GEOPHYSICS BSc / UCAS CODE: F660
2021 ENTRY

www.ucl.ac.uk/prospectus
Geophysics is the study of the physical processes that shape the Earth, including its composition, evolution and dynamics. We tackle this through a multidisciplinary programme ranging from understanding Earth materials, through the internal processes that drive plate tectonics, volcanoes and earthquakes, to understanding atmosphere, weather and climate. This provides a firm foundation in geology, physics, mathematics and computing.

**Degree structure**

In each year of your degree you will take a number of individual modules, normally valued at 15 or 30 credits, adding up to a total of 120 credits for the year. Modules are assessed in the academic year in which they are taken. The balance of compulsory and optional modules varies from programme to programme and year to year. A 30-credit module is considered equivalent to 15 credits in the European Credit Transfer System (ECTS).

In their first two years all students study a common geophysics syllabus covering the fundamentals of mathematics, mechanics, electricity and magnetism, Earth materials, structural geology and tectonics, global geophysics and Earth processes. Theoretical studies are integrated with a large element of illustrative practical work both in the laboratory and in the field.

In the third year there are more advanced modules in seismology, geodynamics and global tectonics and there is the opportunity to specialise in, for example, the environmental aspects of the subject such as groundwater resources.

We take a modern approach to teaching, with modules based around laboratory practicals and theory workshops. Fieldwork provides a unique opportunity to develop independent and team skills and problem-solving abilities.

The BSc programme is identical to the first three years of the MSci programme.

Upon successful completion of 360 credits, you will be awarded a BSc (Hons) in Geophysics.

Please note that the list of modules given here is indicative. This information is published a long time in advance of enrolment and module content and availability is subject to change.

### YEAR ONE

**Compulsory module(s)**

- Classical Mechanics
- Dynamic Earth
- Earth Materials
- From Petrology to Petrogenesis (including Cornwall fieldwork)
- Mathematical Methods I
- Mathematical Methods II
- Structural Geology and Tectonics

**Optional modules**

- All first-year modules are compulsory.

### YEAR TWO

**Compulsory module(s)**

- Electricity and Magnetism
- Global Geophysics
- Numerical Methods for Earth Sciences
- Mathematical Methods III
- Structural Geology and Tectonics

**Optional modules**

- You will select 45 credits from the following options:
  - Igneous Petrology
  - Isotope Geology
  - Maps, Images and Structures (including fieldwork)
  - Surface Processes and Structures (including fieldtrip)
  - Principles of Climate
  - Any appropriate modules in Physics, Maths, Statistics, Chemistry or Engineering (subject to course conflict)

**Key information**

- **Programme starts**
  - September 2021

- **Location**
  - London, Bloomsbury

**Degree benefits**

- Our department delivers world-leading research (top 20 in Times Higher Education 2020 World rankings by subject) embracing the origins and history of life, Earth’s composition and structure, earthquake and volcanic hazards, and past and present climate change, and these are fully integrated within our taught programme.

- UCL has state-of-the-art geophysical instruments including the new must-do technique of ground penetrating radar (GPR), a new magnetometer/gradiometer (for archaeological and environmental surveys) and new, modern seismics.

- The department scored 100% for overall satisfaction in the 2019 National Student Survey. Teaching is delivered by all of our research-active staff guaranteeing up-to-the-minute understanding and providing opportunities to take part in cutting-edge research activities.

- We have recently moved into the renovated Kathleen Lonsdale Building with new, world-class facilities include bespoke teaching laboratories, new microscope facilities and student study areas, all in the heart of the department, next to staff offices and research laboratories.

**Accreditation**

This programme is accredited by the Geological Society. Undergraduate students may join the Geological Society as a Candidate Fellow and can become a Fellow of the Society upon graduation. A Fellow of the Society with relevant postgraduate experience in the practice of geology has the opportunity to apply for Chartered Geologist (CGeol) status.
**FINAL YEAR**

**Compulsory module(s)**
- Field Geophysics (including fieldwork)
- Geodynamics and Global Tectonics
- Seismology I
- Seismology II

**Optional modules**
- You will select 60 credits from the following:
  - Advanced Geochemistry
  - Climate and Energy
  - Crustal Dynamics, Mountain Building and Basin Evolution (including fieldwork)
  - Earth Resources and Sustainability
  - Groundwater Science
  - Marine Geology
  - Metamorphism and Metamorphic Processes
  - Ocean Physics and Climate Change
- Or any appropriate modules in Physics, Maths, Statistics, Chemistry or Engineering (subject to course conflict)

**Your learning**

We use a mixture of lectures, practical classes, field courses, directed reading, problem-orientated learning, private study and tutorials to enable you to gain the theoretical knowledge and practical skills demanded by the programme, as well as to develop key transferable skills such as critical analysis, report writing, team working and organisational skills.

**Assessment**

You will be assessed by a combination of written examinations, practical examinations, coursework, independent project reports and sometimes an oral examination.

**Accessibility**

Details of the accessibility of UCL buildings can be obtained from AccessAble. Further information can also be obtained from the UCL Student Support & Wellbeing team.

**Your career**

Together with subject-specific skills, geophysics graduates have a wide range of transferable skills, developed through fieldwork, computer modelling and independent research, which are highly valued by employers in general, offering opportunities for careers in the City, commerce and government.

All our students are encouraged and helped towards making informed career choices. We have excellent relationships with many employers in diverse aspects of the Earth and planetary sciences, and students are actively guided towards achieving their potential at UCL in preparation for their future careers.

**Your application**

Application for admission should be made through UCAS (the Universities and Colleges Admissions Service). Applicants currently at school or college will be provided with advice on the process; however, applicants who have left school or who are based outside the United Kingdom may obtain information directly from UCAS.

We will assess your application on the basis of your performance, or predicted performance academically, but we will also be looking for an indication of how your interest in natural and Earth sciences has developed, what aspects particularly appeal to you, and whether you have undertaken any research or reading to find out about the subject matter you wish to study.

We normally reach a decision on making an offer on the basis of the application alone. If you are resident in the UK and have been made an offer you will be invited to a Post Offer Open Day. This visit will include introductory talks on UCL Earth Sciences and our degree programmes, a tour of the department and UCL and a question and answer session.
Entry requirements

A LEVELS
Standard Offer: AAB. Mathematics and Physics required.
GCSE: English Language and Mathematics at grade C or 5. For
UK-based students, a grade C or 5 or equivalent in a foreign language
(other than Ancient Greek, Biblical Hebrew or Latin) is required. UCL
provides opportunities to meet the foreign language requirement
following enrolment, further details at: www.ucl.ac.uk/ug-reqs.

Contextual Offer: BBB. Mathematics and Physics required.
GCSE: English Language and Mathematics at grade C or 5. For
UK-based students, a grade C or 5 or equivalent in a foreign language
(other than Ancient Greek, Biblical Hebrew or Latin) is required. UCL
provides opportunities to meet the foreign language requirement
following enrolment, further details at: www.ucl.ac.uk/ug-reqs.

IB DIPLOMA
Standard Offer: 36 points. A score of 17 points in three higher level
subjects including Mathematics and Physics, with no score lower than 5.

Contextual Offer: 32 points. A score of 15 points in three higher level
subjects including Mathematics and Physics, with no score lower than 5.

CONTEXTUAL OFFERS – ACCESS UCL SCHEME
As part of our commitment to increasing participation from
underrepresented groups, students may be eligible for a contextual offer
as part of the Access UCL scheme. For more information see
www.ucl.ac.uk/prospectus.

OTHER QUALIFICATIONS
UCL considers a wide range of UK and international qualifications for
entry into its undergraduate programmes. Full details are given at:
www.ucl.ac.uk/otherquals.

UNDERGRADUATE PREPARATORY CERTIFICATES
(International foundation courses)
UCL Undergraduate Preparatory Certificates (UPCs) are intensive
one-year foundation courses for international students of high academic
potential who are aiming to gain access to undergraduate degree
programmes at UCL and other top UK universities.

Typical UPC students will be high achievers in a 12-year school system
which does not meet the standard required for direct entry to UCL.

For more information see: www.ucl.ac.uk/upc.

TUITION FEES
The fees indicated are for undergraduate entry in the 2021/22
academic year. The UK fees shown are for the first year of the
programme at UCL only. Fees for future years may be subject to an
inflationary increase. The Overseas fees shown are the fees that will
be charged to 2021/22 entrants for each year of study on the
programme, unless otherwise indicated below.

// UK: £9,250 (2021/22)
// Overseas: £31,200 (2021/22)

Full details of UCL’s tuition fees, tuition fee policy and potential
increases to fees can be found on the UCL Students website.

ADDITIONAL COSTS
The department makes a substantial contribution towards fieldwork
costs (ranging between £150-800 per student per trip), covering all
accommodation and in-field transportation for all fieldwork which is
organised by the department. The majority of the fieldtrips include
breakfast and/or dinner. Some fieldtrips in the second year are
self-catered. Students are expected to cover their transportation to
and from the beginning of the field location for some of the 2nd and
3rd year non-UK field trips (cost of a return flight/train or bus), at an
estimated cost of £200-£400.

A guide including rough estimates for these and other living
expenses is included on the UCL Fees and funding pages. If you are
concerned by potential additional costs for books, equipment, etc.,
please get in touch with the relevant departmental contact (details
given on this page).

FUNDING
Various funding options are available, including student loans,
scholarships and bursaries. UK students whose household income
falls below a certain level may also be eligible for a non-repayable
bursary or for certain scholarships. Please see the Fees and funding
pages for more details.

CONTACT
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UK withdrawal from the EU
For up-to-date information relating to specific key questions following
the UK’s withdrawal from the EU, please refer to:
www.ucl.ac.uk/brexit.