



UNIVERSITY OF  
PORTSMOUTH

## COURSE SPECIFICATION

### *BEng (Hons) Innovation Engineering*

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

**November 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><i>Innovation Engineering</i></b>
Final Award	<i>BEng (Hons) Innovation Engineering</i>
Exit Awards	<i>CertHE Innovation Engineering</i> <i>DipHE Innovation Engineering</i>
Course Code / UCAS code (if applicable)	<i>C2638S</i>
Mode of study	<i>full time</i>
Mode of delivery	<i>Campus</i>
Normal length of course	<i>3 years, 4 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 of Technology</i>
School/Department/Subject Group	<i>School of Mechanical and Design Engineering</i>
School/Department/Subject Group webpage	
Course webpage including entry criteria	<i><a href="http://www.port.ac.uk/courses/engineering/beng-hons-innovation-engineering/">http://www.port.ac.uk/courses/engineering/beng-hons-innovation-engineering/</a></i>
Professional and/or Statutory Regulatory Body accreditations	<i>Institution of Engineering and Technology (pending)</i>
<a href="#">Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level</a>	<i>Level 6</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

*This course is intended to provide students with an opportunity to gain knowledge and skills and to acquire a deeper understanding of recent advances in mechanical, electronic, design and materials engineering. The course will also prepare students for independent research activities where they will be required to conceptualise, design and implement projects and generate significant new knowledge and understanding. This will be achieved by developing the students understanding of systematic approach to tackling complex issues through the application of their knowledge and problem solving techniques. To facilitate this process the scholarship and expertise of members of academic staff will be utilised to provide a current research-informed teaching environment. The course will also develop employment skills, such as sound ethical judgement, personal responsibility and initiative, as well as entrepreneurship and business acumen.*

- *To provide a challenging learning environment informed by current research and state-of-art techniques*
- *To develop students' critical, analytical and entrepreneurial skills necessary for a career in engineering*
- *To develop an in-depth understanding of mechanical, electronic, design and materials engineering themes and being able to synthesise these into novel innovative ideas*
- *To develop an in-depth understanding of how engineering principles and technologies can be applied to real-world problems*
- *To equips students with skills and knowledge to identify and tackle global challenges through development of innovative solutions*
- *To produce graduates with the abilities to work as an independent engineer and innovative entrepreneur*
- *To equip students with the necessary transferable skills for lifelong learning, employability and to maximise career and postgraduate study 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	<i>The mathematical and IT knowledge and skills required for the study of engineering</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>in-class tests, coursework, presentation</i>
A2	<i>The context and technical basis of innovation engineering, including ethical, environmental, legal and business aspects</i>	<i>lectures, seminars, group work</i>	<i>coursework, presentation</i>
A3	<i>The principles and methodologies of electronics, robotics and data analysis involved in modern technology</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>in-class tests, coursework, presentation</i>
A4	<i>Research methodology and selected advanced techniques for engineering analysis and measurement</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>portfolio, coursework, presentation</i>

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

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
B1	<i>Critically evaluate data, literature and experimental methods</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>coursework, presentation</i>
B2	<i>Synthesize and plan a (novel) piece of research</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>coursework, presentation</i>
B3	<i>Critically discuss the current state of developments in robotics and data analysis</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>coursework, presentation</i>
B4	<i>Analyse and creatively solve complex problems relating to engineering and technology including global environmental challenges</i>	<i>lectures, tutorials, laboratory work, simulations, group 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	<i>Apply critical analysis skills to novel situations</i>	<i>lectures, tutorials, laboratory work, simulations, group work</i>	<i>coursework, presentation</i>
C2	<i>Interpret complex (electronic) experimental data</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>coursework, presentation</i>
C3	<i>Perform a variety of research methods and synthesize data from these to evaluate and implement research task, including final year project</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>coursework, presentation</i>
C4	<i>Demonstrate appropriate practical skills to conduct measurements and/or data analysis in a safe, accurate and precise manner</i>	<i>lectures, tutorials, laboratory work, simulations</i>	<i>coursework, presentation</i>

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

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
D1	<i>Develop independent thought and ability to solve complex problems and cultivate entrepreneurial</i>	<i>lectures, tutorials,</i>	<i>coursework, presentation</i>

	<i>acumen and identify business and innovation opportunities</i>	<i>seminars, laboratory work, group work</i>	
D2	<i>Illustrate competence in the use of IT and specialist equipment and software and identify and appropriate resources to enable the successful completion of a complex task</i>	<i>lectures, tutorials, laboratory work, simulations, group work</i>	<i>coursework, presentation</i>
D3	<i>Successfully communicate scientific information in both written and oral forms to technical and non-technical audiences and identify team roles and exercise initiative and personal responsibility, either as team member or leader</i>	<i>lectures, tutorials, laboratory work, simulations, group work</i>	<i>coursework, presentation</i>

## 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.

In addition to these University support services this course also provides specialist laboratory facilities, support prior to, during and following the placement through Student Placement and Employability Centre (SPEC), including visit and advice from placement tutor, and learning resources that will be available to students whilst off-campus.

## 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 **Engineering**
- [Quality Assurance Agency Framework for Higher Education Qualifications](#)
- Requirements of Professional and/or Statutory Regulatory Bodies: **Institution for Engineering and Technology**
- 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>Dr Jovana Radulovic</i>
Date of production and version number	<i>21 April 2018 v1</i>
Date of update and version number	<i>1 November 2018 v2</i>
Minimum student registration numbers	20