



UNIVERSITY OF  
PORTSMOUTH

## **COURSE SPECIFICATION**

### ***MEng (Honours) Petroleum Engineering***

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

**March 2018**

#### **Copyright**

The contents of this document are the copyright of the University of Portsmouth and all rights are reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, such as electronic, mechanical, photocopied, recorded or otherwise, without the prior consent of the University of Portsmouth.

# COURSE SPECIFICATION

Please refer to the [Course Specification Guidance Notes](#) for guidance on completing this document.

<b>Course Title</b>	<b>MEng (Honours) Petroleum Engineering</b>
Final Award	<i>MEng</i> <b>Petroleum Engineering</b>
Exit Awards	<i>CertHE</i> <b>Petroleum Engineering</b> <i>DipHE</i> <b>Petroleum Engineering</b> <i>BEng (Hons)</i> <b>Petroleum Engineering</b>
Course Code / UCAS code (if applicable)	UCAS HH85 C2661S
Mode of study	<i>full time Only</i>
Mode of delivery	<i>Campus, Learning</i>
Normal length of course	<i>4 years, 5 years with placement</i>
Cohort(s) to which this course specification applies	<i>from September 2019 intake onwards</i>
Awarding Body	<i>University of Portsmouth</i>
Teaching Institution	<i>University of Portsmouth</i>
Faculty	<i>Faculty Technology</i>
School/Department/Subject Group	<i>School of Engineering</i>
School/Department/Subject Group webpage	<a href="http://www.port.ac.uk/school-of-engineering/">http://www.port.ac.uk/school-of-engineering/</a>
Course webpage including entry criteria	<a href="http://www.port.ac.uk/courses/engineering/meng-petroleum-engineering/">http://www.port.ac.uk/courses/engineering/meng-petroleum-engineering/</a>
Professional and/or Statutory Regulatory Body accreditations	Energy Institute <a href="https://careers.energyinst.org/courses">https://careers.energyinst.org/courses</a>
<a href="#">Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level</a>	<i>Level 4,5, 6 and 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 [Module Web Search](#) for further information on the course structure and modules.

## Educational aims of the course

The [Course Specification Guidance Notes](#) include advice on what to include in this section.

*The course aims to equip students to work as professional Petroleum Engineers, bringing together the major aspects of Petroleum Engineering (geology and the earth science, oil exploration and extraction, reservoir engineering, drilling engineering, petroleum refinery operations, petroleum reservoir fluid properties and thermodynamics, petroleum production engineering, petroleum reservoir and reservoir simulation, formation evaluation-well logging, with an elective in languages or refinery). The course reflects industry requirements very strongly, and also reflects the BEng (Hons) 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 thorough understanding of the underpinning engineering of science and mathematics essential for developing a career as a Chartered Engineer*
- Develop competence in engineering design and a comprehensive understanding of engineering analysis with the ability to apply engineering principles to a wide range of applications and to seek optimised technical solutions within identified constraints*
- Appreciate and understand the economic, social and environmental context in which a petroleum engineer will work provided within a framework which academic knowledge and understanding is integrated with vocational skills and competency to achieve sustainable engineering solutions for future prosperity and quality of life*
- Gain experience of engineering practice through work in the laboratories, fieldwork and individual and group projects to develop a comprehensive understanding of techniques applicable to research methodologies and laboratory studies through an accessible, flexible and coherent programme in which word oriented learning is an integral part*
- have the opportunity to gain experience and skills relevant to employment (or further study) within petroleum engineering sector as well as the wider engineering discipline by choosing relevant work placement (optional) sandwich year).*
- can experience a challenging, stimulating and rewarding study environment and to nurture life-long learning interest and skills where MEng students can develop technical and management abilities*
- Choose from a targeted range of options to allow them to pursue fields of particular interest.*
- Develop a range of key skills that will equip them with the necessary transferable skills for where possible to enable some choice to foster personal interests in specialist areas of analysis*

## 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 through relevant and appropriate mathematics and applied science for engineering calculations, including their limitations and the use and relevance of appropriate software in analysing and optimising technical, business and project management studies	<i>lectures, tutorials, laboratory work</i>	<i>exams, tests, laboratory reports</i>
A2	The critique of the theory and practice in Petroleum Engineering throughout the different stages of the discipline in order to apply it appropriately in developing optimised solutions	<i>lectures, tutorials</i>	<i>exams, coursework</i>
A3	The use and relevance of appropriate software in analysing and optimising technical, business and project management studies. and the importance of ethics and impact on the environment; business, commerce and marketing and the significance of engineering in society and in the social context of creating economy and quality of life	<i>lectures, tutorials</i>	<i>coursework, presentation</i>

*Add additional rows as required.*

**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 apply analytical and other problem-solving techniques and use a holistic approach in solving problems by applying judgement to criteria including risk, cost, safety and the environment and apply concepts in unfamiliar situations	<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 and appreciate the international dimension to engineering, commerce and communication	<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 individual project at level 6 and the group projects at Level 7 through structured written reports, poster displays and presentations individually and as part of a team	<i>lectures, laboratory work</i>	<i>coursework, presentation</i>

*Add additional rows as required.*

**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 Be rational and pragmatic, interested in the practical steps necessary for a concept to become reality and to be able to evaluate critically current research and advanced scholarship	<i>lectures, tutorials, laboratory work, group work</i>	<i>coursework, laboratory report, presentation</i>
C2	Mathematically model real engineering situations effectively and think creatively in order to develop design and sustainable analytical solutions and be able to make sound judgements in the absence of complete data	<i>lectures, tutorials</i>	<i>exams, coursework</i>
C3	Communicate technical information in a lucid manner to both management and technical staff and to be able to work in groups/teams, appreciate different roles within a team and to gain the ability to exercise leadership	<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>

*Add additional rows as required.*

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

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
D1	Be aware of how issues of ethics, sustainability and responsibility affect professional practice. with skills to communicate effectively in writing, speaking and in appropriate forms of presentation	<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 technology to handle data, for simulation and to assist with design and testing	<i>lectures, tutorials, laboratory work, group work</i>	<i>coursework, laboratory report, presentation</i>
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>

*Add additional rows as required.*

## Academic Regulations

The current University of Portsmouth [Academic 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.
- an Active international society of Petroleum Engineering Chapter with free memberships to all students who sign up to this

## 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:

*Insert additional reference points or delete as required*

- [University of Portsmouth Curriculum Framework Specification](#)
- [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: **add name(s) of PSRB(s)**
- 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.

## Copyright

The contents of this Course Specification are the copyright of the University of Portsmouth and all rights are reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, such as electronic, mechanical, photocopied, recorded or otherwise, without the prior consent of the University of Portsmouth.

## Document details

Author	<i>Mohamed G Hassan</i>
Date of production and version number	<i>April 2018V1</i>
Date of update and version number	
Minimum student registration numbers	15