



UNIVERSITY OF  
PORTSMOUTH

# COURSE SPECIFICATION

## *MSc Engineering Geology*

**Academic Standards, Quality and Partnerships  
Department of Student and Academic Administration**

**September 2021**

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<b>Course Title</b>	<b><i>Engineering Geology</i></b>
Final Award	<i>MSc</i>
Exit Awards	<i>PGDip, PGCert</i>
Course Code / UCAS code (if applicable)	<i>P2082FTC, P2082PTC</i>
Mode of study	<i>Full Time, Part Time</i>
Mode of delivery	<i>Campus</i>
Normal length of course	<i>One year</i>
Cohort(s) to which this course specification applies	<i>September 2021 onward</i>
Awarding Body	<i>University of Portsmouth</i>
Teaching Institution	<i>University of Portsmouth</i>
Faculty	<i>Science Faculty &amp; Health</i>
School/Department/Subject Group	<i>School of the Environment, Geography &amp; Geosciences</i>
School/Department/Subject Group webpage	<a href="https://www.port.ac.uk/about-us/structure-and-governance/organisational-structure/our-academic-structure/faculty-of-science-and-health/school-of-the-environment-geography-and-geosciences">https://www.port.ac.uk/about-us/structure-and-governance/organisational-structure/our-academic-structure/faculty-of-science-and-health/school-of-the-environment-geography-and-geosciences</a>
Course webpage including entry criteria	<a href="https://www.port.ac.uk/study/courses/msc-engineering-geology">https://www.port.ac.uk/study/courses/msc-engineering-geology</a>
Professional and/or Statutory Regulatory Body accreditations	<i>Geological Society of London</i>
<a href="#">Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level</a>	<i>FHEQ Level 7</i>

This course specification provides a summary of the main features of the course, identifies the aims and learning outcomes of the course, the teaching, learning and assessment methods used by teaching staff, and the reference points used to inform the curriculum.

This information is therefore useful to potential students to help them choose the right course of study, to current students on the course and to staff teaching and administering the course.

Further detailed information on the individual modules within the course may be found in the relevant module descriptors and the Course Handbook provided to students on enrolment.

Please refer to the [Course and Module Catalogue](#) for further information on the course structure and modules.

## Educational aims of the course

*The MSc Engineering Geology degree provides students with excellent opportunities to develop key skills in engineering geology with a specialist knowledge of specific aspects of applied geosciences, such as rock and soil mechanics, site and ground investigation techniques, computer applications in engineering geology including risk analysis and assessment, GIS and remote sensing, contaminated land, tunnel and underground excavation design, landslides and slope stabilisation and rock engineering, soil foundation engineering and hydrogeology. The course provides a challenging and stimulating environment using a mixture of class, laboratory, practical and field based teaching with a focus on vocational and transferable skills to maximise student's career opportunities.*

## Course Learning Outcomes and Learning, Teaching and Assessment Strategies

The [Quality Assurance Agency for Higher Education \(QAA\)](#) sets out a national framework of qualification levels, and the associated standards of achievement are found in their [Framework for Higher Education Qualifications](#) document.

The Course Learning Outcomes for this course are outlined in the tables below.

### A. Knowledge and understanding of:

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
A1	The importance of geology in an engineering context	Acquisition of knowledge is mainly achieved through lectures, workshops, tutorials and directed student-centred learning. Laboratory practical classes form an integral part of many units and provide the student with important hands-on learning experience. Residential fieldwork and site visits are used to reinforce and contextualise the formal lecture programme. E-learning environments are used throughout the course to provide additional learning resources. Develops subject knowledge, critical thinking; plus analytical, observational and interpretational skills; communication skills using text and graphics. The exercise of initiative and personal responsibility. Decision-making in complex and unpredictable contexts.	Assessed coursework that takes the form of technical reports, coursework reports, fieldwork reports, laboratory reports and oral presentations, project proposals and research articles appropriate to particular units. The course culminates in the thesis report and conference presentation. The assessments involve the preparation of technical reports, field reports and maps, research style articles and oral and poster presentations. These have been selected to enhance the employability skills of the students using reporting mechanisms that are standard in the workplace and research world, presentation skills through the presentation of complex geological problems or conceptual models in written or oral forms to a technical audience.
A2	The role of an engineering geologist in the geotechnical community		
A3	The fundamental behaviour of rock and engineering soil and the relevant laboratory test procedures used in their determination		
A4	The importance of an integrated ground investigation and its component parts.		
A5	Terrain systems, geomorphological landforms, their mapping and significance in site appraisal		

### B. Cognitive (Intellectual or Thinking) skills, able to:

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
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B1	Synthesize information and data from a variety of sources	Cognitive skills are developed through practical project work, seminar work and coursework assignments. Practical and research project work. Structured tutorials. Student-centred activities such as reviews, case studies and independent research for the MSc project. Research project seminars and tutorials allow students to develop advanced skills to develop, plan and implement major research or industry project.	Technical and field reports where students have to solve complex geoscience problems, research articles where students must present results of their modelling in an academic style. Coursework and unseen tests. Technical reports provide students with the opportunity to demonstrate their ability to analyse and evaluate a problem using real world data. In-class tests allow students to demonstrate their grasp of the numerate elements of the course including rock and soil geotechnics. The research project allows a student to demonstrate thinking skills, synthesis, critical evaluation, research and presentation skills to the highest level.
B2	Analyse, critically evaluate and interpret the results from laboratory test procedures		
B3	Demonstrate the skills necessary to plan, conduct and report a major project		
B4	Apply advanced geological and geotechnical principles to the solution of a complex problem		
B5	Formulate and test hypotheses		

### C. Practical (Professional or Subject) skills, able to:

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
C1	Describe, test and record geomaterials in the field and laboratory to current European or international standards	Practical and professional skills are promoted through the taught lecture programme and practical work including fieldwork and group class activities. Residential fieldwork allows the student to fully develop their field and data collection skills. Laboratory and field classes are a feature of many units. Laboratory practical classes enhance the learning experience and introduce a wide variety of testing and analysis techniques. Group workshops and practical sessions develop skills in the development of numerical and computational modelling strategies for different natural hazard processes. Project planning and implementation forms part of the lecturer programme for the research project and is a key element of the tutorial programme. Structured tutorial programme supports skills development throughout.	Assessments are designed to reflect real world and industry approaches using technical and field based reports, preparation of laboratory reports, group and individual exercises. The project proposal is designed to develop skills in project planning and implementation that is then presented as an extended thesis report and conference presentation. Preparation of a research article is used to develop key literature review skills.
C2	Use geotechnical and geological computational tools and packages		
C3	Design and implement a ground investigation strategy and use this data to basic geotechnical design to the relevant British, European or international standards		
C4	Prepare technical reports and give technical presentations using scientific literature effectively.		
C5	Utilise appropriate engineering geological and geomorphological mapping techniques to display field data effectively and appropriately		

### D. Transferrable (Graduate and Employability) skills, able to:

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
D1	Communicate effectively in writing, verbally and in appropriate forms of presentation	Structured tutorial programme supports development of planning	Coursework assignments are designed to enable the student to develop a wide range of key skills

D2	Be competent in the use of information technology	and communication skills linked to the research project lectures and seminars. The guided independent work for the project. The practical sessions are integral to the course using up-to-date numerical, programming languages and spatial data analysis integrated into relevant modules.	using individual presentations, research articles field based, laboratory and technical reports, group tutorial discussions and exercises. The thesis report provides an opportunity to demonstrate these skills at an advanced level.
D3	Demonstrate numerical and problem solving skills and strategies appropriate to an engineering geologist		
D4	Demonstrate project planning and time / task management skills		
D5	Work independently and as a member of a team		

## Academic Regulations

The current University of Portsmouth [Examination and Assessment Regulations](#) will apply to this course.

## Support for Student Learning

The University of Portsmouth provides a comprehensive range of support services for students throughout their course, details of which are available at the [MyPort](#) student portal. In addition to these University support services this course also provides:

- [Small group tutorials](#) with academic staff, where all masters students have a one hour tutorial in a small group with a subject relevant member of academic staff in the School.
- [Faculty Learning Support Tutors](#) can assist you in developing your academic skills, whether in researching, writing, presenting, understanding feedback or revising, organising your workload and any other academic skills.
- [English Language Support](#) offers academic English classes to all students to support their written and spoken English.
- [Academic Skills Unit](#) (ASK) offer tutorials to all students on essential academic skills needed to be successful at higher education level.
- Course provides students with [work relevant learning](#) through exposure to simulated industry environments and procedures, such as technical reports writing using real world data to industrial standards; and oral and poster presentation in an office and conference environment. All these opportunities prepare students for entry into research or employment.
- [Placement opportunities](#) are available as part of the Research Skills and Project unit, whereby students can develop advanced work related skills through a period of work experience with a partner company.
- [Field course activities](#) reinforce the work related learning by providing training in industry standard geological and geomorphological data collection, rock and soil descriptions and field mapping techniques. The opportunity to enhance cultural awareness, language skills and international perspectives is also developed through the overseas field courses.

## Evaluation and Enhancement of Standards and Quality in Learning and Teaching

The University of Portsmouth undertakes comprehensive monitoring, review and evaluation of courses within clearly assigned staff responsibilities. Student feedback is a key feature in these evaluations, as represented in our [Policy for Listening to and Responding to the Student Voice](#) where you can also find further information.

## Reference Points

The course and outcomes have been developed taking account of:

- [University of Portsmouth Curriculum Framework Specification](#)
- [University of Portsmouth Ambition Statements](#)

- [University of Portsmouth Education Strategy 2016 - 2020](#)
- [University of Portsmouth Code of Practice for Work-based and Placement Learning](#)
- [Quality Assurance Agency UK Quality Code for Higher Education](#)
- [Quality Assurance Agency Qualification Characteristic Statements](#)
- [Quality Assurance Agency Subject Benchmark Statement](#) for **enter the relevant statement for this course**
- [Quality Assurance Agency Framework for Higher Education Qualifications](#)
- Requirements of Professional and/or Statutory Regulatory Bodies: [Geological Society of London](#)
- Vocational and professional experience, scholarship and research expertise of the University of Portsmouth's academic members of staff
- National Occupational Standards

## Disclaimer

The University of Portsmouth has checked the information provided in this Course Specification and will endeavour to deliver this course in keeping with this Course Specification. However, changes to the course may sometimes be required arising from annual monitoring, student feedback, and the review and update of modules and courses.

Where this activity leads to significant changes to modules and courses there will be prior consultation with students and others, wherever possible, and the University of Portsmouth will take all reasonable steps to minimise disruption to students.

It is also possible that the University of Portsmouth may not be able to offer a module or course for reasons outside of its control, for example, due to the absence of a member of staff or low student registration numbers. Where this is the case, the University of Portsmouth will endeavour to inform applicants and students as soon as possible, and where appropriate, will facilitate the transfer of affected students to another suitable course.

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