



**UNIVERSITY OF  
PORTSMOUTH**

## **COURSE SPECIFICATION**

### ***BENG (HONS) MECHANICAL SYSTEMS ENGINEERING (Top-Up)***

# COURSE SPECIFICATION

Course Title	<i>BEng (Hons) Mechanical Systems Engineering (Top-Up)</i>
Final Award	<i>BEng (Hons)</i>
Exit Awards	<i>Ordinary Degree MECHANICAL SYSTEMS ENGINEERING</i>
Course Code / UCAS code (if applicable)	U3738FTC/PTC
Mode of study	<i>Full time</i>
Mode of delivery	<i>Campus</i>
Normal length of course	<b>13 Months</b>
Cohort(s) to which this course specification applies	<i>September 2025 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 Electrical and Mechanical Engineering</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-technology/school-of-electrical-and-mechanical-engineering">https://www.port.ac.uk/about-us/structure-and-governance/organisational-structure/our-academic-structure/faculty-of-technology/school-of-electrical-and-mechanical-engineering</a>
Course webpage including entry criteria	<a href="https://www.port.ac.uk/study/courses/undergraduate/beng-hons-mechanical-systems-engineering-top-up">https://www.port.ac.uk/study/courses/undergraduate/beng-hons-mechanical-systems-engineering-top-up</a>
Professional and/or Statutory Regulatory Body accreditations	<i>None</i>
<a href="#">Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level</a>	FHEQ Level 6

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 mechanical and manufacturing systems engineers by building on an existing Foundation Degree (FD) / HND or equivalent qualifications appropriate to mechanical and manufacturing engineering. It will provide graduates with the necessary technical and transferable skills for lifelong learning, employability and flexibility in the context of the changing labour markets of the manufacturing industry including the skills related to the use of the latest versions of modern industrial-standard CAD/CAM systems. The course also aims to offer a flexible and coherent programme of study, where students may achieve a BEng (Hons) award by obtaining 120 credits of study at level 6; the course should not normally take longer than 10 to 24 months years, although students occasionally require a longer period, depending on their personal circumstances.

The core elements of the QAA engineering benchmark and AHEP4 in the context of this course are:

### **Science and Mathematics (SM)**

Mathematical methods appropriate to mechanical design, with particular references to the techniques required in advanced modelling, manufacturing systems, and supply chain management.

### **Engineering Analysis (EA)**

The application of mathematical and scientific principles underlying the solution of practical problems in mechanical design, including the principles governing: manufacturing systems; mechanical modelling; and advanced and modern materials.

### **Design and Innovation (DI)**

The principles and practice of the design of mechanical systems and, the use of materials including computer-aided simulation and design using such software tools as CAD/CAM, Matlab®.

### **The Engineer and Society (ES)**

Business and management practices in industry with a particular focus on project management, supply chain management and quality management. Sustainability and environmental considerations.

### **Engineering Practice (EP)**

Solution to engineering problems to meet specified technical requirements as well as time and resource constraints. Project management methods, including planning, monitoring, control, and reporting.

It should be noted however that this course is not accredited by any UK Professional Engineering Institute such as the Institution of Engineering Technology (IET) or the Institution of Mechanical Engineers (IMechE). Accreditation may be sought in future.

## **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.

<b>A. Knowledge and understanding of:</b>			
<b>LO number</b>	<b>Learning outcome</b>	<b>Learning and Teaching methods</b>	<b>Assessment methods</b>
A1	<i>Relevant mathematics and applied science for engineering calculations.</i>	<i>Lectures, Tutorials, Laboratory work.</i>	<i>Exams, Tests, Laboratory reports.</i>
A2	<i>Application of the design process, selection of materials and the manufacturing process appropriate to the application.</i>	<i>Lectures, Tutorials.</i>	<i>Exams, Coursework.</i>
A3	<i>The use and relevance of appropriate software.</i>	<i>Lectures, Tutorials.</i>	<i>Coursework, Presentation.</i>
A4	<i>The importance of ethics and impact on the environment; business, commerce and marketing and the significance of mechanical engineering in society.</i>	<i>Lectures, Seminars.</i>	<i>Coursework, Presentation.</i>

<b>B. Cognitive (Intellectual or Thinking) skills, able to:</b>			
<b>LO number</b>	<b>Learning outcome</b>	<b>Learning and Teaching methods</b>	<b>Assessment methods</b>
B1	<i>Apply analytical and other problem-solving techniques to develop innovative solutions and use a holistic approach in solving problems, by applying judgement to criteria including risk, cost, safety and the environment.</i>	<i>Lectures, Tutorials, Laboratory work.</i>	<i>Exams, Coursework.</i>
B2	<i>Develop critical skills with regard to literature searching, appraising and evaluating from a variety of sources and synthesising the results.</i>	<i>Lectures, Tutorials, Laboratory work, Group work.</i>	<i>Exams, Coursework, Presentation, Laboratory report.</i>
B3	<i>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>	<i>Lectures, Seminars.</i>	<i>Coursework, Presentation.</i>
B4	<i>Plan, execute and report on laboratory experiments and final year projects.</i>	<i>Lectures, Laboratory work.</i>	<i>Coursework, Presentation.</i>

<b>C. Practical (Professional or Subject) skills, able to:</b>			
<b>LO number</b>	<b>Learning outcome</b>	<b>Learning and Teaching methods</b>	<b>Assessment methods</b>
C1	<i>Be rational and pragmatic, interested in the practical steps necessary for a concept to become reality.</i>	<i>Lectures, Tutorials, Laboratory work, Group work.</i>	<i>Coursework, Laboratory report, Presentation.</i>
C2	<i>Mathematically model real engineering situations effectively and think creatively in order to develop design and sustainable analytical solutions.</i>	<i>Lectures, Tutorials</i>	<i>Exams, Coursework.</i>
C3	<i>Communicate technical information in a lucid manner to both management and technical staff.</i>	<i>Lectures, Laboratory work, Group work.</i>	<i>Coursework, Laboratory report, Presentation.</i>
C4	<i>Be cost and value-conscious, and aware of the social, cultural, environmental, health and safety, and wider professional responsibilities they should display.</i>	<i>Lectures, Tutorials, Laboratory work, Group work.</i>	<i>Coursework, Laboratory report, Presentation.</i>

<b>D. Transferrable (Graduate and Employability) skills, able to:</b>			
<b>LO number</b>	<b>Learning outcome</b>	<b>Learning and Teaching methods</b>	<b>Assessment methods</b>
D1	<i>Communicate effectively in writing, speaking and in appropriate forms of presentation.</i>	<i>Lectures, Tutorials.</i>	<i>Coursework, Laboratory report, Presentation.</i>
D2	<i>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>	<i>Lectures, Tutorials, Laboratory work, Group work.</i>	<i>Coursework, Laboratory report, Presentation.</i>
D3	<i>Apply mathematical techniques in engineering design and professional practice, assess problem domains and formulate appropriate problem-solving strategies.</i>	<i>Lectures, Tutorials, Laboratory work, Group work.</i>	<i>Exams, Coursework.</i>
D4	<i>Work in teams to achieve goals but nevertheless be distinctively individual; demonstrate productive capability in the placement setting where this is applicable.</i>	<i>Tutorials, Laboratory work, Group work</i>	<i>Coursework, Laboratory report, Presentation.</i>

## Academic Regulations

The current University of Portsmouth [Academic Regulations: Examination & Assessment Regulations](#) will apply to this course. Approved course exemptions can be found [here](#).

## 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 and academic support through student-run drop-in sessions.

## 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 Vision](#)
- [Office for Students Conditions of Registration](#)
- [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**
- Higher Education Qualifications Requirements of Professional and/or Statutory Regulatory Bodies:  
**N/A**
- Vocational and professional experience, scholarship and research expertise of the University of Portsmouth's academic members of staff
- National Occupational Standards

### **Changes to your course/modules**

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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