Earth Science
MEarthSci Honours
UCAS code F640
4 Years

This four-year MEarthSci degree explores the fascinating complexity of the Earth system, through subjects like geology, chemistry and microbiology.

The degree is similar to our Earth Science BSc Honours, but includes a year of advanced study at Master’s level.

Earth science covers everything from the formation of rocks and minerals to the impact of human activity on the environment.

This degree prepares you for a wide range of possible careers - from geology to geomatics, and from geochemistry to environmental consultant. Whatever you choose, you’ll be equipped with relevant skills in:

- experimental science
- field work
- scientific investigation
- project management

Your final year research project will deepen your knowledge and enable you to work with internationally leading researchers and professionals.

Highlights of this degree

Quality and ranking
Earth Science at Newcastle is highly regarded - we’re 4th in the UK in The Guardian University Guide 2020 (in the Earth and Marine Sciences category)

Practical skills
Earth science underpins a range of interesting careers and this degree equips you with practical skills that are in demand with employers across the globe.

You will develop a strong understanding of the fundamental pillars of Earth science, such as:

- geology
- geochemistry
- global imaging systems and remote sensing

You learn the practical applications of this knowledge, and also gain an appreciation of the engineering and technological applications of Earth science.

Through field trips and practical sessions, you develop highly desirable skills such as:

- field observation
- analysis skills

Using our our world-class analytical labs you also:

- gain hands-on experience using industry-standard equipment

Fieldwork
There are lots of opportunities to explore the environment and develop hands-on skills using our high-tech equipment, including:

- frequent field days, reinforcing classroom learning and helping you apply your knowledge to practical contexts
- an annual residential field course, in the UK or abroad

Current field course locations include the Lake District, the Isle of Arran and Sorbas Basin, Spain.

During welcome week in your first year, you also go on a residential course where you will have an opportunity to meet staff and fellow students, to help you settle in and make friends.

Study abroad
Study abroad opportunities are available with this degree. See Study Abroad for more details.

Research opportunities
Students will have access to our world-class analytical laboratories including:

- Gas Chromatography
- Gas Chromatography Mass Spectrometry
- High Pressure Liquid Chromatography Mass Spectrometry
- Inductively Coupled Plasma Mass Spectrometry

These laboratories enable you to conduct high-quality research, alongside our expert academic staff, to complement the teaching and practical classes delivered during your degree.

Defence Technical Undergraduate Scheme (DTUS)
This degree is also approved by DTUS for entry to all technical corps.

DTUS is a Ministry of Defence sponsorship programme for students who wish to join the Royal Navy, British Army, RAF, or Defence Engineering and Science Group (DESG) as technical officers after graduation.

Find out more on the DTUS programme.

Facilities and support
This degree is delivered by the School of Natural and Environmental Sciences. You will also be taught in various specialist centres across the University, as appropriate.

Facilities
Our facilities for earth science include world-class analytical laboratories, including:

- Gas Chromatography
- Gas Chromatography Mass Spectrometry
- High Pressure Liquid Chromatography Mass Spectrometry
- Inductively Coupled Plasma Mass Spectrometry

You’ll benefit from the Great North Museum on campus. It’s home to over 9,000 geological and mineralogical...
specimens. And the Mining Institute, with one of the world’s most comprehensive collections on mining engineering, is just a short walk away.

**Support**
You’ll be supported by:

- a **personal tutor** throughout your degree – an academic member of staff who can help with academic and personal issues
- a **peer mentor** in your first year – a fellow student who can help you settle in and answer any questions you have

You can have your say on degree content and delivery via our Board of Students and staff-student committee.

To support you in your studies, all new students entering year 1 or year 2 will receive a tablet. This enables you to download the online learning resources you’ll need for your course and helps us to make our campus more sustainable.

**Social activities**
There’s a residential field course at the start of your degree, to help you get to know staff and fellow students.

The student-run society, CEG Soc, supports student social and academic life.

---

**Course Details**

---

**Modules for 2019 entry**

**Please note**
The module and/or programme information below is for **2019 entry**. Our teaching is informed by research and modules change periodically to reflect developments in the discipline, the requirements of external bodies and partners, student feedback, or insufficient numbers of students interested (in an optional module). To find out more read our terms and conditions.

Module/programme information for **2020 entry** will be published here as soon as it is available (end of May 2020).

Our degrees are divided into Stages. Each Stage lasts for an academic year and you need to complete modules totalling 120 credits by the end of each Stage. Further information, including the credit value of the module, is available in each of the module descriptions below.

---

**Stage 1**

**Compulsory modules**
You take the following compulsory modules:
ACE1008 Environment and Land Resources
ACE1010 Environment and Land Use Field Course
ACE1040 Academic and Professional Skills
CEG1601 Earth Systems Science
CEG1602 Earth Surface Materials
CEG1603 Introduction to the Sedimentary Record
CEG1604 Geology and GIS Field Course
CEG1702 Geographic Information Systems
CEG1706 Principles of Remote Sensing

**Optional modules**
You take 10 credits from the following:
CEG1712 Fundamentals of Surveying
MST1207 Introductory Oceanography

---

**Stage 2**

**Compulsory modules**
You take the following compulsory modules:
ACE2066 Academic and Professional Skills 2
CEG2602 Rock Materials: the petrology of igneous, sedimentary and metamorphic rocks
CEG2603 Structural Geology
Stage 2
CEG2604 Global Element Cycling
CEG2606 Geological Resources
CEG2607 Geomicrobiology
CEG2608 Geological Field Mapping
CEG2609 Research Methods in Environmental Pollution
You take 10 credits from the following:
BIO2018 Pollution of Air, Water and Soil
CEG2704 Geographic Information Systems: Theory and Application
CEG2709 Applied Remote Sensing and Image Processing

Stage 3
Compulsory modules
You take the following compulsory modules:
ACE2074 Soils and Terrestrial Ecosystems
CEG3606 Biogeochemistry
CEG3607 Engineering Geology
CEG3699 Earth Science Dissertation
Optional modules
You select 10 credits from the following:
CEG3604 International Field Course
CEG3701 Advanced GIS Field Course
You also take 30 credits from the following list:
ACE3080 Environmental Impact Assessment
CEG2719 GNSS for Geoscientists and Engineers
CEG3707 Geohazards and Deformation of the Earth
NCL3007 Career Development for Final Year Students
SUG3500 Creativity and Market Research in Science and Engineering

Stage 4
Engineering Geology/Geotechnics
CEG8201 Geomechanics
CEG8202 Ground Investigation – Design, Principles and Practice
CEG8209 Engineering and Applied Geology
CEG8608 Contaminated Land
Hydrogeology and Water Management
CEG8505 Climate Change: Earth System, Future Scenarios and Threats
CEG8511 Ground Water Assessment
CEG8512 Integrated River Basin Management
CEG8514 Climate Change: Vulnerability, Impacts and Adaptation
CEG8516 Groundwater Modelling
Environmental Science
ACE8043 Soil and Land Resources - Assessment and Management
ACE8016 Habitat Monitoring and Assessment
NES8007 Academic and Professional Skills for MSc Clean Tech
CEG8608 Contaminated Land
CME8010 Pollution Sources, Impacts, Monitoring and Control
CME8012 Business and Environmental Management
CME8035 Life Cycle Assessment
CME8037 Sustainable Design and Manufacture 1
CME8038 Sustainable Industry
REEM (Renewable Energy, Enterprise and Management)
SPG8009 Renewable Energy: Policy, Politics and Ethics
SPG8012 Renewable Energy: Energy Management
SPG8014 Introduction to Hydro, Wind, Wave and Tidal Energy
SPG8017 Introduction to Bioenergy and Photovoltaics
SPG8024 Qualifying Energy Decision Making
SPG8027 Project Management Appreciation

Teaching and assessment
Study at the cutting edge
Benefit from our interdisciplinary approach and the diverse research strengths at Newcastle University. We have research expertise in:
- petroleum geochemistry
- biogeochemistry
- global imaging systems
- remote sensing
- environmental impact

Teaching methods
Teaching is delivered through lectures and practicals in:
- microscopy
- rock and mineral identification
- geological mapping
- geochemistry
Assessment methods
You will be assessed via coursework, written examinations and lab practical sessions.

Find out more
Visit our Teaching & Learning pages to read about the outstanding learning experience available to all students at Newcastle University

Careers

Earth science careers
Earth science graduates are well qualified to enter a wide range of careers and the geoscience industry has a shortage of graduates with the skills taught on this course.

You will be able to enter the global geology industry with potential careers in:

- mining
- oil
- engineering
- water supply
- and environmental sectors

The emerging alternative energy industry also needs these skills.

You will also develop a portfolio of graduate transferable skills that are highly valued by a wide range of employers outside the earth science sector, and which can open the door to graduate entry programmes with major employers, such as:

- team working
- data analysis
- data interpretation
- enterprise

What our graduates go on to do: employment and further study choices
See what our recent graduates went on to do and view graduate destinations statistics. These statistics are based on what graduates were doing on a specific date, approximately six months after graduation. Take a look at the most recent data available for our graduates.

The destination data is available in varying levels, beginning with the University and moving through Faculty and School down to individual course reports. This final level may give you some useful ideas about possible options after your course or a course you are considering.

Careers and employability at Newcastle
Newcastle University consistently has one of the best records for graduate employment in the UK.

96% of our 2017 UK-domiciled UG/PG graduates progressed to employment or further study within six months of graduating.

85.5% of our graduates are in graduate level employment or further study within six months of graduating.

We provide an extensive range of opportunities to all students through an initiative called ncl+. This enables you to develop personal, employability and enterprise skills and to give you the edge in the employment market after you graduate.

Our award-winning Careers Service is one of the largest and best in the country, and we have strong links with employers.

Fees & Funding

Tuition Fees (UK students)
2020 entry: £9,250

For programmes where you can spend a year on a work placement or studying abroad, you will receive a significant fee reduction for that year.

Some of our degrees involve additional costs which are not covered by your tuition fees.

Please note:
The maximum fee that we are permitted to charge for UK students is set by the UK government.

As a general principle, you should expect the tuition fee to increase in each subsequent academic year of your course, subject to government regulations on fee increases and in line with inflation.

See more information on all aspects of student finance relating to Newcastle University.

Tuition Fees (EU students)
2020 entry: £9,250 You will pay the same tuition fees as UK students for the duration of your course.

For programmes where you can spend a year on a work placement or studying abroad, you will receive a significant fee reduction for that year.

Some of our degrees involve additional costs which are not covered by your tuition fees.

Please note:
Tuition Fees (EU students)

As a general principle, you should expect the tuition fee to increase in each subsequent academic year of your course, subject to government regulations on fee increases and in line with inflation. See more information on all aspects of student finance relating to Newcastle University.

Tuition Fees (International students)

2020 entry*:
£22,800

*Please note:
You will be charged tuition fees for each year of your degree programme (unless you are on a shorter exchange programme). The tuition fee amount you will pay may increase slightly year on year as a result of inflation. If you spend a year on placement or studying abroad as part of your degree you may pay a reduced fee for that year. See more information on all aspects of student finance relating to Newcastle University.

Scholarships and Financial Support (UK students)

You may be eligible for one of a range of Newcastle University Scholarships in addition to government financial support.

Newcastle University Scholarships
Government financial support

Scholarships and Financial Support (EU students)

You may be eligible for one of a range of Newcastle University Scholarships in addition to government financial support.

Newcastle University Scholarships
Government financial support

Scholarships and Financial Support (International students)

We offer a range of scholarships to eligible international students:
Vice-Chancellor’s International Scholarships
Vice-Chancellor’s Excellence Scholarships
Vice-Chancellor’s Global Scholarships
We also offer International Family Discounts which are available for all international students with a close family member who has graduated from or is now studying at Newcastle University.

Scholarships and Financial Support (International students)

Newcastle University offers Sanctuary Scholarships for eligible undergraduate students (excludes MBBS and BDS students) from asylum-seeker and refugee backgrounds. Some of our subject scholarships and sports scholarships are also available for international students.

Apply

Applying to Newcastle University through UCAS

To apply for undergraduate study at Newcastle you must use the online application system managed by the Universities and Colleges Admissions Service (UCAS).

UCAS codes for Newcastle University
- institution name - NEWC
- institution code - N21

UCAS buzzword
Ask your teacher or adviser from your school or college for the UCAS buzzword. You need the buzzword when you register on the Apply system. This makes it clear which school or college you are applying from.

All UK schools and colleges and a small number of EU and international establishments are registered with UCAS.

If you are applying independently, or are applying from a school or college which is not registered to manage applications, you will still use the Apply system. You will not need a buzzword.

Making your application
On the UCAS website you can also find out more about:
- application deadlines and other important dates
- offers and tracking your application

Application decisions and enquiries
Find out more about our admissions process and who to contact if you need help with your application.

Take a virtual tour at www.ncl.ac.uk/tour