Key information

<table>
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<tr>
<th>BSc Single Honours</th>
<th>UCAS CODE</th>
<th>TYPICAL OFFER</th>
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<tbody>
<tr>
<td>Applied Geology</td>
<td>F613</td>
<td>AAB-BBB; IB: 34-30</td>
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<tr>
<td>Engineering Geology and Geotechnics</td>
<td>F644</td>
<td>AAB-BBB; IB: 34-30</td>
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For further details on all our entry requirements, please see our Geology pages at: www.exeter.ac.uk/undergraduate/degrees/geology

CORNWALL CAMPUS, NEAR FALMOUTH
Website: www.exeter.ac.uk/geology
Email: cornwall@exeter.ac.uk
Phone: +44 (0)1326 371801

The
Geological
Society

serving science & profession

It was the reputation of the Camborne School of Mines which first attracted me to studying at the Cornwall Campus. Now here, I’m appreciating the value of the extensive and diverse field and laboratory work which are key parts of our programme. Why study in a classroom when the geology of Cornwall is so amazing?

EMILY WOOD, BSC GEOLOGY STUDENT
Why study Geology at the University of Exeter?

The study of geology applies many different branches of science and engineering to understand how the Earth ‘works’ and has evolved over the last 4.6 billion years. It ranges in scope from the atomic through the continental to the cosmic, and encompasses such spectacular natural processes as earthquakes, landslides and volcanic eruptions. Many applicants choose to study geology for these reasons alone. However, geology has many applied aspects and knowledge of these provides excellent opportunities for work in a variety of landscapes and environments worldwide.

Geologists who can successfully apply their knowledge of how the Earth works are employed in the exploration and production of metals, industrial minerals, hydrocarbons and water (the basic materials that underpin all technological societies). Geologists also have an understanding of the engineering properties of rocks and soils and are employed on civil engineering projects such as tunnels, road cuts, dams, reservoirs and foundations. Geologists are increasingly employed within the environmental sector, in site investigation and the remediation of contaminated land.

Our Geology degrees provide comprehensive training for students aiming to become professional geoscientists. The mixture of pure and applied earth science and engineering modules, and associated transferable skills, is appropriate for subsequent employment in many sectors or study towards a postgraduate degree (MSc/PhD).

Emphasis is placed on practical training in field-based skills, including geological mapping (surface and underground), core logging and surveying. Residential field courses take place in the UK and abroad, along with one-day courses based on the outstanding local Cornish geology, extractive industry and environmental case studies.

Our Geology programmes are taught by the University’s Camborne School of Mines (CSM), which has an exceptional international and national reputation for providing applied geoscientists for industry. CSM has research strengths in applied geology (ore deposits, environmental mineralogy, igneous petrology, geostatistics and tectonics/structural geology) and geotechnical engineering (rock mass modelling).

Both our programmes are accredited by The Geology Society which is advantageous should you wish to proceed to Chartered Geologist status after graduation.

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*based on the average percentage of positive responses across all survey categories for full service universities

*based on proportion of UK domiciled, full-time, first degree graduates in Geology with a known career or study destination (HESA 2009/10)
Degree programmes

How your degree is structured

We offer two Geology degree programmes, which have a common first and second year to give you a thorough grounding in geology before you undertake specialist modules in the third year.

Our programmes are modular and you progress through your degree by studying modules and accumulating credits as you successfully complete them. Individual modules are usually worth 15 or 30 credits each and you have to complete 120 credits per year in order to progress through the programme.

Further detail on the modules making up the two Geology programmes can be found towards the back of this brochure.

For up-to-date details of all our programmes and modules, please check www.exeter.ac.uk/geology

Single Honours

BSc Applied Geology

The Applied Geology programme provides a broad-based training appropriate for students who wish to maximise their employment potential as professional geoscientists in sectors such as exploration or production geology (hydrocarbons, metals, industrial rocks and minerals), hydrogeology, environmental geology, and waste disposal.

BSc Engineering Geology and Geotechnics

The Engineering Geology and Geotechnics programme is suitable for students who wish to maximise their employment potential as geoscientists in the civil engineering, environmental or minerals industries.

Year 1 The first year is common to both Geology programmes and gives you a foundation in geology, together with an overview of crystallography and mineralogy, stratigraphy, palaeontology, geological maps and surveying. Modules in mathematics and chemistry provide the basis for more advanced geological and applied modules in Years 2 and 3. As in other years of the programmes, particular emphasis is placed on the development of field data collection skills that are essential for all geologists.

Year 2 Your studies continue in key areas of fundamental geology and their applications and include a substantial amount of practical work. Students of both programmes continue to follow the same modules in Year 2. You will develop your skills in geological data collection and analysis during field classes in the UK that includes training in geological mapping. Core geological skills are developed in sedimentology, igneous and metamorphic petrology and structural geology. The inter-relationship between geology and the engineering behaviour of rocks is developed through the geotechnics module.

In the summer vacation between the second and third year you will undertake a five-week project that involves the collection and analysis of geological or related data. Many of our students take advantage of the department’s exceptional links with industry and carry out their project as part of a work placement. Alternatively you can carry out a group mapping project or individual research project in the field or laboratory.

Year 3 In your third year, you will specialise according to your programme of study. The overall focus of the year is applied geology and advanced options in related scientific, engineering or environmental applications. You will report on your vacation project and also carry out a research project focusing on your area of special interest. The applied field geology module takes the form of a residential field class and provides a practical synthesis of many of the modules covered in Years 2 and 3.
Learning and teaching

Teaching methods include a combination of formal lectures, ‘hands on’ practical classes and field-based teaching. Laboratory classes, using our extensive teaching collections and petrological microscopes, develop your understanding of the major groups of rocks, minerals and fossils. Project work often involves use of our world-class analytical mineralogical facilities.

You’ll have on average 18 teaching hours per week and will need to undertake additional hours of private study (assignments, additional project work and associated reading). You should expect your total workload to average about 40 hours per week during term time.

We’re actively engaged in introducing new methods of learning and teaching, including increasing use of interactive computer-based approaches to learning through our virtual learning environment, where the details of all modules are stored in an easily navigable website. Students can access detailed information about modules and learning outcomes and interact through activities such as the discussion forums.

You do not have to travel to Exeter for any of your modules – they are all taught at the Cornwall Campus.

Research-inspired teaching

We believe that every student benefits from being part of a culture inspired by research and being taught by experts with whom they can discuss the very latest ideas in seminars and tutorials and become actively involved in research.

Camborne School of Mines is an internationally recognised centre for research related to the formation, discovery, extraction and utilisation of the Earth’s natural resources, and subsequent remediation of mine sites. The applied nature of much of the research is indicated by significant international industrial collaboration. The teaching of undergraduate programmes is therefore underpinned by lecturing staff who are experts in their respective fields. We have active research interests in tectonics, sedimentology, igneous petrology, economic geology and environmental mineralogy.

You can find out more about our research on our website at www.exeter.ac.uk/csm

Facilities

The facilities on campus offer state-of-the-art equipment for teaching and research. CSM research facilities include world-class geochemical and mineral analysis laboratories complete with QEMSCAN®, a sophisticated scanning electron microscope-based mineralogical assessment system which is a unique facility amongst UK universities. In addition, our analytical suite comprises an electron microprobe, low vacuum scanning electron microscope, X-ray diffraction, X-ray fluorescence, Inductively Coupled Plasma – Mass Spectrometer and high quality microscope and imaging facilities. Other areas include a sensor based materials sorting and characterisation facility, mineral processing laboratory and a geomechanics rock and soil testing facility. You will have access to the research facilities in the department throughout your degree, especially during final year project work.

Field work

Field work is an essential component of both our programmes with formal field-based modules in all three years. Field work includes one-day field classes in SW England, making the most of the excellent geology on our doorstep, and also includes residential field classes in Wales, Scotland and Cyprus. All students learn practical surveying skills at the end of Year 1 and underground geological mapping at our test mine during Year 3.

The environment and sustainability

At the University of Exeter, we are committed to producing graduates who have an understanding of both the scientific and the human/social issues which are involved in the vital field of environment and sustainability.

The new Environment and Sustainability Institute (ESI) plays a key role in the study experience for all students at the Cornwall Campus. The ESI will give you the opportunity to develop your knowledge about the causes and consequences of environmental change and how to manage its effects, and to work with internationally acclaimed experts who are at the forefront of research in this area. We aim to develop further opportunities for Geology students to develop their knowledge, understanding and interest in sustainability.

Assessment

Assessment methods vary between modules and may include individual or group reports, essays, practical write-ups and more traditional exams. You have to pass the first year in order to progress to the second year but your first-year marks do not count towards your final degree classification.

Academic support

All students have a Personal Tutor who is available for advice and support throughout their studies. There are also a number of services on the Cornwall Campus where you can get advice and information. You can find further information about all the services in the University’s undergraduate prospectus or online at www.exeter.ac.uk/undergraduate

The CSM Students’ Association organises activities to help new undergraduates integrate into the department and offers a supportive environment for students throughout their studies.

Scholarships

Through the generous support of The Camborne School of Mines Trust, industrial sponsors, and past students and staff, we are able to offer 10+ scholarships each year to new students who register on degree programmes run by Camborne School of Mines.

The scholarships are awarded primarily on the basis of academic merit and are worth a minimum of £2,000 per year for the duration of your degree programme, subject to continued satisfactory academic performance. Further information can be found on our website at www.exeter.ac.uk/geology
Twenty-one of our 22 graduates in 2011 secured employment or postgraduate study in areas directly related to their degree programme, principally in mineral exploration/production, geotechnics or engineering geology (typically in Australia or Africa). There are currently significant global skill shortages in these areas and the majority of students obtained job offers before they graduated. Employers are usually in the Earth resources or civil engineering sector and range from multinationals to consultancies and junior exploration companies. Over the last five years, the international minerals industry has been buoyant due to high metal prices driven by economic growth in SE Asia, which has led to a substantial demand for our graduates that is likely to continue for the foreseeable future. As a globalised industry, employment has not been impacted by the relatively poor UK / European economic situation.

There are also opportunities in the UK for graduates with skills in engineering geology, geotechnics and contaminated land, both within large civil engineering and construction companies and in small and medium sized consultancies.

Many students from the department take part in the Exeter Award and the Exeter Leaders Award. These schemes encourage you to participate in employability related workshops, skills events, volunteering and employment which will contribute to your career decision-making skills and success in the employment market.

A significant proportion of our graduates continue onto taught postgraduate (MSc) courses or research degrees (MPhil/PhD). CSM offers a wide portfolio of specialised MSc programmes in Earth Resources and students who continue onto one of these programmes are currently eligible for a 30 per cent fees reduction.

For further information about what the Employability Service offers at Exeter visit www.exeter.ac.uk/undergraduate/employability
Entry requirements and applying

You can find a summary of our typical entry requirements on the inside front cover of this brochure.

The full and most up-to-date information about Geology is on the undergraduate website at www.exeter.ac.uk/undergraduate/degrees/geology and we strongly advise that you check this before attending an Open Day or making your application. Some programmes require prior study of specific subjects and may also have minimum grade requirements at GCSE or equivalent, particularly in English Language and/or Mathematics.

We make every effort to ensure that the entry requirements are as up-to-date as possible in our printed literature. However, since this is printed well in advance of the start of the admissions cycle, in some cases our entry requirements and offers will change.

If you are an international student you should consult our general and subject-specific entry requirements information for A levels and the International Baccalaureate, but the University also recognises a wide range of international qualifications. You can find further information about academic and English language entry requirements at www.exeter.ac.uk/undergraduate/international

For information on the application, decision, offer and confirmation process, please visit www.exeter.ac.uk/undergraduate/applications

The overwhelming majority of graduates from our three-year geology degree programmes have very well-paid jobs as geologists or geotechnical engineers overseas and in the UK. It reflects our teaching focus on the applied aspects of geology and the international reputation and industrial links of Camborne School of Mines, established over more than 120 years of education and research within the Earth resources sector.

ROBIN SHAIL, GEOLOGY PROGRAMME LEADER
For up-to-date details of all our programmes and modules, please check [www.exeter.ac.uk/geology](http://www.exeter.ac.uk/geology)

### Module details

#### Year 1 Modules

<table>
<thead>
<tr>
<th>Module Name</th>
<th>Applied Geology</th>
<th>Engineering Geology and Geotechnics</th>
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<tbody>
<tr>
<td>Earth and Environmental Chemistry</td>
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<td>C</td>
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<tr>
<td>Surveying and CAD</td>
<td>C</td>
<td>C</td>
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<tr>
<td>Mathematics IA</td>
<td>C</td>
<td>C</td>
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<tr>
<td>Crystallography and Mineralogy</td>
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<td>C</td>
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<tr>
<td>Stratigraphy and Palaeontology</td>
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<td>C</td>
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<tr>
<td>Geology</td>
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<td>C</td>
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<tr>
<td>Field Geology and Geological Maps</td>
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#### Year 2 Modules

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<th>Module Name</th>
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<tr>
<td>Structural Geology</td>
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<td>C</td>
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<tr>
<td>Sedimentology</td>
<td>C</td>
<td>C</td>
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<tr>
<td>Geological Field Techniques 2</td>
<td>C</td>
<td>C</td>
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<tr>
<td>Geotechnics</td>
<td>C</td>
<td>C</td>
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<tr>
<td>Igneous and Metamorphic Petrology</td>
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#### Year 3 Modules

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<th>Module Name</th>
<th>Applied Geology</th>
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<tr>
<td>Exploration Techniques</td>
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<tr>
<td>Hydrogeology</td>
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<td>C</td>
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<tr>
<td>Tunnelling and Excavation Design</td>
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<td>C</td>
</tr>
<tr>
<td>Surface Excavation Design</td>
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<td>C</td>
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<tr>
<td>Mineral Deposit Geology</td>
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<td>GIS for Geologists</td>
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<td>Geology Research Project</td>
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<tr>
<td>Applied Field Geology</td>
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<tr>
<td>Summer Vacation Project</td>
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<td>Health and Safety Risk Management</td>
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<td>O</td>
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<tr>
<td>Contaminated Land Management and Remediation</td>
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# Geology modules

Full module descriptions are available at [www.exeter.ac.uk/geology](http://www.exeter.ac.uk/geology)

## Year 1

| **Earth and Environmental Chemistry** | Overview of the structure of matter and chemical reactions, and the properties and behaviour of solutions and suspensions, reinforced by practical applications. |
| **Surveying and CAD** | An introduction to fundamental surveying techniques and equipment including levels, theodolites, GPS and total stations. Methods of survey control and detail data capture, along with computational skills required for these methods (distance measurement, accuracy/errors, angle measurement, reduction of observational data and elevation control/levelling and basic CAD). |
| **Mathematics 1A** | Basic principles, methods and techniques in algebra, trigonometry, calculus and statistics. |
| **Crystallography and Mineralogy** | Includes symmetry elements of crystals; formation and stability of common rock-forming minerals; mineral optics; and the use of transmitted light microscopy to determine optical properties and to identify common rock-forming minerals. |
| **Stratigraphy and Palaeontology** | Begins with an overview of the evolution of life on Earth before moving onto the principles of stratigraphy and the application of stratigraphy and palaeontology in applied geology. |
| **Geology** | Overview of the principal processes that have contributed to the geological evolution of the Earth and an introduction to the formation, classification and applied significance of minerals, rocks and geological structures. |
| **Field Geology and Geological Maps** | This module integrates training in field-based geological data collection (lithologies, stratigraphy, logging and structures) with an introduction to the interpretation of published geological maps. |

## Year 2

| **Structural Geology** | An overview of the causes and mechanisms of naturally occurring deformation within the lithosphere and the recognition, nomenclature, formation, representation and analysis of the principal types of geological structure and their implications for applied earth science and earth resources engineering. |
| **Sedimentology** | Provides an understanding of basic physical sedimentary processes and resultant sedimentary structures; a knowledge of how process-based sedimentology can be applied to the recognition of a range of clastic and carbonate depositional environments; expertise in the petrographic description and interpretation of clastic and carbonate sediments; and an appreciation of the applied nature of sedimentology. |
| **Geological Field Techniques 2** | Provides a thorough training in the field-based description and interpretation of a wide range of rock types and tectonic/structural settings. Field work takes place in the Wessex Basin (sedimentary rocks, the principles of basin tectonics and petroleum geology); Rum in Scotland (geological mapping training in an upland field area dominated by igneous/metamorphic rocks); and SW England (structurally complex area including ophiolite, granites and mineralisation). Also includes a three-week surveying training course at the end of Year 1. |
| **Geotechnics** | An introduction to the engineering description of soils and rock, soil and rock mass classification and applied rock engineering. Provides a basic knowledge of site investigation practice and principles and explores how underground workings may affect surface movement. Provides an opportunity for you to design the reinforcement requirements for an excavation based on your own field mapping data. |
| **Igneous and Metamorphic Petrology** | Develops your skills in the description, identification and classification of igneous and metamorphic rocks and provides insights into the processes that are responsible for their formation. |
Year 3

Exploration Techniques
Includes the application of geochemistry and geophysics in the search for mineralisation, geochemical and geophysical data processing, chemical element behaviour in different geological environments, and the sampling of rocks, soils, streams and biological materials.

Hydrogeology
A comprehensive overview of hydrogeology introducing basic concepts and principles, derivation of mathematical models, applications of hydrogeological interpretation and problem solving, and applications to groundwater protection and environmental hydrogeology.

Surface Excavation Design
Design-based consideration of some of the major aspects of geotechnical engineering in civil and mining engineering practice. Includes integrated site investigation, stability analysis and design (including blasting), hazard appraisal and risk management.

Mineral Deposit Geology
An in-depth analysis of the nature and formation of metalliferous and industrial minerals deposits.

GIS for Geologists
Provides a practical introduction to Geographical Information Systems and their use in geology.

Geology Research Project
Research in an area of earth sciences or earth resources engineering of interest to you or pertinent to your anticipated career path.

Applied Field Geology
An integrated applied field exercise comprising a regional geological overview, geological mapping, a geotechnical exercise, resource estimation and an environmental impact assessment.

Summer Vacation Project
Independent or semi-independent project involving the collection, analysis and presentation of geological or related data from geological mapping, field/laboratory-based study or industry placement.

Health and Safety Risk Management
A practical-based module providing the legislative framework and essential knowledge and skills necessary to undertake health and safety related activities such as writing policies, assessing risks and investigating accidents in your chosen fields.

Contaminated Land Management and Remediation
Understanding the causes, characteristics and hazards of contaminated land and the practical approaches to assessment and remediation.

Tunnel and Underground Excavation Design
Provides design-based consideration of some major aspects of geotechnical engineering found in civil and mining engineering practice. Includes an introduction to tunnelling methods and machine TBM selection.

Engineering Geology Design Project
Provides you with the opportunity to carry out a design-based or research project, either individually or as a member of a small team, in an area of engineering geology of interest to you or related to your anticipated career path.

The Camborne School of Mines is world-renowned and in a beautiful location not far from the beach. This programme has really improved my organisational skills and it’s great to be able to work outside. I’ve found the people to be really friendly and the student life is exactly what I needed – you can’t beat Cornwall!

CHRIS LAMBERT, BSC GEOLOGY GRADUATE
**Academic excellence**

- We are in the top one per cent of universities in the world, and a regular fixture in top 10 league tables of UK universities
- You will receive an outstanding education here; our teaching was voted fourth in the country in the latest National Student Survey
- Our teaching is inspired by our research, nearly 90 per cent of which was ranked as internationally recognised by the 2008 Research Assessment Exercise
- We are a top 10 UK university for sport and provide a wide range of sporting facilities and support whether you want to compete at the highest level or just for fun

**A vibrant community**

- Our students are the most engaged in the country, smashing participation records in student elections for the last two years running
- FXU, the Cornwall Campus Students’ Union, offers a fantastic selection of societies, from sport to culture to community volunteering groups – in total there are over 80 clubs and societies to choose from
- The Cornwall Campus Sports Centre includes an excellent gym and sports facilities. Through the centre you can access a range of support whether you want to compete at the highest level, keep fit or just have fun
- We work with our students to continually improve the education on offer, via initiatives which put students at the heart of our decision making process
- The Cornwall Campus has a small but vibrant international community. Across the University there are students from over 130 countries and staff of 50 different nationalities
- Our students are consistently among the most satisfied in the country, ranking us in the top 10 of the National Student Survey each year since it began

**Ambition for the future**

- We equip you with the skills employers need via business placements, study abroad schemes, volunteering opportunities, careers advice from successful alumni and much more
- Despite tough economic times, we’ve improved our employment record year-on-year: more than 90 per cent of students get a job or further study place within six months of graduating
- The Cornwall Campus is now a £200 million Higher Education hub featuring state of the art lecture theatres and library spaces, new accommodation and world-class research facilities

**Explore the possibilities**

**Open Days**

Come and visit our beautiful campuses. We hold Open Days at our Cornwall Campus in June and October.

**Campus Tours**

Tours of the Cornwall Campus run on Wednesday and Friday afternoons. You’ll be shown round by a current student, who’ll give you a first-hand account of what it’s like to live and study here.

For full details and to book your place, contact us on:

**Website:** www.exeter.ac.uk/opendays  
**Phone:** +44 (0)1326 371801  
**Email:** cornwall@exeter.ac.uk

**Offer-Holder Visit Days**

Once you receive confirmation of an offer we’ll contact you with an invitation to visit us on an Offer-Holder Visit Day, which will give you the chance to find out more about your programme and department and decide whether to accept our offer. While this opportunity to visit includes a campus tour and formal introduction to your subject of choice, much emphasis is placed on a more informal period for questions and answers. A number of our current students also take part on these days, leading tours and giving you the opportunity to ask them what studying here is really like! Offer-Holder Visit Days take place during the period January to April.