University of Portsmouth

BEng (Hons) Engineering Geology and Geotechnics

UCAS code: F612
Mode of study: Full time or sandwich with work placement
Duration: 3 years full time, 4 years sandwich with work placement
Entry requirements 2013: 260-320 points to include 2 A levels or equivalent, with 180 points from two Science subjects (Biology, Chemistry, Environmental Science/Studies, Geography, Geology, Mathematics or Physics) or one Science and one relevant Technology subject.
Please see details of the range of other qualifications that will also be considered on the 'Entry Requirements' tab below. Please do contact us for advice on other qualifications that aren't listed here.

Find out more:
Tel: +44 (0)23 9284 5550
Email: sci.admissions@port.ac.uk
Department: Earth and Environmental Sciences (SEES)

Course overview

The professional engineering geologist normally works in the construction industry and provides the technical expertise in understanding how the site and regional geology interacts with and effects a proposed project, be it a tunnel, dam, road, building development, offshore oil and gas platform, quarry or underground mine.

The University of Portsmouth has been teaching engineering geology and geotechnics for over 40 years. We have the highest number of academic engineering geology **staff members** (http://www.port.ac.uk/departments/academic/sees/staff/) of any university in the UK and are the only university in the UK to offer this subject as a sandwich degree at undergraduate level. Employability is at the heart of this degree and we pride ourselves on the fact that our students are in great demand in the UK and overseas once they graduate.

Professional accreditation

The course is accredited by the **Geological Society of London** (http://www.geolsoc.org.uk/index.html) , the professional body that oversees geoscience in the UK. It is automatically accepted as satisfying the first stage of professional development leading to the award of Chartered Geologist status and will allow you direct progression to Chartered Geologist status after a period in industry. This is a key professional qualification which is internationally recognised and professionally equivalent to CEng.

Full time or sandwich?

You can study this unique degree as a traditional three-year course or as a four-year sandwich. The sandwich pathway follows the same course structure as the three-year version, but has a 44-week industrial placement in year three. The key advantages of the sandwich 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

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 and Mining Engineering sectors.

Sandwich bursary

Associated with the sandwich course is an **Industrial Bursary Scheme (http://www.port.ac.uk/departments/academic/sees/industrialbursary/)** , which will give financial support to selected students in the form of a bursary. 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, third-year placement and training to the bursary students. Students enrolled onto the sandwich pathway without a bursary will be responsible for finding employment, but will be assisted by the University of Portsmouth and industrial supporters of the scheme.

For those wishing to be considered for an Industrial Bursary, it is likely that key qualifications for success will be maths and physics at A Level or equivalent. However, this is not mandatory and each applicant will be assessed on merit rather than strict adherence to qualifications. There is a separate application and selection process for the bursary scheme. For more information and an application form, go to the **Industrial Bursary (http://www.port.ac.uk/departments/academic/sees/industrialbursary/)** web page.

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Compare this course with other courses at

90%	92%	85%
Students agreed staff made the subject interesting	**Students were satisfied overall**	**Students in work / study six months after finishing**

KIS KEY INFORMATION SET
Official data collected by HEFCE

Course content

As well as the academic content of the course it is structured to develop transferable skills such as meeting deadlines, organising and prioritising work, self-reliance, teamwork, self motivation, report writing, numeracy, IT literacy and communications.

Year one

To be a good engineering geologist first you need to be a good geologist. In year one we concentrate on the fundamentals of the geological sciences:

- how the earth works: an introduction to all aspects of geoscience
- earth materials: the description and interpretation of minerals and igneous, metamorphic and sedimentary rocks
- earth history and life: an introduction to the study of past life on earth and its evolution, and geological time and the rock record
- natural hazards: the interaction of the Earth's surface processes with the natural and man-made world

We also prepare you for year two with units that focus on the physics and chemistry of the Earth's processes and applied mathematics:

- quantitative methods: mathematical and IT skills and techniques for the geosciences
- science for earth systems: aspects of physics and chemistry used in the geosciences

Year two

In year two we start to specialise in the more applied subjects that cover: the mechanical behaviour of engineering soils and rocks; how to investigate the ground and interpret the results; ground water and flood management; and more geology, focused on structural aspects of geological interpretation and map work. We also prepare you for career interviews, CV and letter writing with mock job interviews being held before the Christmas break.

There is a strong emphasis on **fieldwork (http://www.port.ac.uk/departments/academic/sees/fieldwork/engineeringgeologyandgeotechnics/)** in the second year.

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. Placements can also be arranged abroad if you would like the opportunity to travel.

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.

Whilst placements are 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.

For sandwich students the year two 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 studies by helping you make sense of where you fit in the professional world and the relevance of the units you take in your final year.

Final year

The skills and academic knowledge gained over the previous year's study are utilised in your final year in units which cover the design and construction of: tunnels, caverns, mines, dams, foundations, embankments, retaining walls, and slopes for road construction. Specialist units on landslides and slope stability assessments, together with contaminated land and ground water, ensure that you are ready for a career in an applied ground related job. The culmination of your degree is the production of an independent final-year project – this allows you the freedom to map an area of your choice, carry out laboratory tests on samples that you have collected and finally produce a design based on your work.

Teaching and assessment

Teaching is via traditional lectures in both large and small groups, as well as self-learning. Tutorials, seminars and **laboratory (http://www.port.ac.uk/departments/academic/sees/analyticalfacilities/geotechnicslaboratoryatsees/)** -based practical sessions cover the more practical aspects of the disciplines. You will be assessed by a mixture of examinations (written, oral and computer-based), as well as via innovative coursework assignments. These include writing interpretive reports, producing lab work portfolios, team-based exercises, posters and field reports. The coursework assignments have been designed to provide you with the transferable skills that employers are looking for in a graduate.

Every student is assigned a personal tutor who will act as a guide and mentor from year one through to graduation. Your tutor will become your project supervisor in your final year at the University.

All of the taught units have associated web-based learning resources, which means that as long as you have an internet connection you can download all of the learning resources available for a particular unit.

Fieldwork

The **fieldwork (http://www.port.ac.uk/departments/academic/sees/fieldwork/engineeringgeologyandgeotechnics/)** programme is a major element of the degree and comprises some 40 to 50 days, spread over the three taught years of the course. We currently visit the Isle of Wight, Dorset, Norfolk, Cotswolds, Kent, northern Spain, Provence and the French Alps. We are continually improving and upgrading our fieldwork programme to suit current technological advances and to ensure that you leave university with the skills that employers require. As such, our fieldwork locations change from time to time.

During field trips, you will gain hands-on knowledge of a variety of geological techniques including mapping, logging, hazard assessment, terrain evaluation and rock mass assessment. Problem-based exercises are used extensively along with team and group work.

In your final year there is an optional field course to **Hong Kong (http://www.port.ac.uk/departments/academic/sees/fieldwork/engineeringgeologyandgeotechnics/)** to study and experience construction in a complex geological setting, and to obtain first-hand experience of what it is like to work on major civil engineering projects as an engineering geologist or geotechnical engineer. We visit active construction sites, such as tunnels, deep foundations, deep excavations and major road and infrastructure projects. There are opportunities to network with senior construction professionals whilst in Hong Kong and several students have secured jobs in Hong Kong whilst on this field course.

Career prospects

Our students are highly sought after by industry and command above-average starting salaries. Many of our graduates find work opportunities both in the UK and overseas, with strong demand currently in the UK, Australia, New Zealand, Dubai, Canada and Hong Kong. We have forged close links with industry over the last 40 years and many of our graduates now hold senior posts in some of the largest UK and international engineering consultants and contractors.

Graduates who have studied engineering geology and geotechnical engineering have found themselves involved in work as diverse as:

- 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 overseas
- development of deep mines in South Africa
- academic lecturing posts in the UK or overseas

The sectors that our students generally find themselves working in are civil, mining, offshore or energy sectors.

Facilities and features

We have comprehensive networked IT facilities in our School that you will have access to. Our **laboratories (http://www.port.ac.uk/departments/academic/sees/analyticalfacilities/)** contain an array of analytical and testing equipment including:

- Mass Spectrometer
- Scanning Electron Microscope
- Labs for XRF, XRD, gamma spectrometry, crystal growth, low temperature physics, geochemistry, palaeontology, soil mechanics, rock mechanics, rock preparation and aerial photographic interpretation

Our **soil testing laboratory (http://www.port.ac.uk/departments/academic/sees/analyticalfacilities/geotechnicslaboratoryatsees/)** was upgraded in 2009 and is now a state-of-the-art learning venue with fully computerised testing equipment and teaching areas. You will have full access to all these facilities and will be fully trained and supervised in their use. You will also have access to our field equipment pool, including geophysical instruments and rock mass assessment and ground investigation tools.

Our team of experienced academic, support and administration staff are always willing to help. We also have a long-established network of civil engineering consulting and contracting organisations that provide real-world case studies, curriculum advice, feedback on your work and employment opportunities.

Maths Café

The **Maths Café (http://www.port.ac.uk/departments/academic/maths/mathscafe/)** is a daily drop-in facility, where ANY student of the University can receive help on any maths or statistics problem they encounter in their studies. We operate in a friendly, informal location which we hope will encourage students to visit us. Handouts on key topics are available to take away. Students can be shown how to use computer-aided learning packages, which can be accessed from any computer attached to the University's computer network.

Entry requirements

View all the **entry requirements (http://www.registryhub.port.ac.uk/entry_requirements/?course_code=C0236&year=2013)** for BEng (Hons) Engineering Geology and Geotechnics **for the academic year 2013/14** (opens in new window).