



UNIVERSITY OF
PORTSMOUTH

COURSE SPECIFICATION

MSC PETROLEUM AND GAS ENGINEERING

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

July 2020

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COURSE SPECIFICATION

Course Title	MSc PETROLEUM AND GAS ENGINEERING
Final Award	<i>MSc</i>
Exit Awards	<i>PGCert, PGDip.</i>
Course Code / UCAS code (if applicable)	<i>C2594P C2594F</i>
Mode of study	<i>full-time, part-time</i>
Mode of delivery	<i>Campus</i>
Normal length of course	<i>1 year full-time, 3 years part-time</i>
Cohort(s) to which this course specification applies	<i>from September 2020 intake onwards</i>
Awarding Body	<i>University of Portsmouth</i>
Teaching Institution	<i>University of Portsmouth</i>
Faculty	<i>Faculty of Technology</i>
School/Department/Subject Group	<i>School of Energy and Electronic Engineering</i>
School/Department/Subject Group webpage	https://www.port.ac.uk/about-us/structure-and-governance/organisational-structure/our-academic-structure/faculty-of-technology/school-of-energy-and-electronic-engineering?_ga=2.69898832.1113957412.1591544052-36136616.1530534475
Course webpage including entry criteria	http://www.port.ac.uk/courses/engineering/msc-petroleum-and-gas-engineering/
Professional and/or Statutory Regulatory Body accreditations	<i>Energy Institute</i> https://energyinst.org/membership-and-careers/careers
Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level	<i>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 course aims to equip students to work as professional Petroleum Engineers, bringing together the major aspects of Petroleum Engineering (oil exploration and extraction, reservoir engineering, drilling engineering, petroleum production engineering, petroleum reservoir Engineering and simulation, unconventional resources, well testing and applications of data science and artificial intelligence). The course reflects industry requirements very strongly, and also reflects the MSc degree teaching and learning requirements in Petroleum Engineering.

In broad terms the course aims to provide a challenging and stimulating study environment in which students can:

- Develop knowledge and understanding of the underpinning engineering science, mathematics and applied sciences essential for a petroleum engineer in a challenging and stimulating study environment.*
- Develop analytical skills, leading to the ability to apply engineering principles to a wide range of applications in a flexible coherent programme of study*
- Develop competence in engineering design skills and knowledge required to maximise career and postgraduate study opportunities*
- Appreciate and understand the economic, social and environmental context in which a petroleum engineer will work having been provided with a framework in which academic knowledge and understanding is integrated with vocational skills and competency*
- Gain experience of engineering practice through work in the laboratories, fieldwork and individual and group projects through an accessible, flexible and coherent programme in which word based learning is an integral part*
- Experience a challenging, stimulating and rewarding study environment and to nurture life-long learning interest and skills.*
- Develop a range of key skills that will equip them with the necessary transferable skills for lifelong learning, employability and flexibility in the context of changing labour markets*

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 theory and practice of Petroleum Engineering	<i>lectures, tutorials, laboratory work</i>	<i>exams, tests, laboratory reports</i>
A2	The critique of the theory and practice in Petroleum Engineering	<i>lectures, tutorials</i>	<i>exams, coursework</i>
A3	Accurately established techniques of analysis and enquiry within a discipline and their deployment through the use and relevance of appropriate software	<i>lectures, tutorials</i>	<i>coursework, presentation</i>

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

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
B1	Find appropriate data and synthesize this to produce a critical piece of work by applying analytical and other problem-solving techniques and use a holistic approach in solving problems	<i>lectures, tutorials, laboratory work</i>	<i>exams, coursework</i>
B2	Critically evaluate arguments/assumptions/abstract concepts and/or data to make judgements and Develop critical skills with regard to literature searching, appraising and evaluating from a variety of sources and synthesising the results	<i>lectures, tutorials, laboratory work group work</i>	<i>exams, coursework, presentation, laboratory report</i>
B3	Develop an awareness of the effects upon society of technological developments and develop a proper sense of professional conduct in relation to society's use of technology	<i>lectures, seminars</i>	<i>coursework, presentation</i>
B4	Plan, execute and report on laboratory experiments and final year projects	<i>lectures, laboratory work</i>	<i>coursework, presentation</i>

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

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
C1	Problem solve, with the ability to apply practical skills and techniques in an appropriate industry context	<i>lectures, tutorials, laboratory work, group work</i>	<i>coursework, laboratory report, presentation</i>
C2	Analyse a realistic problem and develop creative solutions through mathematically modelling real engineering situations effectively and think creatively in order to develop design and sustainable analytical solutions	<i>lectures, tutorials</i>	<i>exams, coursework</i>
C3	Communicate technical information in a lucid manner to both management and technical staff	<i>lectures, laboratory work, group work</i>	<i>coursework, laboratory report, presentation</i>
C4	Be cost and value-conscious, and aware of the social, cultural, environmental, health and safety, and wider professional responsibilities they should display	<i>lectures, tutorials, laboratory work, group work</i>	<i>coursework, laboratory report, presentation</i>

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

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
D1	be global citizens with an awareness of how issues of ethics, sustainability and responsibility affect professional practice.	<i>lectures, tutorials</i>	<i>coursework, laboratory report, presentation</i>
D2	read and understand documents related to engineering and software products and systems and use information	<i>lectures, tutorials, laboratory work, group work</i>	<i>coursework, laboratory report, presentation</i>

	technology to handle data, for simulation and to assist with design and testing		
D3	apply mathematical techniques in engineering design and professional practice and assess problem domains and formulate appropriate problem solving strategies	<i>lectures, tutorials, laboratory work, group work</i>	<i>exams, coursework</i>
D4	work in teams to achieve goals but nevertheless be distinctively individual; demonstrate productive capability in the placement setting where this is applicable	<i>tutorials, laboratory work, group work</i>	<i>coursework, laboratory report, presentation</i>

Academic Regulations

The current University of Portsmouth [Academic Regulations](#) will apply to this course. However, this course is accredited by the EI and some deviations from the regulations may apply.

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.

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 Strategy](#)
- [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 Engineering](#)
- [Quality Assurance Agency Framework for Higher Education Qualifications](#)
- Requirements of Professional and/or Statutory Regulatory Bodies: **The Energy Institute**
- 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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Document details

Author	<i>Dr Jebraeel Gholinezhad</i>
Date of production and version number	<i>July 2020</i>
Date of update and version number	<i>August 2021</i>
Minimum student registration numbers	<i>15</i>