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A Gold rating in teaching excellence

BEng (Hons)

Engineering Geology and Geotechnics

Professional engineering geologists are highly sought after

F612UCAS code 3yrsfull time 1yrplacement option

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Course Overview

Why take this course?

Want to one day be involved in the building of a tunnel, dam, road, building development, offshore oil or gas platform, quarry or mine excavation?

This course provides you with the technical expertise to be part of such projects. It's the first step to becoming a professional engineering geologist or geotechnical engineer. The course has an excellent employability profile and great links with industry.

You can study this unique degree as a traditional three-year course or as a four-year sandwich. Placements can be taken in the UK, Europe or farther afield. Current [placement students](#) have found excellent opportunities in the UK, South Africa and Australia in both the Civil, Mining and Offshore Energy sectors.

The University of Portsmouth has been teaching engineering geology and geotechnics for over 45 years. We have the highest number of academic engineering geology [staff members](#) of any university in the UK and are the only university in the UK to offer this degree as a sandwich at undergraduate level.

What will I experience?

On this course you can:

- Do a one-year placement working in a paid full-time role
- Gain valuable employability skills both in the laboratory and in the field
- Participate in fieldwork in both the UK and overseas
- Experience mega projects in Hong Kong

Sandwich bursary

Associated with the sandwich course is an [Industrial Bursary Scheme](#) which gives financial support to selected students in the form of a bursary of £1,750 per year. Our industrial partners include leading UK and international contractors and consultants, together with the Geological Society of London. The Industrial Bursary Scheme members will provide salaried vacation employment and third-year placement and training. Students without a bursary will be responsible for finding a placement, but will be assisted by the University of Portsmouth and industrial supporters of the scheme.

For more information on the Industrial Bursary Scheme and application information, go to the [Industrial Bursary](#) web page.

What opportunities might it lead to?

Engineering geologists play a key role in the construction industry, with many building projects crying out for their technical expertise.

The course is fully accredited by the [Geological Society of London](#) and by the [Institute of Materials, Minerals and Mining](#), the professional bodies that oversee geoscience and ground engineering training and practice

in the UK.

Here are some routes our recent graduates have pursued:

- major site investigations for international projects
- investigating and stabilising old mine workings
- coastal engineering
- flood alleviation projects
- dam site investigation and design
- major tunnelling projects in the UK and Hong Kong
- development of deep mines in South Africa and Australia
- academic lecturing posts in the UK or overseas



We spent two weeks in Spain learning how to produce a geological map and we have had many field trips to the Isle of Wight.

Adam Drury, BEng (Hons) Engineering Geology and Geotechnics student 2012

[Request a prospectus](#)

[Come to our next Open Day](#)

[Book now](#)

Key Facts

UCAS Course Code:

F612

Duration

3 years full time, 4 years sandwich with work placement

2018 ENTRY REQUIREMENTS

A LEVELS

112-136 points to include a minimum of 2 A levels, or equivalent, in Science subjects. [See full entry](#)

[requirements](#)

OTHER QUALIFICATIONS

We accept UCAS points from other qualifications. [See full details and English Language qualifications](#)

Fees

UK/EU/Channel Islands and Isle of Man students

2017/18 entry: full time: £9,250 p/a*

International students

2017/18 entry: full time: £14,400 p/a**

*Tuition fee may be subject to annual increase.

**Tuition fee is subject to annual increase.

[View tuition fee terms and conditions](#)

[View additional course costs](#)

Contact

admissions@port.ac.uk

+44 (0)23 9284 5566

Department

[School of Earth and Environmental Sciences](#)

[Programme specification](#)

Accreditations & Endorsements



Subject:

Work Placements

As part of her course, Zoe is putting her knowledge into practice and learning new skills with a work placement year. Take a look at Zoe's working environment and find out why she thinks it's so important to get real-life work experience as part of your degree.

[Browse all courses in Earth and Environmental Sciences](#)

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Structure & Teaching

Year one

To be a good engineering geologist you first need to be a good geologist. In your first year we concentrate on the fundamentals of the geological sciences, as well as focusing on engineering mathematics and materials.

Core units in this year include:

- How the Earth Works
- Mineralogy and Petrology
- Sedimentology and Palaeontology
- Natural Hazards
- Engineering Maths
- Engineering Materials – how materials behave

Year two

Specialise in the more applied areas of the subject and benefit from [fieldwork](#) that is a vital component of this geoscience degree.

You will specifically focus on the following areas:

- The mechanical behaviour of engineering soils and rock
- How to investigate the ground and interpret the results
- Ground water and flood management
- More geology, focused on structural aspects of geological interpretation and map work
- Much time is spent in our state of the art soil and rock mechanics laboratories

Year three*

Customise your studies by undertaking an independent project where you can decide the geological and engineering based topic, collect samples, carry out lab tests and report your findings. You'll also consolidate your learning in the study of the following specialist subject areas:

- Design and construction of: tunnels, caverns, mines, dams, foundations, embankments, retaining walls and slopes for road construction
- Rock deformation and analysis
- Landslides and slope stability assessments

Contaminated land and groundwater

*This course is also available as a 4-year sandwich (work placement)

Sandwich year (optional year in industry)

The sandwich year involves at least 44 weeks of paid work for a company. We arrange for you to apply to suitable companies, attend interviews and monitor your progress throughout the year.

We have a very strong association with the ground and mining engineering industry who support our students in finding work placements in both the UK and overseas.

For sandwich students the Year 2 core skills are enhanced by hands-on practical experience and academic knowledge gained over the Industrial Placement year. The placement year will normally help you to make the most of your final year of studies by helping you make sense of where you fit in the professional world and the relevance of the units you study.

Students that have taken up this opportunity include Jack Taggart, who won 'Undergraduate Student of the Year' at the Ground Engineering 2015 Next Generation Awards.

Teaching

The course provides a balanced structure of lectures, tutorials and laboratory work. You will generally be taught in small classes, providing an informal, friendly and supportive atmosphere for your studies.

The time you spend in teaching activities may depend on the units you select. As a guide, students on this course last year typically spent their time as follows:

- Year one students: **34 %** in lectures, seminars and similar learning activities, **66 %** studying independently and **0 %** on work placement
- Year two students: **43 %** in lectures, seminars and similar learning activities, **57 %** studying independently and **0 %** on work placement
- Year three students: **33 %** in lectures, seminars and similar learning activities, **67 %** studying independently and **0 %** on work placement

Assessment

Assessment is a mix of coursework and exams, roughly 50:50. However, your coursework can take a variety of forms including:

- laboratory reports
- oral and poster presentations
- reports on field-based projects
- computer-based assessment

The way you're assessed may depend on the units you select. As a guide, students on this course last year were typically assessed as follows:

- Year one students: **67 %** by written exams, **13 %** by practical exams and **20 %** by coursework
- Year two students: **38 %** by written exams, **13 %** by practical exams and **49 %** by coursework
- Year three students: **43 %** by written exams, **0 %** by practical exams and **57 %** by coursework



Tutor's view

Nick Koor

Earth and Environmental Sciences

This is a fantastic degree if you wish to pursue a career in ground engineering within the civil, mining or energy sectors. It combines the fundamentals of geology with applied mechanics and engineering, and our graduates are highly sort after in both the UK and overseas.

[Visit us more info](#)

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Facilities & Features



Laboratories

You'll have access to our fully equipped geological, geochemical and geotechnics labs



Field Trips

Fieldwork is an important part of our courses



University Library

Our library offers a wealth of information

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Laboratories

We have fully equipped geological, geochemical, and our recently refurbished soil and rock labs. Brimming with ultra-modern equipment, here's a taste of what you'll be able to work on:

- Petrology laboratory
- State-of-the-art soil mechanics laboratory
- State-of-the-art rock mechanics and rock physics laboratory
- Photogrammetric suite
- Scanning Electron Microscope

Labs for XRF, gamma spectrometry, crystal growth, low temperature physics, geochemistry and palaeontology are available for you to use but are not part of your core degree facilities.

Field Trips

[Fieldwork](#) is an important part of the degree and can take between 50 and 70 days, spread across the whole course. From geological mapping techniques to key skills such as rock mass assessment, trips normally are taken to:

- the Isle of Wight
- Dorset
- North Norfolk
- the Cotswolds
- the Lake District
- French Alps
- Hong Kong (optional final year – student funded)

University Library

Modern, comfortable and a great learning environment, our library offers a wealth of information including 400,000 books, DVDs, maps and thousands of online ejournals and newspapers. Many electronic resources are available anywhere, 24/7 and our friendly staff are always on hand to help.



My course and fieldwork prepared me very well for the industrial placement. When on site on my placement, I was the only one to have used a point load tester before. So, I had to train other engineers and then write a manual about how to use it. My employability has jumped up quite a bit, just through the placement.

Stephan Gehne, BEng (Hons) Engineering Geology and Geotechnics student 2013

Budgeting for your studies

There are extra costs associated with studying, which you will need to consider when planning your expenditure.

Recommended texts:

If you wish to purchase recommended texts, rather than borrow from the University Library, the average price is £50-£60. You may be studying up to 6 units a year, each with a standard recommended text.

General costs:

We recommend that you budget £75 a year for costs of photocopying, memory sticks, DVDs and CDs, printing charges, binding and specialist printing.

Final year project:

If your final year includes a major project, there could be cost for transport or accommodation related to your research activities. The amount will depend on the project you choose to develop.

Other costs to consider

The cost of travel or accommodation for compulsory fieldwork is included in the course fee. But travel costs will be incurred on the Mapping Training Field Course, which takes place at locations within the UK in the summer between course years 1 and 2 of study. This will be around £100. You will be expected to pay for meals and other subsistence costs associated with compulsory fieldwork.

For compulsory project work, normally in the UK or Europe, costs for travel and accommodation can be from £0 - £1000.

For optional fieldwork, costs of travel, accommodation, meals and other subsistence are around £1200.

2017/18

In addition, you will be expected to buy field equipment, (e.g. compass, clinometers, hammer, hand lens, notebook) at the start of your first year. These costs are £130.

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Careers & Opportunities

Career prospects



Where next?

You are eminently employable and as a leading provider of Engineering Geology and Geotechnics graduates to industry, we have an enviable employment record. Graduating from this course usually commands an above-average starting salary and work opportunities are available both in the UK and overseas, with strong demand currently in the UK, Australia, New Zealand, Dubai, Canada and Hong Kong.

Many of these career opportunities exist in the civil, mining, offshore or energy sectors for engineering consultants and contractors. A proportion of graduates also go on to postgraduate study.

Roles our graduates have taken on include:

- graduate engineering geologist (UK)
- graduate tunnelling engineer (Hong Kong)
- graduate geotechnical engineer (Canada)
- graduate mining geotechnical engineer (Australia)
- graduate foundation engineer (UK)

Work experience



Employment boosting opportunities

Taking a placement year in industry could be one of the best decisions you make, as more often than not, it leads to further opportunities after graduation. Our Placements Office, not only helps you to arrange your placement, but also acts as a source of information and guidance throughout the recruitment process and beyond. We help on anything and everything related to employability skills, as well as assisting you in gaining other types of work experience.

Whilst a placement is not a requirement of this course, we strongly recommend them as they often make a substantial difference to what you get out of the course and what you can offer when you first embark on your career. Almost 60 per cent of students at the University who complete a sandwich year with an employer either receive sponsorship for their final year of study, a job offer on graduation, or both.

Evidence suggests that those students taking a year placement have a leading edge once graduating and often employers are looking for students specifically with this experience. You can consider the placement as a year-long interview with excellent potential for employment once graduated.

The key advantages of the placement year are:

- it helps contextualise your degree with the profession
- paid employment in year three
- the potential to enhance your exit award
- an enhanced employability profile
- normally an enhanced graduate salary

Career planning



[Career planning](#)

[6.04 minutes](#)

To make sure you take the right steps on your career path, we're here to give you help, support and advice throughout your study. Even after you've graduated, we continue to give you support for up to five years.

Employers tell us that they want graduates to be able to demonstrate certain skills when they come out of university. Our courses take account of this. We make sure we prepare you for employment through work-related learning, projects, placements and working in simulated environments that are designed to prepare you for the working world.



William Deakin graduated in Engineering Geology and Geotechnics in 2014. He now works for a market leader in his field as an Offshore Geotechnical Engineer. Find out more about William's role and how the course not only gave him the technical expertise, but also the experience through a one-year placement in industry.

[Play video](#) 1:24



Since my degree I have been living and working for Ove Arup & Partners in Hong Kong. From day to day I may be in the field carrying out mapping exercises, writing reports, analysing data,

meeting with clients, producing figures or facilitating the production of technical drawings, researching modern techniques, etc. The field trip to Hong Kong is actually the very reason that I have my job today. I was provisionally offered a job following an ad-hoc interview organised whilst actually in Hong Kong, which subsequently lead to me gaining employment here.

Tom Bush, BEng (Hons) Engineering Geology and Geotechnics student

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Our next Open Day is *Saturday 4 November 2017*

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