LONDON'S GLOBAL UNIVERSITY

UCL

EARTH SCIENCES

UNDERGRADUATE ENTRY 2011

Earth Sciences degree programmes

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EARTH SCIENCES

Undergraduate entry 2011

UCL UCAS Code: UCL U80

F605
Earth Sciences
(International Programme) MSci 4 years

F604
Earth Sciences MSci 4 years

F603
Earth Sciences BSc 3 years

F601
Geology MSci 4 years

F600
Geology BSc 3 years

F645
Environmental Geoscience MSci 4 years

F644
Environmental Geoscience BSc 3 years

F663
Geophysics MSci 4 years

F660
Geophysics BSc 3 years

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WELCOME

to UCL and to the Earth Sciences degree programme

Your choice of which degree programme to study, and which university to study at, is an important and personal decision. It will influence the next few years of your life as you study, and consequently shape your future life and career.

In selecting subjects and universities you need to be well-informed, with access to reliable and up-to-date facts. In the following pages we describe degree content and structure, the specialist resources and expertise you will access, and the skills you will develop, and aim to provide an authentic insight into student life at one of the world's top universities.

Key facts

- One of the largest Earth science teaching and research centres in the UK
- The top university ranking outside Oxbridge in Earth Systems and Environmental Sciences in the 2008 Research Assessment Exercise (RAE)
- Ranked second among UK Earth Sciences departments in the *Guardian University Guide 2010*
- 92% of Earth Sciences students in 2009 graduated with first or upper second-class Honours degrees
- Geology, Geophysics and Environmental Geoscience degree programmes are fully accredited by the Geological Society of London
- Collaborative research with the Natural History Museum.

What do we offer?

The Earth is a dynamic and active planet, as revealed by dramatic and sometimes catastrophic volcanic eruptions and earthquakes. Our understanding of the Earth has advanced enormously during the last 20 years as a consequence of exploration and research in the geological sciences; movements of the continents over the last 150 million years have been traced, and the processes discovered that create and destroy the Earth's crust. However, the fundamental mechanism of movements remains ambiguous and, together with major uncertainties about Earth history and changes in our planet's environment, these questions represent major challenges to geological research today and in the future.

Studying the Earth and planetary sciences is stimulating and exciting, drawing on fundamental principles and concepts from the major scientific disciplines: physics, chemistry, biology, mathematics and computing. Far from being simply an interesting academic subject, the Earth sciences are practical and useful to humanity in many different aspects of life:

- geologists and geophysicists discover and manage oil and gas reserves around the world
- hydrogeologists trace aquifers and provide water supplies free from pollution
- geologists and mineralogists locate minerals and ores, as well as discovering stone for building and for use as aggregates in the construction industry
- geophysicists monitor and predict earthquakes, experimenting in the laboratory on how rocks deform
- geologists monitor activities of volcanoes and predict eruptions
- engineering geologists ensure that the bedrock upon which power stations, motorways or dams are built will withstand the stresses demanded of it
- environmental geoscientists and geochemists monitor the passage through the natural environment of heavy metals, radioisotopes and other pollutants from both natural and man-made sources.

Earth scientists can work anywhere on Earth (or on the Moon!), in any country or climate: monitoring a volcano on Montserrat, drilling the ocean floor, on an oil rig off the Shetland Islands, in the heat of the Persian Gulf, or in the Himalayas. Many are equally at home in the field, the laboratory or in the office, gathering data, analysing results, preparing reports and planning future projects.

The breadth of the subject is reflected in the number of different degrees offered by UCL, each a separate degree programme though sharing some common lectures. An excellent training is provided in the application of scientific methods and knowledge to complex problems, with particular emphasis on independent field and laboratory projects to develop a student's organising ability and self-confidence.

The Department of Earth Sciences

UCL Earth Sciences is one of the oldest geology departments in the country, having been founded in 1841 with the appointment of the first Professor of Geology, Thomas Webster. In recent years, it has expanded greatly, and currently has more than 20 members of academic teaching staff. It admits around 30 undergraduate students each year. In the most recent Reearch Assessment Exercise (RAE), covering the period 2001-2008, the Earth Sciences Department was ranked third in the UK, and top in London, with 80% of staff research rated 'internationally excellent' or 'world leading'. Our department is noted for:

- extensive use of small-group teaching, made possible by a very favourable staff-student ratio
- well-designed opportunities for students to develop personal transferable skills
- an excellent coherent fieldwork programme which effectively promotes geological and general skills
- high-calibre departmental staff who cover a wide range of geological expertise, supplemented by a large number of researchers who contribute to the teaching

- effective impact of research expertise and facilities on the enhancement of students' learning experience at both undergraduate and graduate levels
- excellent staff-student relations.

In addition, the department has been awarded a number of major grants from HEFCE to develop innovative teaching methods in Earth sciences.

The Greenough Club

Named after a founding father of UCL and the first President of the Geological Society, the Greenough Club is organised and managed by our students. It functions as both a social and an academic society, arranging weekly lectures from eminent outside speakers, occasional weekend field trips, parties and an annual dinner. Thus it brings together all the students, both undergraduates and graduates, and makes a major contribution to the social life of the department.

Your degree

MSci or BSc degrees

With an expanding subject such as Earth sciences, three years of study are barely sufficient to provide our undergraduates with the necessary depth and breadth of knowledge desirable in an Earth Science graduate entering industry, teaching or a higher degree programme. After completion of their BSc degrees, many students have progressed to separate one-year graduate MSc degree programmes to complete their tertiary education as Earth scientists.

In response to this demand, UCL introduced four-year MSci (Master in Science) degree programmes in each of the three-year undergraduate degree subjects. Both the BSc and the corresponding MSci degrees have common first and second years; students take four course units in each year, most subjects being taught as half-course units. Students elect for the BSc or MSci route at the end of their second year, subject to satisfactory performance. BSc students, therefore, take 12 course units over three years. Each course is individually examined and a minimum of 11 course units must be passed to gain the BSc award.

The MSci degrees have their fourth years focused on independent project work, supplemented by a number of core and optional courses that reflect the research interests of our staff. MSci students take 16 course units over four years, and need to pass a minimum of 14.5 course units

to be awarded the MSci degree. The MSci (International Programme) offers exceptionally able students the possibility of spending their third year of study at a university in North America, continental Europe or Australia.

Given the expansion of material necessary to train a geoscientist adequately, we strongly advise applicants to apply initially for the four-year MSci degree programmes, even if they subsequently decide to follow the BSc route.

Accreditation of degrees by the Geological Society

Our MSci and BSc degree programmes in Geology, Geophysics and Environmental Geosciences are accredited by the Geological Society of London.

Geology degrees

Geology MSci (UCAS code: F601) and BSc (UCAS code: F600)

The Earth is almost five billion years old and has undergone continual change throughout its long history – and continues to do so before our very eyes. The study of the Earth, its origin, structure, composition and history (including the environment in which we live and the history of life itself), and the nature of the processes which shape the planet, together comprise the subject of geology. To understand what the Earth is and how it works today, direct observation of products and processes operating at the surface must be linked with indirect measurements of forces working in the interior and observation of data from the geological record. In the past three decades, geologists have gradually developed a unifying theory that relates all of the dynamic Earth processes to the motion of large plates that constitute the outer shell of our planet. This plate tectonics theory offers a comprehensive model for explaining how the Earth works.

A degree in Geology provides a broadly based education in all major branches of the geological sciences, integrating theoretical studies with essential practical skills in the field and laboratory. It includes vocationally oriented training for those looking to pursue careers in the oil, mineral and construction industries, the environmental sciences, or in research. The degree programme also provides a strong intellectual and practical platform for those who wish to pursue non-geological careers as it integrates a wide range of ideas from many different scientific disciplines, including chemistry, physics and biology, and provides training in the application of scientific methods and knowledge to complex problems. The degree includes: studies of the nature of rocks and minerals, their mode of origin and environment of formation; the study of past life and palaeoenvironments; the physics and chemistry of the Earth and major Earth processes such as plate tectonics and mountain building (tectonics).

There is a strong emphasis on field training in the geology degree programmes; see 'Fieldwork' for details. In addition to field courses, there are independent field mapping projects. Travel expenses during field courses are supported by the department. The field provides a natural laboratory where students can learn to apply and develop skills which complement and build upon lectures and laboratory-based coursework whilst being exposed to the true complexity of natural geological systems.

Geology degree overview

First-year programme

Core studies	Options	Fieldwork
• The Earth • Earth Materials • From Petrology to Petrogenesis • History of Life • Dynamic Earth • Surface Processes	• Geochemistry • Physical Geoscience • Geology of Planetary Bodies • Physics of the Universe	• Dorset/Devon • Norfolk Coast • Cornwall/Devon

Second-year programme

Core studies	Options	Fieldwork
• Maps, Images and Structures • Earth and Planetary Tectonics • Chemistry of Earth Environments • Surface Processes and Structures • Vertebrate Palaeontology and Evolution • Global Geophysics • Petrology • Petrography	• Atmosphere, Weather and Climate • Reconstructing Past Environments	• Easter: Pyrenees • Summer (Year 2 – Year 3): Independent Mapping Project in North-West Scotland

Third-year programme

Core studies	Options	Fieldwork
• Independent Mapping Project • Crustal Evolution and Dynamics	• Astrobiology • Field Methods in Active Tectonics • Biodiversity and Macroevolutionary Patterns • Deep Earth and Planetary Modelling • Experimental Methods in Water-Rock Interaction • Physics of Oceans, Ice Sheets and Climate	• September: Italy • Easter: Betics, Spain

Fourth-year programme

Core studies	Options	Fieldwork
• Independent MSci Research Project • Earth and Planetary Systems Science	• Earthquake Seismology and Earthquake Hazards • Earth and Planetary Materials • Tectonic Geomorphology • Palaeoceanography • Physical Volcanology and Volcanic Hazards • Advanced Structural Geology • Hydrogeology and Groundwater Resources • Palaeoclimatology • Continental Magmatism	• May be taken on an individual basis as part of MSci research project • Reiss Crater (Germany)

Note: for details of course units taught within the Department of Earth Sciences, see www.es.ucl.ac.uk/admissions.htm

A typical fieldwork programme is shown; location and timing may vary.

Environmental Geoscience degrees

Environmental Geoscience MSci (UCAS code: F645) and BSc (UCAS code: F644)

The Environmental Geoscience degree programmes are designed for students concerned with the Earth and its surface environment, covering, in particular, the interaction between the Earth sciences and human activity. They offer an integrated study of the Earth, encompassing the evolution of the planet and its internal workings, the development of its biosphere and atmosphere, and its surface processes, emphasising natural and man-induced development of the terrestrial environment. Students are given a scientific training which allows an examination of environmental issues related to the Earth sciences, such as understanding and minimisation of geohazards, environmental change and hydrogeology.

The degree programmes assume no previous knowledge of the Earth sciences but build on a firm foundation of basic science acquired during the first two years. The third year includes a field-based independent project, with MSci students undertaking a further project in their fourth year. The degree programmes aim to develop a number of skills, including the ability to gather and evaluate data, assess geo-environmental issues from a scientific standpoint, prepare written reports, lead discussion groups and use computational methods. Thus they provide a sound, topical background in the environmental aspects of the Earth sciences which will form the foundation for further study and for a wide range of occupations.

Environmental Geoscience degree overview

First-year programme

Core studies	Options	Fieldwork
• The Earth • Earth Materials • From Petrology to Petrogenesis • History of Life • Dynamic Earth • Surface Processes	• Geochemistry • Physical Geoscience • Geology of Planetary Bodies • Physical Geography optional courses	• Dorset/Devon • Norfolk Coast • Cornwall/Devon

Second-year programme

Core studies	Options	Fieldwork
• Maps, Images and Structures • Earth and Planetary Tectonics • Chemistry of Earth Environments • Surface Processes and Structures • Global Geophysics • Petrography	• Atmosphere, Weather and Climate • Vertebrate Palaeontology and Evolution • Petrology • Physical Geography options • Introductory Statistics	• Easter: Pyrenees • Summer (Year 2 – Year 3): Independent Mapping Project in North-West Scotland

Third-year programme

Core studies	Options	Fieldwork
• Independent Mapping Project • Experimental Methods in Water-Rock Interaction	• Field Methods in Active Tectonics • Biodiversity and Macroevolutionary Patterns • Physics of the Oceans, Ice Sheets and Climate • Crustal Evolution and Dynamics • Physical Geography options	• September: Italy • Easter: Betics, Spain

Fourth-year programme

Core studies	Options	Fieldwork
• Independent MSci Research Project • Earth and Planetary Systems Science	• Earthquake Seismology and Earthquake Hazards • Earth and Planetary Materials • Palaeoclimatology • Tectonic Geomorphology • Palaeoceanography • Physical Volcanology and Volcanic Hazards • Hydrogeology and Groundwater Resources • Continental Magmatism	• May be taken on an individual basis as part of MSci research project • Reiss Crater (Germany)

Note: for details of course units taught within the Department of Earth Sciences, see www.es.ucl.ac.uk/admissions.htm

A typical fieldwork programme is shown; location and timing may vary.

Geophysics degrees

Geophysics MSci (UCAS code: F663) and BSc (UCAS code: F660)

Defining the structure, composition and evolution of the Earth has proved to be one of mankind's greatest challenges. The discovery of continental drift, sea-floor spreading and plate subduction showed conclusively that the Earth is in continuous motion, with its surface being recycled and its interior undergoing chaotic convection. Geophysicists apply the laws and techniques of physics to study this dynamic behaviour and other properties of the Earth, such as its magnetic field, thermal properties and tectonic evolution. Motions of the rigid plates that make up the Earth's surface can be monitored by remote sensing from satellites. Processes occurring deep in the Earth's crust can be studied by means of electrical and magnetic measurements made in boreholes, both on land and on the ocean floor. Earthquake seismology is by far the most important tool for studying the structure of the Earth's deep interior. Measurement of the variation of the Earth's magnetic field helps to constrain models for the structure and motion of the metallic core. In these ways geophysics has not only allowed us to discover the layered structure of the Earth – crust, mantle and core – but has also played a key role in the development of our understanding of the ever-changing Earth, through the theory of plate tectonics.

At UCL we view Geophysics in its broadest sense. Our degree programmes provide a complete study of the physics of the solid Earth and its constituent materials, the atmosphere, oceans and ice sheets, leading to a firm foundation in geology, geological fieldwork, physics, mathematics and computing. In their first two years all students study a common geophysics syllabus covering the fundamentals of global geophysics, exploration geophysics, planetary science, climate physics and geophysical fieldwork. Theoretical studies are integrated with a large element of illustrative practical work both in the laboratory and field. In the third and fourth years there is opportunity to specialise in, for example, the environmental aspects of the subject. Overall, the degree programmes provide a strong intellectual and practical training for those wishing to follow a career in any area of science or scientific management, as well as in geophysics, since they concentrate on the application of scientific method to the solution of complex scientific problems.

A modern approach to teaching is used with courses based around laboratory practicals utilising sophisticated research-level equipment, and around theory workshops. Fieldwork training is provided in the first and second years, and in the third and fourth years a major independent research project is undertaken.

Geophysics degree overview

First-year programme

Core studies	Options	Fieldwork
• The Earth • Earth Materials • Dynamic Earth • Surface Processes • Mathematical Methods • From Petrology to Petrogenesis	• Physics of the Universe • Geology of Planetary Bodies • Physics optional courses	• Dorset/Devon • Norfolk Coast • Cornwall/Devon

Second-year programme

Core studies	Options	Fieldwork
• Global Geophysics • Surface Processes and Structures • Atmosphere, Weather and Climate • Petrology • Maps, Images and Structures • Electricity and Magnetism • Earth and Planetary Tectonics	• Petrography • Physics of the Solar System • Mathematical Methods	• Easter: Pyrenees

Third-year programme

Core studies	Options	Fieldwork
• Field Methods in Active Tectonics • Physics of Oceans, Ice Sheets and Climate	• Deep Earth and Planetary Modelling • Crustal Evolution and Dynamics • Experimental Methods in Water-Rock Interaction	• September: Italy • Easter: Betics, Spain

Fourth-year programme

Core studies	Options	Fieldwork
• Independent MSci Research Project • Earth and Planetary Systems Science	• Earthquake Seismology and Earthquake Hazards • Earth and Planetary Materials • Tectonic Geomorphology • Physical Volcanology and Volcanic Hazards • Advanced Structural Geology • Hydrogeology and Groundwater Resources • Physics optional courses	• May be taken on an individual basis as part of MSci research project • Reiss Crater (Germany)

Note: for details of course units taught within the Department of Earth Sciences, see www.es.ucl.ac.uk/admissions.htm

A typical fieldwork programme is shown; location and timing may vary.

Earth Sciences degrees

Earth Sciences MSci (UCAS code: F604) and BSc (UCAS code: F603)

The Earth Sciences MSci and BSc degree programmes provide the opportunity to design a more personal selection from the range of courses on offer, chosen from those provided within the department and from cognate disciplines in other departments. Within practicable limits, we wish to make it possible for students on the Earth Sciences BSc and MSci degree programmes to take any reasonable selection of courses normally available as core or optional courses for our other degree programmes (see courses available to students on the Geology, Environmental Geoscience, and Geophysics degrees, above). In all years therefore, students of Earth Sciences (F603, F604) select from this wide range of courses, in consultation with their Personal Tutor. You may also choose to specialise within the Earth Sciences programme and by the appropriate choice of courses graduate with a degree in Earth Sciences (Palaeobiology) or Earth Sciences (Planetary Science).

Earth Sciences (International Programme) MSci (UCAS code: F605)

Our Earth Sciences (International Programme) MSci offers the opportunity for students to broaden their horizons by spending their third year of study at a university in North America, in continental Europe or in Australia. Those taking this MSci follow initially the first two years of the degree programme in a chosen speciality: Geology, Environmental Geoscience, Geophysics or Earth Sciences but with an alternative option of a foreign language for those intending to study in a non-English-speaking country. The third year is spent abroad, with the student then returning to UCL for their final year to complete the MSci.The final title of the degree awarded will reflect the 'flavour' of the courses taken, for example MSci Geology (International Programme).

The number of places available for direct entry on to the International Programme is limited and, therefore, competitive. Students applying for this programme will normally be expected to gain higher entry grades than for other programmes in the department. In addition, eligibility to continue will be assessed in both the first and second years of study; all courses taken must be passed, with a minimum overall average mark of 60% in both years (students failing to maintain the required standard will be transferred to the corresponding normal MSci or BSc programme). If places are available, students following other MSci programmes in the department, who have demonstrated an equivalent standard of academic achievement during their first two years, may apply during their second year to transfer to the International Programme; places will be allocated on a competitive basis.

Financial support for study abroad placements within the EU is generally available through the Erasmus programme. The UCL Study Abroad Bursaries Scheme provides an additional source of financial support for all students undertaking a study abroad placement. Applicants should indicate in the space provided on their UCAS application whether their main interest is in Geology, Environmental Geoscience, Geophysics or Earth Sciences.

Your learning

A variety of teaching methods are used in the undergraduate degree programmes: lectures, practical classes, fieldwork and tutorials, as well as problem-based learning and independent study. Students are required to take a number of subjects (normally eight) each year, each of which typically comprises two one-hour lectures and one three-hour practical per week.

At graduate and research level the department is linked with that of Birkbeck College, forming one of the largest centres of Earth and planetary sciences in the UK. The Research School comprises some 33 academic staff and 25 senior researchers and currently has in excess of £5million of active research grants from UK research councils, government agencies, the EU and industry. There is a graduate student population of nearly 70, studying on the taught MSc programmes in Geophysical Hazards or Geoscience, or carrying out research leading to a PhD.

The research activities of the department are diverse, covering both field-based and laboratory-based aspects of the study of the Earth sciences. There are major research teams in rock and ice physics, climate change, crystallography and mineral physics, environmental chemistry and hydrogeology, micropalaeontology, Earth surface processes and planetology. The Aon Benfield UCL Hazard Research Centre is the first multidisciplinary research centre in the UK specialising in all aspects of natural hazard research. Because of the rapidity with which research in the Earth sciences evolves, the department is always active in pursuing new avenues to explore, at present, for example, participating in the establishment of major interdisciplinary research groups to study climate change and groundwater tracing. In addition, the department is the centre in the United Kingdom housing the NASA image data repository (one of only seven outside the USA), a facility which provides fundamental data for further development of the research programme in planetary sciences. The department also has formal links with the Natural History Museum and with the Royal Institution, with some of the staff at these institutes holding joint or honorary appointments at UCL.

This strong commitment to graduate studies and research is of considerable benefit to undergraduates. Teaching is carried out by leading experts in their fields, and undergraduates, especially at final-year level, are able to use state-of-the-art laboratory and computer equipment during their project work. There are also extensive fieldwork and laboratory facilities available exclusively for undergraduate teaching, including a microcomputer suite linked to the UCL network.

Overall, the department has more than 20 academic staff, with additional technical and support staff, and 30 Fellows and Research Visitors.

Fieldwork

There is a strong emphasis on field training in all of the geoscience degree programmes. The field provides a natural laboratory where students can learn, apply and develop skills, such as rock identification, fabric recognition, map-making and the geometrical solving of complex three-dimensional structures, which complement and build upon lectures and laboratory-based coursework and expose students to the true complexity of natural systems.

For Earth scientists, field classes currently take place in Cornwall, Dorset, Norfolk, the Lake District, Scotland, Italy, Spain, Germany and/or Greece. During field classes, transport expenses are supported by the department.

Professional development

To assist our students in their studies and in their professional development, UCL Earth Sciences offers free membership of a professional body such as the Geological Society, the Institute of Physics or the Royal Astronomical Society to new first-year students who accept our offer through UCAS by the deadline date.

We hope this will provide each student with an active introduction to the profession beyond their formal university training through the activities, meetings, research reports, journals and libraries of a learned society. Students at UCL are also especially fortunate in having easy access to several of the world's foremost museums and libraries, such as the Natural History and Science Museums in South Kensington, and the British Museum and British Library, which are both within a few minutes' walk of UCL. Regular careers advice is organised by the department. UCL graduates are highly regarded by all major employers of Earth scientists and many of these companies have their headquarters in London.

Living

Accommodation

You need not be concerned about finding a place to live as, subject to you meeting our conditions, we will guarantee you a residential place in your first year irrespective of your permanent home address. With catered Halls of Residence and self-catering Student Houses, you can be sure of finding student accommodation at UCL to suit your lifestyle. Please see www.ucl.ac.uk/accommodation for further details.

Support and welfare

By providing support for your academic work and offering a range of services to assist you in your personal life, we help you to get the most from your studies and enjoy your time as a student here at UCL.

Right from the start you can take advantage of UCL's Transition Programme designed to help you settle in to your first year. Your Personal Tutor will guide you through your academic studies and can also direct you to other sources of help and support including the UCL Union Rights and Advice Centre, the Student Counselling Service, and the UCL Health Centre. Full details are available at www.ucl.ac.uk/current-students/support

Recreation

Studying in the centre of one of the world's great capital cities offers almost unlimited opportunities for you to enjoy your time at UCL. London offers unparalleled resources for learning and entertainment, including museums, exhibitions, theatres, shopping, restaurants and cultural festivals.

UCL has its own fitness centre as well as facilities for a huge range of indoor sports and, in Hertfordshire, outdoor pitches and courts. UCL also has several cafés and bars where you can relax, and our own professionally equipped theatre, the UCL Bloomsbury. Over 130 clubs and societies covering all aspects of politics, arts, religion, culture and entertainment, as well as a wide variety of sports, are run under the auspices of the UCL Union.
See www.ucl.ac.uk/study/undergraduate-study for more details.

Funding

Money is a concern for all students. Tuition fees, books, food, clothes and general living expenses all need to be covered. However, surveys show that investing in your education pays off and that London graduates can earn starting salaries which are up to 25% higher than the national average.

If you are a UK or EU student you can apply for a loan to cover tuition fees. Loans for maintenance (living expenses) are also available for UK and, in some circumstances, EU students. As a UK student you may also be eligible for a non-repayable Higher Education Maintenance

Grant (HEMG). In addition, UCL Bursaries are available to assist those students who are in receipt of an HEMG with their fees and living expenses. A number of UCL scholarships are offered, some tied to particular departments and others to students from specific countries. Full details may be found on the web at www.ucl.ac.uk/study/undergraduate-study/fees-and-costs

Your application

As with other UK universities, applications to UCL must be routed through UCAS and are normally made online. Schools and colleges will be able to provide UCAS information to their students. Alternatively, information is available directly from UCAS, Rosehill, New Barn Lane, Cheltenham, Gloucestershire GL52 3LZ or via the UCAS website, www.ucas.com

Applications should be submitted between 1 September and 15 January, although late applications submitted after this time may be considered. The UCAS code for UCL is UCL U80.

UCAS codes for individual Earth science degrees are given on page 1.

Entry requirements

We look for academic ability and also an interest and enthusiasm for the subject, though we realise you may not yet have studied geology in any detail. As the Earth sciences use the principles and concepts of mathematics, physics, chemistry and biology, we prefer students with a scientific background, offering at least two of these subjects at A level or equivalent. In certain circumstances we are willing to consider other combinations across a broad range of subjects. However, for our Geophysics degrees A level Mathematics and Physics or its equivalent are essential.

Typical requirements are:

A levels: F600, F601, F603, F604, F644, F645: AAA-ABB to include two from Mathematics, Physics, Chemistry or Biology, science subjects preferred; F605: AAA-AAB to include two from Mathematics, Physics, Chemistry or Biology; F660, F663: AAA-ABB to include Mathematics and Physics. A pass in a further subject at **AS level** is required for all programmes.

IB Diploma: F600, F601, F603, F604, F644, F645: 34-38 points with a score of 16-18 points in three higher level subjects to include two from Mathematics, Physics, Chemistry or Biology, science subjects preferred; F605: 36-38 points with a score of 17-18 points in three higher level subjects to include two from Mathematics, Physics, Chemistry or Biology;

F660, F663: 34-38 points with a score of 16-18 points in three higher level subjects to include Mathematics and Physics.

Other qualifications:
www.ucl.ac.uk/prospectus/earthsci

Departmental visit

Where possible, selected applicants will be invited to visit the department to take their applications further. UCL is very easy to reach by public transport from most parts of the country, with three major railway termini within walking distance. If we invite you, we will send you full details of how to find us.

The aim of the visit is twofold; we want to see you, but also it is important for you to see us and UCL where you might spend three or four years as a student. During your visit you will meet staff and students, hear about the degree programmes, tour the department and talk to a member of staff. Afterwards you will be welcome to stay on to meet more undergraduates, get their personal views of the department and UCL, and perhaps attend one of our student society meetings. You may be asked your reasons for wanting to do the degree programme you have chosen, how you feel about living in London, your hobbies and interests and anything else that is on your UCAS application. If you've done some geology you may be asked about it, especially your experience of any fieldwork.

If we make you an offer it will normally be conditional on your examination results.

If you have any questions or uncertainties at any time, please contact the Admissions Tutor who will be able to help you.

UCL University Preparatory Certificates

International students of high academic ability, but whose qualifications are not equivalent to the British system, should consider applying for a UCL University Preparatory Certificate (UPC). These are high-quality one-year undergraduate foundation courses, run by UCL, which aim to help such students gain access to degree programmes at UCL and other leading British universities across a broad range of subject areas.

These courses are not intended for students who have taken, or are taking, A levels or the International Baccalaureate Diploma.

For further details of UCL University Preparatory Certificates see www.ucl.ac.uk/upc or contact UPC Administrators, UCL Language Centre, University College London, 26 Bedford Way, London WC1H 0AP, EMAIL upc@ucl.ac.uk, TEL +44 (0)20 7679 8666, FAX +44 (0)20 7679 8667.

Frequently asked questions

I am studying Geology and Geography at A level. Will you consider me? Yes. Even if your third subject isn't science, you will still be considered if you have an appropriate science background at GCSE level. You will have the opportunity to do some catching up on science courses in your first year.

How do you view a 'gap year' between school and university? Properly used, such a year can be an advantage. You should have definite plans, involving employment or a structured programme of travel and study. Employment in the oil, mineral or construction industries, even if it is only as temporary office staff or labouring on site, is particularly valuable. It is also a good idea to pass your driving test before you start on a degree in Earth Sciences.

Do you have a standard offer you make to all applicants? No. Although our A level offers are in the range AAA-ABB, we tailor individual offers to individual candidates after interview.

Do you take field trips abroad? Yes. Students who do MSci independent field projects have commonly worked in South-East France or Spain, although students studying Environmental Geoscience have worked in Italy, Mexico and New Zealand. In addition, several other field classes are held abroad, for example in Spain and Italy.

How much will the fieldwork cost me? Travel costs for field courses are supported by the department; students pay the remainder and for their own food and refreshments. Costs for the full range of field courses are therefore less than £400 in the first year and less than £500 in each of the second and third years. In addition, there are further sources of funding for MSci projects, beyond the £200 provided by the department.

I'm worried about spending six weeks on my own in remote mountain country doing the Independent Mapping. Will I be alone? Although students produce independent maps, two people usually share an area and so the fieldwork is carried out with a colleague.

Is any special equipment needed for fieldwork? You need sound outdoor clothing, including walking boots and good waterproofs. Special geological equipment sold by the department, e.g. safety helmets, compass/clinometers, hand lenses and hammers, should cost you less than £75.

Do you run tutorials? Yes we do. Each student has a member of staff as Personal Tutor who provides guidance and advice over the three or four years of the undergraduate degree programme. Academic tutors are assigned in association with specific modules, each year. They arrange regular tutorials and training in key skills. In the fourth year of the MSci programmes, the Academic Tutor supervises the independent research project.

Does the department welcome applicants with non-standard qualifications? Yes, we are keen to attract applicants from a wide variety of backgrounds, as well as those who come directly from school. We will consider relevant experience in place of formal qualifications. Fifteen per cent of our students are over 21 at entry.

Does taking one of the degrees in Earth Sciences commit me to employment as a geologist or geophysicist? No. Our degrees are also an excellent training in logical thinking and scientific method. Recent graduates have gone on to successful careers in information technology, insurance and commodity dealing, for example.

Your career

Throughout their degree programmes our undergraduates receive general careers advice from the Departmental Careers Tutor and more specialist help from the UCL Careers Service. Together, these two sources have helped to ensure that our graduates gain employment or a place on a higher degree programme. Over the last few years many have joined companies that have looked for an Earth sciences training, either directly after gaining an MSci or BSc or later after taking an MSc or PhD. Others have preferred to seek employment in other areas. Among our recent graduates many are currently employed as geologists and geophysicists in industry or in the public sector, working for organisations such as ARC, British Gas, British Geological Survey, Envirotech, the National Trust, Phillips Petroleum, RTZ, Network Rail, Robertsons Research, Shell and Western Geophysical; others have broadened their horizons to encompass areas such as the law, financial services, the armed forces, general management, journalism and teaching. Of the many who have gone on to take higher degrees, the majority are working towards either a PhD or an MSc, but recent graduates have also gone on to take other programmes such as an MBA (Master of Business Administration).

We remain in touch with nearly all our former students, including some who left over 40 years ago. Apart from UCL publications and an alumnus newsletter, there is a lot of informal contact with individual staff, while once or twice a year we host the Greenough Dining Club, designed to bring back to UCL as many former students as possible at a pleasantly informal occasion. Your three or four years as an undergraduate are thus only the beginning of a long and fruitful association with the department.

Disclaimer

This booklet must be read in conjunction with UCL's Undergraduate Prospectus. The information given in this booklet is correct at the time of going to press and UCL will make every effort to provide the programmes described herein. However, the booklet is published well in advance of the session to which it relates and UCL reserves the right to withdraw any programme, and to withdraw or amend the content of any course forming part of a programme, either before or after students enrol. UCL undertakes all reasonable steps to provide educational services but does not guarantee the provision of such services. Please see the detailed Disclaimer in UCL's Undergraduate Prospectus.

Information in alternative formats

The information in this publication can also be found at **www.ucl.ac.uk/prospectus** on the UCL website. If you require the information in an alternative format (e.g. large print), please contact UCL Student Disability Services.

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