

There is a field trip to Highland Perthshire in October, focusing on project management and techniques for capturing geospatial information.

### Career opportunities

Demand for GIS expertise is growing at an unprecedented rate. The proven ability of our graduates means our internationally recognised programme is held in high regard by employers. Graduates work worldwide in public and private sector organisations, such as Microsoft, Google, General Electric Aerospace, The World Bank, British Antarctic Survey, The World Conservation Monitoring Centre, Unisys, British Airways, the Forestry Commission, DEFRA and Registers of Scotland. The programme is accredited by the Royal Institution of Chartered Surveyors.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)). A UK 2:2 degree, or its international equivalent, may be accepted with relevant experience.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

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## See also...

Geographical Information Science is also available as a Masters by Research. See page 25.

www.ed.ac.uk/pg/795

## Geographical Information Science & Archaeology

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

This programme offers you the chance to develop a detailed understanding of the application of geographical information science (GIS) and related technologies within the field of archaeology. The programme has a distinctive Scottish flavour, and students will benefit from the guidance of internationally recognised staff. The programme combines the pedigree of Edinburgh's GIS expertise with a long-established reputation in archaeological teaching and research. You will gain a broad understanding of the use of GIS in archaeological surveying, recording and research and will be equipped with the analytical and communication skills necessary to work in this vibrant area. Demand for the application of GIS within archaeology is growing at an unprecedented rate, including searching for new archaeological sites, determining the societal context of existing sites and examining the interplay between successive occupations of a site. The proven ability of our GIS graduates in employment means our programme is held in high regard by a wide range of employers.

### Programme structure

The programme is organised into two semesters of taught courses, delivered through lectures and seminars, after which you will work towards your individual dissertation.

#### COMPULSORY COURSES

*Principles of GIS for Archaeologists; Introduction to Spatial Analysis; Spatial Modelling; Research Practice & Project Planning; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Distributed GIS; Frontiers in Archaeology: Research Seminars; Fundamentals for Remote Sensing; Object Oriented Software Engineering: Principles; Object Orientated Software Engineering: Spatial Algorithms; Advanced Spatial Database Methods; Business Geographics; Byzantine Archaeology: The Archaeology of the Byzantine Empire and its Neighbours AD500-850; GeoVisualisation; Further Spatial Analysis; Hyperspectral Remote Sensing; Introduction to Radar Remote Sensing; Theoretical Archaeology; Archaeology and Environment.*

### Field trip

There is a field trip to Highland Perthshire in October, focusing on project management and techniques for capturing geospatial information.

### Career opportunities

The expertise gained on this programme will allow you to continue to study or to pursue a career in surveying, illustration and 3D visualisation, digital archiving, heritage management, terrain modelling, database management, geomatics or consultancy. Our GIS graduates have gained work in both public and private sector organisations, including Historic Scotland, English Heritage, the Royal Commission on the Ancient and Historical Monuments of Scotland, thinkWhere (formerly Forth Valley GIS) and CFA Archaeology.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)). A UK 2:2 degree, or its international equivalent, may also be accepted with relevant industrial or business experience.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

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www.ed.ac.uk/pg/798

## Global Environment Challenges



PgCert 9 mths or 1 yr FT (2 yrs PT)

### Programme description

Human activity is changing the natural environment at an unprecedented rate. As a result, humanity faces a range of complex and interrelated challenges: global warming, ecosystem disruption, biodiversity loss, and, for many, increasing difficulty in meeting the basic human needs for energy, food, water and shelter. This part-time, online distance learning programme takes a multidisciplinary approach to understanding these contemporary environmental issues and will develop your capacity to address these issues in your professional life. Drawing from the University's unique breadth of expertise, you will develop an in-depth appreciation of how human activity drives environmental change.

The programme draws multidisciplinary expertise from the University and beyond, through the Global Environment & Society Academy, a network of experts developing innovative solutions for the world's most challenging problems: [www.ed.ac.uk/global-environment-society](http://www.ed.ac.uk/global-environment-society).

### Programme structure

The certificate is split into three taught courses, which are delivered through an exciting mixture of online modes, including video lectures, study guides, self-directed and guided reading as well as a range of interactive online reflection and discursive activities. Due to the highly flexible nature of this certificate, it is ideal if you want to gain a further qualification with minimum interruption to your work or family commitments. By introducing you to a virtual learning environment, you will develop your IT skills and make contact with fellow students from across the world.

#### COMPULSORY COURSES

*Global Environment Challenges; Climate Change Mitigation; Ecosystem Values and Management.*

#### MSC GLOBAL CHALLENGES

This PgCert may form one third of an MSc in Global Challenges, with Global Health Challenges and Global Development Challenges making up the other two thirds. More information: [www.ed.ac.uk/about/edinburgh-global/msc-global-challenges/global-challenges-home](http://www.ed.ac.uk/about/edinburgh-global/msc-global-challenges/global-challenges-home)

### Career opportunities

This certificate will equip you with the knowledge and skills needed for work with governments, NGOs, international aid organisations, United Nations agencies, the private sector, universities and other research institutions.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in any subject. Professional experience will also be taken into account.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

**Programme Director** Professor Mark Rounsevell

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www.ed.ac.uk/pg/872

## Marine Systems & Policies

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

This programme is unique in Europe and beyond. It embraces a holistic, interdisciplinary approach to understanding the roles of humans and their connection to marine ecosystems for survival and prosperity. We approach marine ecosystems as an integrated socio-ecological system by focusing on three spheres of marine systems:

- **Marine natural systems** – exploring marine conservation across diverse scales of marine biomes, habitats and species, spanning islands, coasts, estuaries, continental shelves, polar seas and global oceans.
- **Marine policy systems** – examining different approaches to marine spatial planning and governance of marine ecosystems and services, through formal international to regional policies, laws and informal customs and traditional knowledge.
- **Marine built systems** – exploring ‘blue growth’ opportunities e.g. the ingenuity and impact of human built environments in marine settings, from reshaping coastlines for cities, travel and trade, to the urbanisation of ocean environments driven by innovations in marine energy.

### Programme structure

This programme involves two semesters of taught courses, integrated field trips and a dissertation-style research project.

### COMPULSORY COURSES

*Marine Systems and Policies; Marine Infrastructure and Environmental Change; Marine Field Methods in Research and Practice; Research Project in Marine Systems and Policies.*

### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *International Law of the Sea; International Law of the Marine Environment; Values and the Environment; Human Dimensions of Environmental Change and Sustainability; Ecosystem Dynamics and Functions; Ecosystem Values and Management; Applications in Ecological Economics; Water Resource Management; Environmental Impact Assessment; Principles of GIS; Fundamentals for Remote Sensing.*

### Field trips

Our field trips provide site-based learning of both natural and social science practices, a key dynamic of this MSc. The core field trip in April 2015 was to a marine laboratory in the Maldives (pictured opposite) and a similar field trip is envisaged for 2016.

### Career opportunities

This MSc provides a foundation for work with international agencies, marine sectors of government bodies, marine focused think-tanks, consulting firms and NGOs, where an integrated understanding of marine ecosystems, environmental planning, local to international policies, and practice on the ground is desired.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in natural sciences or social sciences, but with clear evidence of experience and interest in marine topics.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

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www.ed.ac.uk/pg/77

## Petroleum Geoscience

MSc 1 yr FT

### Programme description

This programme, offered jointly by the University of Edinburgh and Heriot-Watt University, with external staff from Durham University, combines the expertise available at each institution to create a unique programme in subsurface geoscience and exploration. Drawing on the partners' expertise, the programme offers first-rate teaching and a thorough training in aspects of subsurface geology, geophysics and geo-engineering. It will equip you to appraise and develop subsurface resources with a particular focus on hydrocarbon geoscience.

Applications should be made through Heriot-Watt University.

### Programme structure

This programme involves two semesters of lectures and practical classes, taught at Heriot-Watt University and the University of Edinburgh. Students will also undertake a team project and a dissertation project in the summer. This intensive programme typically consists of a five-day week of lectures and practical work, with 20-25 hours of additional work each week in class or labs.

### COURSES

May include: *Formation Evaluation; Geomechanics and Flow Mechanics; Petroleum Basins; Petroleum Geophysics; Petroleum Systems Analysis; Reservoir Concepts; Reservoir Sedimentology; Sequence Stratigraphy; Reservoir Quality.*

### Field trips

There is an initial field excursion to explore the local Forth Basin and a longer field excursion to the UK's Wessex Basin, which is used for a guided team-based exploration exercise.

### Career opportunities

There has never been a better time to be an industrial geologist. Society remains heavily reliant upon the Earth's subsurface for resources such as hydrocarbons and water as well as for waste disposal (CO<sub>2</sub> or toxic wastes). Companies face increasing technological and commercial challenges to keep their wells flowing, therefore increasingly demanding the expertise of petroleum engineers and geoscientists. This highly progressive industry provides opportunities for work throughout the world across a broad spectrum of science and engineering fields. Our graduates are the target of many oil and oilfield service companies.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)).

### English language requirements

See page 30.

Applications for this programme are made directly to Heriot-Watt University.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

**Programme Director** Dr Helen Lever

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www.ed.ac.uk/pg/781

## Soils & Sustainability

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

This programme is run in collaboration with Scotland's Rural College. Soils underpin the sustainability of terrestrial ecosystems and are key to food production. Soils form the basis of all agricultural production, but they also store water, mediate the impact of pollutants, provide biological habitats, have an impact on the accumulation of greenhouse gases in our atmosphere, are involved in dealing with society's waste, are a source of extractable minerals and provide the foundations for the housing and roads on which society depends.

This programme introduces you to concepts and analytical techniques of soil science for the 21st century and is suitable if you wish to pursue a career in land-based management or environmental protection.

### Programme structure

This programme involves two semesters of compulsory and option taught courses, followed by a period of individual dissertation project work.

#### COMPULSORY COURSES

*Soil Protection and Management; Soil Science Concepts and Application; Soil Ecology and Taxonomy; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Spatial Modelling; Geodiversity Conservation and Interpretation; Culture, Ethics & Environment; Analysing the Environment; Analysing the Environment Study Tour; Ecosystem Dynamics and Functions; Human Dimensions of Environmental Change and Sustainability; Development: Principles and Practices; Principles of Environmental Sustainability; Principles of GIS; Project Appraisal; Atmospheric Quality and Global Change; Frameworks to Assess Food Security; Integrated Resource Management; Ecosystem Values and Management; Environmental Impact Assessment; Land Use/Environmental Interactions; Participation in Policy and Planning; Sustainability of Food Production; Interrelationships in Food Systems.*

### Field trip

An integral, week-long study tour lets you refresh skills learned on the programme and develop new tools and techniques, useful during the dissertation process. The tour is currently held in Lozère, France. In addition to the formal taught component, we organise rafting and visit the Aven Armand caves. There may also be a short tour during induction week, to give you a chance to get to know your fellow students.

### Career opportunities

A recent report by the British Society of Soil Science identified soil science as an area in which there is a shortage of critical skills, meaning graduates will be in high demand. Soil scientists are employed in a broad range of vocations including environmental consultancy, research, overseas development, environmental impact assessment and analysis, site reclamation and remediation, and conservation as well as advising on government policy, archaeological excavations and laboratory analyses, forensics and landscape design.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)).

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)  
For funding information see also page 28.

**Programme Director** Dr Jennifer Carfrae

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www.ed.ac.uk/pg/degrees

## Sustainable Energy Management

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

The world is facing an 'energy trilemma' – how to achieve energy security, energy equity and environmental sustainability. This programme will equip you with an active understanding of low-carbon technologies, policies and markets, and is focused on analysing social, societal and environmental dimensions of energy transitions. You will examine how citizens are involved in and affected by changes in energy systems. Scotland is a world leader in renewable electricity generation, while also economically dependent on declining North Sea oil and gas and suffering from high levels of energy poverty. This provides insightful case studies, which serve to examine links between global and local issues, explore international best practices and identify locally suitable pathways to more sustainable energy management.

### Programme structure

The full-time programme comprises taught courses, a field trip and a dissertation.

#### COMPULSORY COURSES

*Energy & Society; Renewable Energy Systems; Energy Finance; Energy Policy and Politics; Sustainable Consumption in the Digital Age.*

#### RECOMMENDED OPTION COURSES

The Programme Director will assist you in your choice from our unrivalled selection of option courses related to themes such as environment & development, carbon management, ecological economics, GIS & data analytics, low carbon energy generation & storage and smart cities/communities. This will allow you to tailor the programme towards your career goals.

### Field trip

A week-long residential field trip to the Orkney Islands will develop your practical experience and skills in energy research in communities that are at the forefront of the transition to distributed, intermittent 'smart grids'.

### Career opportunities

UK research councils cite a major skills gap in the energy sector, one of the biggest growth sectors within the UK economy in recent years. Demand has never been higher for sound evidence on behavioural change, public engagement with energy issues, and public support for community and commercial investments in low-carbon energy generation. We train you to translate complex science into effective policies and new business opportunities. We have strong links with government departments, energy NGOs and key industry players who want to make use of these skills. Committed to helping you meet prospective employers and network with those active in the field, we organise careers events and encourage dissertations conducted in partnership with external organisations.

### Minimum entry requirements

A UK 2:1 honours degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in natural or social sciences or a similar subject.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

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www.ed.ac.uk/pg/903

## Sustainable Plant Health

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

Food production has tripled in the past forty years, but one billion people still go hungry every year. On average 30 per cent of all food produced is wasted in the pathway from 'field to fork'. With the global human population set to rise from seven to nine billion by 2050, we urgently need sustainable solutions that will allow us to increase the global food supply while preserving the integrity of agricultural and non-agricultural ecosystems. Our trees and forests face new plant health threats that threaten areas of great natural beauty and diversity and affect both rural and urban landscapes. This unique programme gives you the opportunity to develop your understanding of the vital role of plant health, applying your skills by conducting laboratory and field studies. It is suitable if you wish to pursue a career in plant protection in agriculture, horticulture, forestry or urban settings, or in policy development and implementation, plant health inspection, academic and industrial research, consultancy and conservation management or private industry.

### Programme structure

The MSc comprises two semesters of lectures and practical classes, and a dissertation.

#### COMPULSORY COURSES

*Forensic Plant Health; Plant Health in a Global Context; Dissertation.*  
For students without a plant health biology background *Fundamentals of Plant Health* is also compulsory.

#### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Applications in Ecological Economics; Atmospheric Quality and Global Change; Case Studies in Sustainable Development; Climate Change and Corporate Strategy; Ecosystem Services 1: Ecosystem Dynamics and Functions; Ecosystem Services 2: Ecosystem Values and Management; Environmental Impact Assessment; Foundations in Ecological Economics; Frameworks to Assess Food Security; Human Dimensions of Environmental Change and Sustainability; Integrated Resource Management; Integrated Resource Planning; Interrelationships in Food Systems; Land Use/Environmental Interactions; Principles of Environmental Sustainability; Soil Protection and Management; Soil Science Concepts and Application; Sustainability of Food Production; Understanding Environment and Development.*

### Career opportunities

You will gain particularly valuable skills from our unique approach looking at impacts across ecosystems. Plant health scientists are employed in environmental consultancy, research, overseas development, agriculture, horticulture, forestry, urban planning, policy development, plant inspection and management. Long-term career prospects are strong. Agricultural scientists will continue to be needed to balance increased output with protection and preservation of ecosystems.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in a relevant subject.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

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www.ed.ac.uk/pg/379

## Sustainable Resource Management

MSc 1 yr FT (2 yrs or 3 yrs PT available for UK/EU students)

### Programme description

Sustainable resource management is a planning and decision-making process that seeks to coordinate and balance the social, economic and environmental demands on resource use, to achieve long-term sustainable benefits and reduce conflicts among resource users.

The MSc in Sustainable Resource Management is suitable for those with an interest in a career in organisations which have responsibility for environmental planning, resource allocation or overseeing the impact of resource management decisions. You will benefit from practical knowledge and hands-on experience from government and non-government experts, and explore questions surrounding society's coordination of natural resources, such as how to better manage resources and prioritise their use. The programme will equip you with the necessary tools to pursue a range of international career paths in planning and managing environmental and economic demands.

### Programme structure

This programme involves two semesters of taught courses and an individual research project.

#### COMPULSORY COURSES

*Integrated Resource Management; Integrated Resource Planning; Dissertation.*

#### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a wide range of option courses including: *Atmospheric Quality and Global Change; Frameworks to Assess Food Security; Human Dimensions of Environmental Change and Sustainability; Principles of Environmental Sustainability; Principles of Geographical Information Science; Project Appraisal; Understanding Environment and Development; Foundations in Ecological Economics; Geology for Earth Resources; Energy Policy and Politics; Environmental Impact Assessment; Business Geographies; Political Ecology; Energy and Society; Case Studies in Sustainable Development; Participation in Policy and Planning; Sustainability of Food Production; Waste Reduction and Recycling; Forests and Environment; Water Resource Management.*

### Career opportunities

This programme is designed to give you career options in any organisation that needs to consider its environmental or resource decisions. Graduates of this programme have gone on to work across a wide range of industry, academic and government organisations.

### Minimum entry requirements

A UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)). Applicants holding a UK 2:2 degree, or its international equivalent, may also be considered, if there is evidence of relevant work experience.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

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# Research at the School of GeoSciences

As the largest grouping of geoscientists in the UK, we offer an extensive range of research opportunities for postgraduates.

The University of Edinburgh has an unbroken record of teaching and research in the earth sciences going back to 1770, when Robert Ramsay became the first Professor of Natural History.

James Hutton and Arthur Holmes were prominent among those who set an academic tradition in Edinburgh that continues today with the University achieving top ratings in earth sciences and environmental sciences (including geography) teaching and research.

## Home of leading research

Our interactive and interdisciplinary research environment allows us to tackle difficult research questions, from causes of past glaciations to interactions of earth, climate and society. The ambition and quality of our research was reflected in the Research Excellence Framework (REF) 2014, when 78 per cent of our research was rated world-leading or internationally excellent.

## Backed by industry

The School receives strong backing from industry, particularly in areas such as hydrocarbons and carbon capture and storage. We receive support from the EU and from major UK research councils, including the Engineering and Physical Sciences Research Council and the Economic and Social Research Council.

## Research community

Postgraduate research at the School of GeoSciences is represented by the following three research institutes:

### Geography and the Lived Environment

This institute generates agenda-setting research that improves understanding of the relationships between people, society and the environment. Researchers seek to investigate key areas of contemporary and historical societal concern, including development, climate change, inequalities, land-use change, ecosystem services, health and wellbeing and urbanisation.

The lived environment refers to those aspects of the Earth system that are experienced by people – not as it is purely conceptualised or theorised, but as it is lived. It is a multidisciplinary concept that

brings together environmental science, geography, economics, policy, social science and computer science.

### Global Change

This institute seeks to improve the scientific understanding of past, present and future changes in the Earth system through measurements, theory and computational modelling. Better understanding of the Earth system allows us to inform policymakers and to develop effective mitigation strategies, which, if implemented, would minimise the economic and humanitarian implications of changes in climate and the Earth system. Our aim incorporates some of the most compelling scientific challenges of the 21st century. To address these questions we nurture an interdisciplinary research and teaching environment, integrating expertise across the institute, the School of GeoSciences and more broadly throughout the University and beyond.

### Earth and Planetary Sciences

This institute undertakes research that informs the solutions to address global challenges relating to resources, natural hazards and the environment. Our researchers seek better understanding of chemical and physical properties of materials, the origin and history of pore fluids, minerals, rock assemblages, and magmas, and their interactions at all scales within the Earth. We develop new seismological, electromagnetic, gravitational, magnetic and industrial seismic methods to interrogate the Earth remotely for such information.

### Dynamic leaders

The School has many high-profile academics who are leaders in their field.

Stuart Haszeldine is the world's first Professor of Carbon Capture and Storage. He co-leads Scottish Carbon Capture and Storage, the UK's largest such group (a collaboration between the University of Edinburgh, Heriot-Watt University and the British Geological Survey). He is a member of the Advisory Group to the UK Department of Energy and Climate Change and also advises the Scottish Government.

Gabriele Hegerl is Professor for Climate System Science. She studies the causes of observed changes in climate, and detected the emerging signal of greenhouse gas increases in temperature data. She now studies causes of change in climate extremes and of climate variability and change over the past millennium. Professor Hegerl is involved in the Intergovernmental Panel on Climate Change. She was a member of the Summary for Policymakers writing team in the Fourth Assessment Report, and a member of the Synthesis Report writing team in the Fifth Report.

Alexander Tudhope is the Head of the School of GeoSciences and Professor of Climate Studies. One of his main research interests is coral palaeoclimatology – which uses records laid down in coral growth to reconstruct past climate and environmental change. Much of this work has focused on the El Niño Southern Oscillation phenomenon and has involved fieldwork from the Galápagos to the South Pacific islands to Papua New Guinea. He was involved in the Integrated Ocean Drilling Programme's Expedition 325 to drill samples from Australia's Great Barrier Reef.

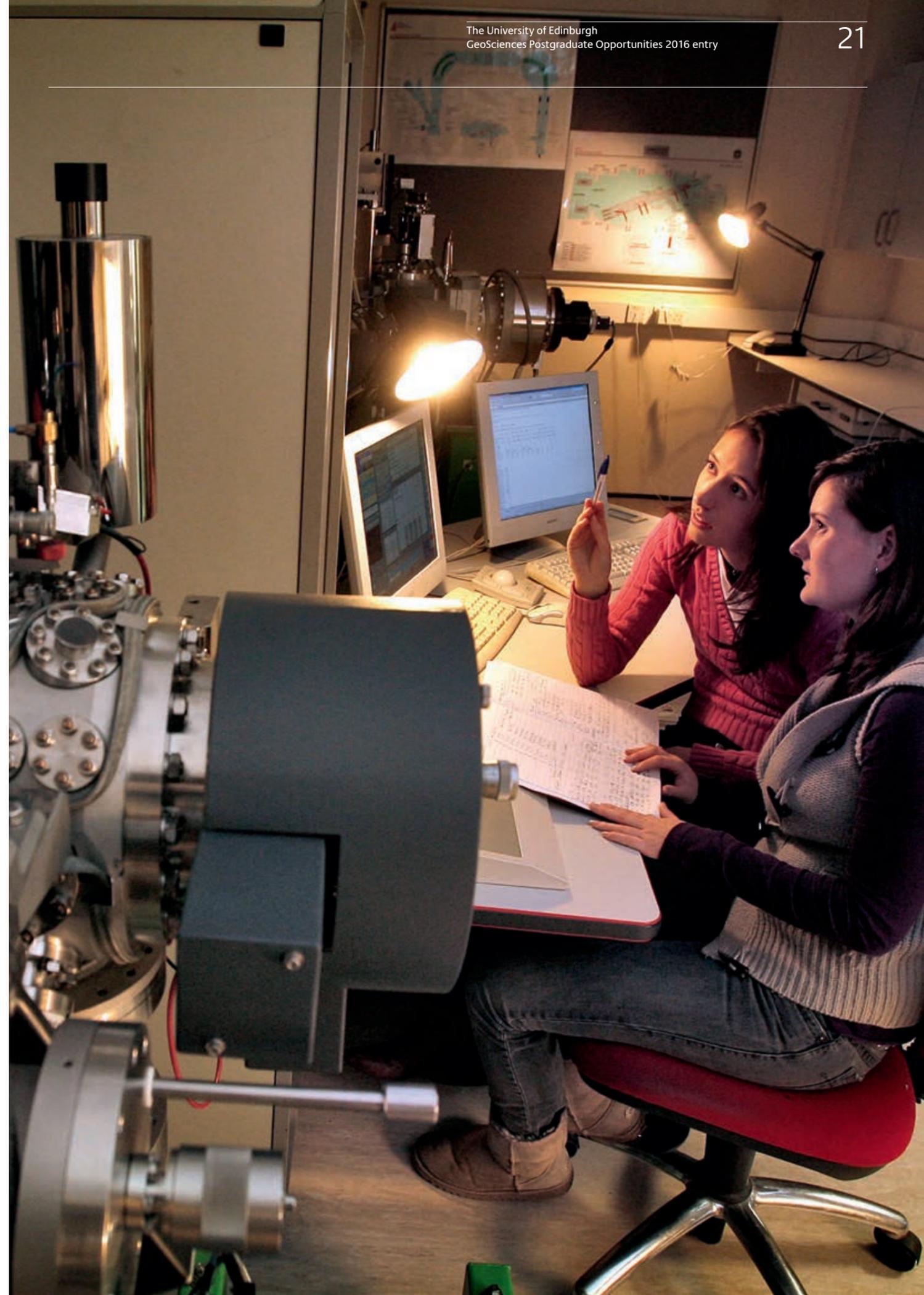
### International collaborations

A commitment to international partnerships is intrinsic to the School's research ethos. We have established research links on every continent.

Some projects are global in scope, such as the calculation of surface temperatures across oceans, determining the rate at which cosmic rays bombard the Earth's surface at different latitudes, or human transnational processes such as migration and globalisation.

Other projects focus on specific regions and communities, for example addressing issues of gender and social equality for the Nepal-Swiss Community Forestry Project in Kathmandu, or examining archaeological evidence in Iceland to evaluate the role of climate in environmental and cultural change.

Examples of our research partnerships can be found on page 23.



## Our research collaborations

We work with a wide range of research institutes, centres and universities around the world. Here is a selection of our partnerships.

### Centre for Research on Environment, Society and Health

CRESH fosters collaborations between scientists whose research is focused on exploring how physical and social environments can influence health: <http://cresh.org.uk>

### Centre for Science at Extreme Conditions

The aim of the CSEC is to promote the study of materials at extremes of pressure and temperature and in electromagnetic fields: [www.csec.ed.ac.uk](http://www.csec.ed.ac.uk)

### Edinburgh Materials and Micro-Analysis Centre

We provide integrated and interdisciplinary facilities for the application of microbeam analytical techniques to material analysis: [www.geos.ed.ac.uk/facilities/EMMAC](http://www.geos.ed.ac.uk/facilities/EMMAC)

### Edinburgh Research Partnership in Engineering and Mathematics

ERPem, a consortium involving the University of Edinburgh, Heriot-Watt University and Edinburgh Napier University, is organised into six Joint Research Institutes dedicated to world-class research, innovation and education in engineering and mathematical science: [www.erp.ac.uk](http://www.erp.ac.uk)

### Edinburgh Seismic Research

We are a federation of research groups forming the UK's largest group of scientists involved in exploration geophysics: [www.geos.ed.ac.uk/seismic](http://www.geos.ed.ac.uk/seismic)

### International Centre for Carbonate Reservoirs

ICCR is a strategic alliance between Edinburgh and Heriot-Watt universities investigating the recovery of hydrocarbons from carbonate reservoirs: [www.geos.ed.ac.uk/iccr](http://www.geos.ed.ac.uk/iccr)

### National Centre for Earth Observation

The NCEO is a partnership of scientists and institutions that are using data from Earth observation satellites to monitor global and regional changes in the environment: [www.nceo.ac.uk](http://www.nceo.ac.uk)

### Scottish Carbon Capture and Storage

Led by the School of GeoSciences, this is the largest such grouping in the UK, with world-class expertise in hydrocarbon geoscience, industrial-scale chemical engineering, carbon capture and innovative CO<sub>2</sub> use and power plant design: [www.sccs.org.uk](http://www.sccs.org.uk)

### Scottish Universities Environmental Research Centre

This is a collaborative facility operated by the Universities of Edinburgh and Glasgow, providing world-class analytical facilities. It hosts several national Natural Environment Research Council facilities: [www.gla.ac.uk/research/az/suerc](http://www.gla.ac.uk/research/az/suerc)

### UK Geotraces

UK Geotraces is part of an international consortium founded to understand the oceanic cycles of key trace elements and isotopes: [www.ukgeotraces.com](http://www.ukgeotraces.com)

For more information about our research centres, please visit: [www.ed.ac.uk/schools-departments/geosciences/research](http://www.ed.ac.uk/schools-departments/geosciences/research)

“As well as in-depth subject knowledge, I was able to gain and develop skills such as writing for publication, presenting to audiences with various levels of background – from experts at conferences to undergraduate students – applying for funding, networking and self-motivation.”

**Karin Vieregger**, PhD, Institute of Geography

# Research opportunities

We offer a range of research degrees: MSc by Research, MPhil and PhD. You can commit to anything from one year of full-time study for the MSc to six years' part-time study for a doctorate.

## MSc by Research

This degree offers the opportunity to acquire research skills by undertaking a single year (if studying full time) of independent study within the School's research interests.

## Master of Philosophy

The MPhil requires a minimum of two years' study (if studying full time), including an extended piece of supervised research.

## Doctor of Philosophy

As a PhD student you will undertake an original research project under individual supervision. Your studies will take at least three years, and to qualify for your doctorate your thesis must be judged to represent an original contribution to knowledge.

## Support

As a research student, you will be affiliated to one of our research institutes, benefiting from an excellent peer-supported network. As groupings of researchers with related interests, the institutes provide a forum for development of ideas, collaboration, and dissemination of results, and an environment for training, development and mentoring of research students and early career researchers.

## More information

Enquiries for PhD, MPhil and MSc by Research programmes should be directed to:

PGR Recruitment Secretary  
School of GeoSciences, Grant Institute, University of Edinburgh  
West Mains Road, Edinburgh EH9 3JW, UK

Tel +44 (0)131 650 8556  
Email [pgrapplications@geos.ed.ac.uk](mailto:pgrapplications@geos.ed.ac.uk)  
[www.ed.ac.uk/schools-departments/geosciences/postgraduate/phd](http://www.ed.ac.uk/schools-departments/geosciences/postgraduate/phd)

[www.ed.ac.uk/pg/93](http://www.ed.ac.uk/pg/93)

## Atmospheric & Environmental Sciences (Environmental Sustainability)

PhD 3 yrs FT (6 yrs PT available for UK/EU students)  
MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

### Research institutes

Our research degrees in Atmospheric & Environmental Sciences draw on expertise from the following two research institutes: Global Change and Geography and the Lived Environment.

### Research profile Global Change

Our overarching aim is to improve the scientific understanding of past, present and future changes in the Earth system through measurements, theory and computational modelling. Better understanding of the Earth system allows us to inform policymakers and to develop effective mitigation strategies, which, if implemented, would minimise the economic and humanitarian implications of changes in climate and the Earth system. Our aim incorporates some of the most compelling scientific challenges of the 21st century. To address these questions we nurture a multidisciplinary research and teaching environment, integrating expertise across the Institute, the School and more broadly throughout the University.

### Geography and the Lived Environment

We seek to generate agenda-setting research that improves understanding of the relationships between people, society and the environment. Our research investigates key areas of contemporary and historical societal concern, including development, climate change, inequalities, land-use change, ecosystem services, health and wellbeing and urbanisation. The lived environment refers to those aspects of the Earth system that are experienced by people – not as it is purely conceptualised or theorised, but as it is lived. It is a multidisciplinary concept that brings together environmental science, geography, economics, policy, social science and computer science.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

The School receives sizeable studentship quota allocations from research councils and also offers studentships provided by successful consortium bids and research grants. School-funded scholarships are also available.

For funding information see also page 28.

**Programme contact** PGR Recruitment Secretary

**Tel** +44 (0)131 650 8556

**Email** [pgrapplications@geos.ed.ac.uk](mailto:pgrapplications@geos.ed.ac.uk)

[www.ed.ac.uk/pg/81](http://www.ed.ac.uk/pg/81)

## Geographical Information Science

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

This is a world-class programme, offering a unique educational opportunity. We aim to develop and improve understanding of the field of GIS by mixing strong practical skills with fundamental theoretical knowledge.

The MSc by Research degree is perfect for those who wish to pursue future research and allows those with a strong background in GIS the flexibility to widen their expertise by taking optional courses in other disciplines, such as informatics, alongside developing your dissertation.

This intensive programme produces excellent students with sound theoretical knowledge underpinning practical application and 'hands on' experience in geographical problem solving.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

**Programme Director** Bruce Gittings

**Tel** +44 (0)131 650 2558

**Email** [bruce@ed.ac.uk](mailto:bruce@ed.ac.uk)



THE UNIVERSITY of EDINBURGH

## Case study: Edinburgh's research with impact

### Saving savannahs in Belize

A measure of a researcher's ability to conduct projects with lasting benefits is an award of funding from the prestigious Darwin Initiative. The School of GeoSciences Dr Neil Stuart, received just that in 2005, with the resulting findings of his project having a long-standing effect on the environmental handling of the Belize savannahs.

### Project background

The unique diversity of plant species in the lowland Belize savannahs was relatively unknown before exploration by a team from the Royal Botanical Garden Edinburgh (RBGE) in 1996. In 2005, Dr Stuart showed that these globally significant habitats could be mapped in detail with radar and optical satellite data. His proposal to conduct the first comprehensive mapping and botanical assessment of savannahs in Belize, in partnership with the Belize government and scientists in Belize and at the RBGE, was awarded funding from the Darwin Initiative, run by the UK's Department for Environment, Food and Rural Affairs.

The Darwin Initiative mapping project, published in 2011, revealed that 10 per cent of the savannah had been lost in the previous 20 years. More than 10,000 plant specimens were collected and 54 new species identified. Savannahs were shown to contain 33 per cent of the total floristic diversity of Belize and, importantly, 43 per cent of all national endemic species, challenging the popular impression of savannahs as areas of low biodiversity.

### Project results

Dr Stuart's remote sensing and mapping project directly influenced the creation in 2009 of a new Environmental Research Institute at the University of Belize. The Research Institute, the Ministry of Natural Resources and environmental NGOs based in Belize now conduct high-quality work in biodiversity monitoring and plant identification, thanks to a vision that began life far from the savannah here in Edinburgh.

**Dr Stuart's remote sensing and mapping project directly influenced the creation in 2009 of a new Environmental Research Institute at the University of Belize.**

See more online: [www.ed.ac.uk/research/impact](http://www.ed.ac.uk/research/impact)

“I have been given the space necessary to explore all the possible angles of my research and decide which to focus on. Both my supervisor and Programme Director have always been welcoming and encouraging to my suggestions and I found a great balance of freedom to explore and work on my research, but also support when I needed it.”

**Candela Sanchez-Rodilla Espeso**, MSc Human Geography

[www.ed.ac.uk/pg/105](http://www.ed.ac.uk/pg/105)

## Geography (Human Geography)

PhD 3 yrs FT (6 yrs PT available for UK/EU students)  
MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

### Research group

Our research degrees in Geography draw on expertise from the School's Human Geography Research Group, part of the Geography and the Lived Environment research institute.

### Research profile

The Human Geography Research Group is recognised for its leading contribution to research at the forefront of the field. The Group's research efforts provide challenging new insights to core geographical concerns through three research themes: relations and identities; knowledges, practices and policies; and development and power.

We have expertise in a wide range of regions, including the UK and continental Europe, South Asia, Australia, North and South America, Canada, the Caribbean and the Middle East. We also have productive collaborations with colleagues in many parts of the University.

### Facilities

Our collaborate with colleagues across the University including in the Schools of Education, Health in Social Science (including Counselling Studies) and Edinburgh College of Art, and other areas within the College of Humanities & Social Science. We have one of the best equipped geographical information science (GIS) laboratories in Europe, together with software for data handling in a range of social, economic and demographic datasets, GIS, database management, modelling and visualisation.

### Training and support

The School is recognised as a provider of the Economic & Social Research Council (ESRC) Research Training (1+3) postgraduate training programme and has the Research Training-recognised MSc by Research in Human Geography, which is co-delivered with the Scottish Graduate School of Social Science. The group is a member of the ESRC-recognised Scottish Human Geography Consortium and the Kindrogan Consortium for Advanced Postgraduate Research Training in Human Geography. It has expertise in qualitative and feminist methodologies, archive use, and GIS-linked analysis of large datasets.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

The group receives a studentship quota allocation from the Arts & Humanities Research Council (AHRC) and the ESRC and also has studentships from successful consortium bids.

For funding information see also page 28.

**Programme contact** PGR Recruitment Secretary

**Tel** +44 (0)131 650 8556

**Email** [pgrapplications@geos.ed.ac.uk](mailto:pgrapplications@geos.ed.ac.uk)

[www.ed.ac.uk/pg/69](http://www.ed.ac.uk/pg/69)

## Geology & Geophysics

PhD 3 yrs FT (6 yrs PT available for UK/EU students)  
MPhil 2 yrs FT (4 yrs PT available for UK/EU students)

### Research institutes

Our research degrees in Geology & Geophysics draw on expertise from the School's Earth & Planetary Science research institute.

### Research profile

The Earth & Planetary Science research institute studies the physical and chemical properties, origin and history of the Earth, and encompasses the major disciplines of geology, geochemistry, geodynamics, meteorology and geophysics. We bring together hitherto separate fields to understand the way in which the Earth's subsurface works – from atoms to plates, and on timescales ranging from seconds to billions of years.

We have special expertise in mineralogy; igneous, metamorphic and experimental petrology; palaeontology; sandstone and carbonate diagenesis; tectonics; rock physics and chemistry; petroleum geoscience; seismic imaging; and seismic sequence stratigraphy.

Our research is applied to areas as diverse as carbon capture and storage and the examination of diamonds from the lower mantle. The Edinburgh Earth Observatory, part of the Earth & Planetary Science research institute, is a multidisciplinary research unit, providing a strategic focus and support base for the University's expertise in the geosciences. Its main research focus is on understanding the Earth and its environment through the effective exploitation of both in-situ and remote observations. The Earth & Planetary Science research institute, and our associated, new joint Graduate School, established by the Edinburgh Research Partnership in Engineering and Mathematics, now contains Europe's largest grouping of subsurface research geologists and specialist geophysicists in a single city.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

**Programme contact** PGR Recruitment Secretary

**Tel** +44 (0)131 650 8556

**Email** [pgrapplications@geos.ed.ac.uk](mailto:pgrapplications@geos.ed.ac.uk)

[www.ed.ac.uk/pg/84](http://www.ed.ac.uk/pg/84)

## GeoSciences Individual Project

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

This masters by research programme is an opportunity to carry out a substantial piece of research in any of the major branches of geosciences. The programme allows you to work on research throughout the year, and your work will be judged solely on your final dissertation. You can follow taught courses by arrangement with your supervisor, but none are required.

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

**Programme contact** Professor Andrew Curtis

**Tel** +44 (0)131 650 8515

**Email** [andrew.curtis@ed.ac.uk](mailto:andrew.curtis@ed.ac.uk)

[www.ed.ac.uk/pg/86](http://www.ed.ac.uk/pg/86)

## Human Geography

MSc by Research 1 yr FT (2 yrs PT available for UK/EU students)

This programme's emphasis on independent research allows you to work closely with scholars who are leaders in their field. Research may be in any area of social, urban, environmental, development, political, economic, historical or cultural geography that is supported by the Human Geography Research Group. It is co-delivered with the University's Graduate School of Social Science.

We offer a balance between general and specialist research training. The programme is recognised by the Economic and Social Research Council and the Arts and Humanities Research Council. A highlight of the programme is the postgraduate conference where students present their research to colleagues. The programme can stand alone as a masters degree, or form the first year of a '1+3' ESRC-backed PhD programme.

### COMPULSORY COURSES

*Research Design in Human Geography; Methodological Debates in Human Geography; Core Quantitative Data Analysis 1 and 2; Research Skills in the Social Sciences: Data Collection; Dissertation in Human Geography.*

### RECOMMENDED OPTION COURSES

In consultation with the Programme Director, you will choose from a range of option courses. We particularly recommend: *Conducting Research Interviews; Contemporary Social Theory; The Documents of Life; Explanation and Understanding in Social and Political Research; Intermediate Inferential Statistics: Testing and Modelling; Listening to Children: Research and Consultation; Political Ecology; Qualitative Methods and Ethnographic Fieldwork; Survey Methods and Data; Values and the Environment.*

### English language requirements

See page 30.

### Fees and funding

[www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate)

For funding information see also page 28.

**Programme contact** Dr Eric Laurier

**Tel** +44 (0)131 651 4303

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THE UNIVERSITY of EDINBURGH

## Case study: Edinburgh's research with impact

# Shaping policy on earthquake risk estimation and forecasting

After the devastating earthquake in Aquila in 2009, the Director of Civil Protection in Italy appointed the School of GeoScience's Professor Ian Main as the sole UK member to the International Commission on Earthquake Forecasting (ICEF), based on his record of research into multiple aspects of earthquake predictability. The intent of the commission was twofold: to encourage investment in forecasting, and to prevent a repeat of the situation in Aquila. There, six members of the Italian Grand Risks Commission were convicted of manslaughter as a result of their perceived poor communication of the risks involved, although they were later acquitted on appeal.

### Project background

Professor Main's research, using both statistical and rock physics approaches, has illuminated the difficulties of earthquake prediction.

His findings show that global earthquake data can be used to identify increases in the probability of earthquakes, but deterministic predictive models for individual events, sufficient to justify a general evacuation, are unreliable.

These conclusions directly impacted the policy recommendations of the final Reports and Recommendations of the ICEF, which stated: 'Any information about the future occurrence of earthquakes contains large uncertainties and, therefore, can only be evaluated and provided in terms of probabilities'. The report recommended investment in operational forecasting with clear communication of probability and uncertainty.

### Project results

Thanks in part to Professor Main's findings, the ICEF report stimulated policy innovation across the world. Research carried out in Edinburgh has influenced forecasting policy internationally, with the Italian Department of Civil Protection committing €1 billion to a 10-year research project on operational earthquake forecasting. It has also implemented a public education programme to better communicate probability and risk. Authorities in the US and New Zealand have also taken their cues from the ICEF report and initiated similar programmes. The report has also influenced policy development in Greece, Japan and Russia.

**Research carried out in Edinburgh has  
influenced forecasting policy internationally.**

**See more online: [www.ed.ac.uk/research/impact](http://www.ed.ac.uk/research/impact)**

# Funding

A large number of scholarships, loans and other funding schemes are available for your postgraduate studies. It is only possible to show a small selection in print. To see the full range, please visit: [www.ed.ac.uk/student-funding/postgraduate](http://www.ed.ac.uk/student-funding/postgraduate).

Awards are offered by the School of GeoSciences, the College of Science & Engineering, the University of Edinburgh, the Scottish, UK and international governments and many funding bodies.

While securing funding is competitive, the School of GeoSciences makes every effort to find funding support for students with proven academic merit, enthusiasm to study with us and a good case for financial backing. Additionally, many students find their own funding from a variety of external sources.

Here we list a selection of potential sources of financial support for postgraduate students applying to the School of GeoSciences.

## Tuition fee discounts

We offer a 10 per cent discount on postgraduate fees for all alumni who have graduated with an undergraduate degree from the University. We also offer a 10 per cent discount for international graduates who spent at least one semester at the University of Edinburgh as a visiting undergraduate: [www.ed.ac.uk/student-funding/discounts](http://www.ed.ac.uk/student-funding/discounts)

### Key

- Taught masters programmes
- Masters by Research programmes
- Research programmes

## Loans available for study at the University of Edinburgh

The University of Edinburgh is a participating institution in the following loans programmes, meaning we certify your student status and can help with the application process.

### • The Canada Student Loans Program ●●●

The University is eligible to certify Canadian student loan applications: [www.ed.ac.uk/student-funding/canadian-loans](http://www.ed.ac.uk/student-funding/canadian-loans)

### • The Student Awards Agency Scotland ●●●

The Student Awards Agency Scotland offers eligible students postgraduate tuition fee loans for eligible programmes: [www.ed.ac.uk/student-funding/pg-loan](http://www.ed.ac.uk/student-funding/pg-loan)

### • US Student Loans ●●●

The University is eligible to certify loan applications for US loan students. Full details on eligibility and how to apply can be found online: [www.ed.ac.uk/student-funding/us-loans](http://www.ed.ac.uk/student-funding/us-loans)

## Research council awards

Research councils offer awards to masters, MPhil and PhD students in most of the Schools within the University of Edinburgh. All studentship applications from the research councils must be made through the University, through your School or College office. Awards can be made for both taught and research programmes.

Normally only those UK/EU students who have been resident in the UK for the preceding three years are eligible for a full award. For some awards, candidates who are EU nationals and are resident in the UK may be eligible for a fees-only award: [www.ed.ac.uk/student-funding/research-councils](http://www.ed.ac.uk/student-funding/research-councils)

## University of Edinburgh scholarships

The University offers a number of scholarships in partnership with the following overseas government agencies:

- **Chile ●●●**  
National Commission for Scientific and Technological Research (CONICYT): [www.conicyt.cl/](http://www.conicyt.cl/)
- **Colombia ●**  
Administrative Department of Science, Technology and Innovation (Colciencias): [www.colciencias.gov.co](http://www.colciencias.gov.co)
- **Ecuador ●●●**  
Secretaria Nacional de Educacion Superior, Ciencia y Tecnologia (SENESCYT): [www.educacionsuperior.gob.ec](http://www.educacionsuperior.gob.ec)
- **Iraq ●**  
Ministry of Higher Education and Scientific Research: [www.en.mohe.gov.iq/](http://www.en.mohe.gov.iq/)
- **Mexico**  
National Council of Science and Technology of the United Mexican States (CONACYT): ●●● [www.conacyt.mx](http://www.conacyt.mx)  
Banco de Mexico and the Banco de Mexico's FIDERH trust (FIDERH): ●●● [www.fiderh.org.mx](http://www.fiderh.org.mx)  
Fundacion Mexicana para la Educacion, la Tecnologia y la Ciencia (FUNED): ●● [www.funedx.org](http://www.funedx.org)

Other scholarship opportunities include:

- **China Scholarships Council/University of Edinburgh Scholarships (China) ●**  
A number of scholarships for PhD study to candidates who are citizens and residents of China: [www.ed.ac.uk/student-funding/china-council](http://www.ed.ac.uk/student-funding/china-council)
- **Edinburgh, Earth & Environment (E3) NERC Doctoral Training Partnership Scholarships ●**  
There are 18 fully-funded scholarships within the E3 doctoral training partnership to address environmental challenges and provide flexible training in a multidisciplinary setting: [www.ed.ac.uk/schools-departments/geosciences/postgraduate/phd/e3](http://www.ed.ac.uk/schools-departments/geosciences/postgraduate/phd/e3)
- **Edinburgh Global Masters Scholarships ●●**  
A number of scholarships are available to international students for masters study: [www.ed.ac.uk/student-funding/masters](http://www.ed.ac.uk/student-funding/masters)
- **Eric Liddell China Saltire Scholarships (China) ●●**  
Ten scholarships are available to Chinese citizens who are permanent residents of mainland China who are accepted on a full-time masters degree programme: [www.ed.ac.uk/student-funding/liddell](http://www.ed.ac.uk/student-funding/liddell)
- **GeoSciences Head Of School Scholarships ●**  
A number of part fee scholarships may be offered annually: [www.ed.ac.uk/student-funding/postgraduate/head-geos](http://www.ed.ac.uk/student-funding/postgraduate/head-geos)
- **GeoSciences School Bursaries ●**  
A number of small bursaries may be available for any applicant to a School-owned programme: [www.ed.ac.uk/schools-departments/geosciences/postgraduate/masters-programme/pgtscholarshipsgeos](http://www.ed.ac.uk/schools-departments/geosciences/postgraduate/masters-programme/pgtscholarshipsgeos)
- **Highly Skilled Workforce Scholarships ●**  
A number of scholarships are available to UK nationals who are permanently domiciled in Scotland, and to EU nationals domiciled either on mainland EU or in Scotland, who have been accepted on an eligible full-time or part-time masters programme. The scholarships will cover the UK/EU tuition fee: [www.ed.ac.uk/student-funding/sfc-hsw](http://www.ed.ac.uk/student-funding/sfc-hsw)

### • Julius Nyerere Masters Scholarships (Tanzania) ●●

One scholarship is available to citizens of Tanzania who are normally resident in Tanzania who are accepted on a full-time masters degree programme: [www.ed.ac.uk/student-funding/nyerere](http://www.ed.ac.uk/student-funding/nyerere)

• **School of GeoSciences Studentships ●**  
A number of part-funded UK/EU and international PhD studentships are offered annually: [www.ed.ac.uk/schools-departments/geosciences/postgraduate/phd/fees-funding/funding](http://www.ed.ac.uk/schools-departments/geosciences/postgraduate/phd/fees-funding/funding)

• **Southern African Scholarship ●●●**  
One award for masters study available to students from selected southern African countries: [www.ed.ac.uk/student-funding/postgraduate/southern-africa](http://www.ed.ac.uk/student-funding/postgraduate/southern-africa)

• **UK/EU Masters Scholarships ●●**  
A number of scholarships for UK and EU students who have been accepted on a full-time masters degree programme: [www.ed.ac.uk/student-funding/uk-masters](http://www.ed.ac.uk/student-funding/uk-masters)

• **University of Edinburgh PhD Scholarships ●**  
A number of scholarships, open to UK, EU and international PhD students: [www.ed.ac.uk/student-funding/development](http://www.ed.ac.uk/student-funding/development)

## Other sources of funding

The following are examples of the many scholarships and support schemes available to students from particular countries who meet certain eligibility criteria.

- **Beit Trust ●●●**  
Beit Trust Scholarships support postgraduate students from Malawi, Zambia and Zimbabwe, usually to undertake a masters degree: [www.beittrust.org.uk](http://www.beittrust.org.uk)
- **Chevening Scholarships ●●**  
A number of partial and full funding scholarships are available to one-year masters students: [www.chevening.org](http://www.chevening.org)
- **Commonwealth Scholarships ●●●**  
Scholarships available to students who are resident in any Commonwealth country, other than the UK: [www.dfid.gov.uk/cscuk](http://www.dfid.gov.uk/cscuk)

• **Fulbright Scholarships (USA) ●●●**  
Scholarships open to US graduate students in any subject wishing to study in the UK: [www.iie.org/fulbright](http://www.iie.org/fulbright)

• **Marshall Scholarships (USA) ●●●**  
Scholarships available to outstanding US students wishing to study at any UK university for at least two years: [www.marshallscholarship.org](http://www.marshallscholarship.org)

• **The Panasonic Trust ●**  
These fellowships provide financial support to selected graduate engineers wishing to undertake full-time masters courses in subjects related to environmental technology, energy, sustainable development, natural resources, materials and the built environment: [www.panasonictrust.net/awards](http://www.panasonictrust.net/awards)

• **Scotland's Saltire Scholarships ●●**  
A number of scholarships open to students who are citizens permanently and ordinarily resident in Canada, China, India and the USA for one year of masters study: [www.ed.ac.uk/student-funding/saltire](http://www.ed.ac.uk/student-funding/saltire)

• **Silber Bequest ●●●**  
Funding is available to help prospective postgraduate students living in the UK who have been granted refugee status: [www.ed.ac.uk/student-funding/silber](http://www.ed.ac.uk/student-funding/silber)

## Funding for online distance learning

The University offers several scholarships specifically for online, part-time postgraduate programmes, including the Edinburgh Global Online Distance Learning Masters Scholarship, for which students of our PgCerts in Climate Change Management, Carbon Innovation, and Global Environment Challenges, and MSc Carbon Management can apply: [www.ed.ac.uk/student-funding/e-learning/online-distance](http://www.ed.ac.uk/student-funding/e-learning/online-distance)

“The Scottish Government’s initiative to attract international students from Canada, China, India and the US through the Saltire Scholarship Scheme, as well as the University of Edinburgh’s help and support for international students, has helped provide me with an opportunity that I would never have conceived of prior to starting my studies at Edinburgh.”

**Robert Starr**, MSc High Performance Computing, Scotland’s Saltire Scholarship

# How to apply

We have an online application process for all postgraduate programmes. It's a straightforward system with full instructions, including details of any supporting documentation you need to submit.

When applying, you will set up an account, which lets you save your application and continue at another time.

Full guidance on our application system is available at: [www.ed.ac.uk/postgraduate/applying](http://www.ed.ac.uk/postgraduate/applying)

## General requirements

Our usual entrance requirement for postgraduate study is a UK 2:1 degree, or its international equivalent ([www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), in a subject related to your chosen programme. You will also need to meet the University's language requirements (see page 31).

## References

For applications to taught programmes, the normal requirement is one reference, although an additional reference may be requested in individual cases. For applications to research programmes, two references are required. You should check online for exact requirements for your intended programme of study. For general guidance on references, visit: [www.ed.ac.uk/postgraduate/references](http://www.ed.ac.uk/postgraduate/references)

## Masters applications

### General requirements

For all masters programmes – taught MSc, MSc by Research and MPhil – you should have a UK 2:1 degree or its international equivalent (see: [www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)), although students with a 2:2 degree may be considered, depending on experience and circumstances.

Entry requirements for individual programmes can vary, so check the details for the specific programme you wish to apply for.

### Deadlines

You are encouraged to apply no later than one month prior to entry to ensure there is sufficient time to process your application. However, earlier application is recommended, particularly where there is a high demand for places or when a visa will be required.

Should you wish to submit a late application, please contact us for guidance. If you are applying for funding,

in most cases you will need an offer to study with us before you can make your funding application – and many of our scholarships have deadlines in the spring.

### Procedure

- Thoroughly explore this prospectus and our website to identify your preferred programme of study. We encourage you to contact the School to discuss your choice. See Get in touch, page 31.
- Check you meet all entry requirements. Check whether a separate application is needed for funding. Check any deadlines.
- Visit [www.ed.ac.uk/pg/degrees](http://www.ed.ac.uk/pg/degrees), navigate to your chosen programme, and click on Apply. Follow the instructions within the online application system.
- For all masters programmes, we encourage you to write a personal statement including information on your knowledge and training. You should explain why you have chosen the particular programme and how your experience is relevant.

## PhD applications

### General requirements

For PhD applications we usually require a UK 2:1 degree or its international equivalent (see: [www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)). We may take into account work experience or a masters degree. If you are uncertain, you should discuss your qualifications with your potential supervisor.

### Deadlines

There are no official deadlines for our PhD programmes and applications are welcome throughout the year. However, many of our funding opportunities have deadlines and you may need an offer to study with us before you can make your funding application.

### Procedure

- Thoroughly explore this prospectus and our website to identify your preferred area of research. You can choose from existing research project vacancies (details at: [www.ed.ac.uk/geosciences](http://www.ed.ac.uk/geosciences)) or propose your own research project.
- Contact a potential supervisor to discuss your research idea (details at: [www.ed.ac.uk/geosciences](http://www.ed.ac.uk/geosciences)). If you

have a multidisciplinary proposal it could be helpful to talk to more than one potential supervisor.

- Visit [www.ed.ac.uk/pg/degrees](http://www.ed.ac.uk/pg/degrees), navigate to your chosen programme, and click on Apply. Follow the instructions within the online application system.
- In many cases you will need to submit a research proposal as part of your application. More information: [www.ed.ac.uk/geosciences/phd/apply](http://www.ed.ac.uk/geosciences/phd/apply)

## Joining us from overseas

International applicants are advised to check the University's website to find out more about their visa options and our Integrated English for Academic Purposes (IEAP) programme. More information: [www.ed.ac.uk/international/ieap](http://www.ed.ac.uk/international/ieap)

## International agents

The University has certified representative agents in the following locations: Brunei, Canada, China, Gulf Region, Hong Kong, India, Japan, Jordan, Korea, Malaysia, Mexico, Nigeria, Norway, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Taiwan, Thailand, Turkey, Zambia and Zimbabwe. International applicants can use an agent to help guide them through the application process if necessary. For more information visit: [www.ed.ac.uk/international/country](http://www.ed.ac.uk/international/country)

## English language requirements

Students whose first language is not English must show evidence of one of the qualifications below.

### All MSc, MScR and PgCert programmes

- IELTS Academic: total 7.0 (at least 6.0 in each module).
- TOEFL-iBT: total 100 (at least 20 in each module).
- PTE(A): total 67 (at least 56 in each of the Communicative Skills sections; the Enabling Skills sections are not considered).
- CAE and CPE: total 185 (at least 169 in each module).

### All MPhil and PhD programmes

- IELTS Academic: total 6.5 (at least 6.0 in each module).
- TOEFL-iBT: total 92 (at least 20 in each module).
- PTE(A): total 61 (at least 56 in each of the Communicative Skills sections).
- CAE and CPE: total 176 (at least 169 in each module).

Please note:

- English language requirements can be affected by government policy so please ensure you visit our degree finder to check the latest requirements for your programme: [www.ed.ac.uk/pg/degrees](http://www.ed.ac.uk/pg/degrees)
- Your English language certificate must be no more than two years old at the beginning of your programme.
- We also accept recent degree-level study that was taught and assessed in English in a majority English speaking country (as defined by UK Visas & Immigration).

Abbreviations: IELTS – International English Language Testing System; TOEFL-iBT – Test of English as a Foreign Language Internet-Based Test; PTE(A) – Pearson Test of English (Academic); CPE – Certificate of Proficiency in English; CAE – Certificate in Advanced English.

[www.ed.ac.uk/english-requirements/pg](http://www.ed.ac.uk/english-requirements/pg)

# Get in touch

## Contact us

For more information about taught MSc programmes, contact the relevant programme secretaries:

For Carbon Capture & Storage; Ecosystem Services; Sustainable Resource Management; and Carbon Management (including PgCert Climate Change Management and Carbon Innovation), contact:

### Alice Heatley

Tel +44 (0)131 650 4866  
Email [geos.postgrad@ed.ac.uk](mailto:geos.postgrad@ed.ac.uk)

For Environment, Culture & Society; Environmental Sustainability; Environment & Development; Global Environment Challenges (PgCert) and Human Geography, contact:

### Karolina Galera

Tel +44 (0)131 650 2572  
Email: [geos.postgrad@ed.ac.uk](mailto:geos.postgrad@ed.ac.uk)

For Geographical Information Science; Geographical Information Science & Archaeology; Earth Observation & Geoinformation Management; Marine Systems & Policies; and Petroleum Geoscience, contact:

### Programme Secretary

Tel +44 (0)131 650 2543  
Email [geos.postgrad@ed.ac.uk](mailto:geos.postgrad@ed.ac.uk)

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## Visit us

Our Postgraduate Open Day is your opportunity to come and meet current staff and students. Our next campus-based Open Day takes place on Wednesday 18 November 2015. For more information, visit: [www.ed.ac.uk/postgraduate-open-day](http://www.ed.ac.uk/postgraduate-open-day)

If you are unable to visit Edinburgh, contact [info@geos.ed.ac.uk](mailto:info@geos.ed.ac.uk) and we can arrange a video call with your prospective Programme Director or register your interest in a virtual Open Day.

The University also runs online information sessions for prospective postgraduate students throughout the year. For more information, visit: [www.ed.ac.uk/postgraduate/online-events](http://www.ed.ac.uk/postgraduate/online-events)

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