COURSE SPECIFICATION

BEng (Hons) Electrical Power Engineering

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Course Title	*BEng (Hons) Electrical Power Engineering*
Final Award	*BEng (Hons)*
Exit Awards	*CertHE, DipHE*
Course Code / UCAS code (if applicable)	U3568PYC
Mode of study	*Full time*
Mode of delivery	*Campus*
Normal length of course	*3 years, 4 years with placement*
Cohort(s) to which this course specification applies	*from September 2025 intake onwards*
Awarding Body	*University of Portsmouth*
Teaching Institution	*University of Portsmouth*
Faculty	*Faculty of Technology*
School/Department/Subject Group	*School of Energy and Electronic Engineering*
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*
Course webpage including entry criteria	*https://www.port.ac.uk/study/courses/undergraduate/beng-hons-electrical-power-engineering*
Professional and/or Statutory Regulatory Body accreditations	
Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level	*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

This course aims to equip students with the skills necessary to succeed in the future power grid. As an advanced industrialised nation heavily reliant on a stable and secure power supply, the UK recognises the pivotal role of Electrical Power Technology in sustaining its economy, national security, and overall quality of life. Students in this course will acquire the knowledge, skills and behaviour required by professional Electrical Power Engineers.

On this course, students will examine the theory, design of Electrical systems and take modules covering various aspects of Energy Systems, Electrical Machines and Transformers, Control Systems, Power Electronics and Converter, Wind Energy and Innovation and Enterprise They will get hands on experience with sophisticated facilities and put their skills to work in practice.

Within the course, students will also gain access to:

- *Hands-on projects that have practical applications and relevance to students' lives. For instance, students can work with prototype domestic electricity generation and storage systems.*
- *Guest speakers from the energy generation and distribution industry (including the main utility companies) to share their experiences, showcase innovative projects, and discuss the latest advancements.*
- *Field trips to energy companies, local renewable energy installations, or energy distribution and management facilities where students can witness electrical power technologies in action.*
- *Research-informed projects and learning activities introducing students to the latest research and innovation developments in the electrical power and renewable energy fields that are carried out by academics teaching on the course. In addition to stimulating students' intellectual curiosity and giving a more in-depth insight into the subject, this can also encourage students to consider progressing to our Masters courses.*

The course combines technical expertise, societal impact, and the potential for innovation, making it an attractive career choice. Some potential sectors where these professionals can work include Power Generation and Distribution, Renewable Energy, Electric Vehicle (EV) Industry, Manufacturing and Electronics Consulting Firms, Research and Development, Construction and Building Services, Telecommunications, Aerospace and Defence, Academia and Education, and Energy Management.

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	*A comprehensive understanding of the electrical power system including aspects of transmission, distribution, generation, power electronics, smart grid technology, control systems and renewables.*	*Lectures, tutorials, seminars, laboratory work, group work and simulations.*	*Examinations, coursework, practical assessments, project reports.*
A2	*A comprehensive understanding of analogue and digital systems, control systems, and electrical circuit theory.*	*Lectures, tutorials, laboratory work, group work and simulations.*	*Examinations, coursework, practical assessments.*
A3	*An understanding of engineering science and its application.*	*Lectures, tutorials, group work and simulations.*	*Examinations, coursework, project reports.*
A4	*Aspects of engineering management, innovation and enterprise.*	*Lectures, laboratory work, group work and simulations.*	*Examinations, coursework, project reports.*
A5	*Appropriate mathematical methods relevant to their use in power systems and electrical engineering.*	*Lectures, tutorials, laboratory activities, simulation*	*Coursework, Exam*
A6	*The role of computing and simulation in the solution of problems, including hardware description languages.*	*laboratory activities*	*Coursework, report*
A7	*Practical design of electronic, electrical and software systems.*	*Lectures, tutorials, laboratory activities*	*Coursework, exam*
A8	*The business context of engineering: commercial, legal, contractual and statutory frameworks.*	*Lectures*	*Examinations, coursework*
A9	*Professional and ethical responsibility.*	*Lectures, seminars, laboratory work, group work and simulations.*	*Coursework, project reports*

B. Cognitive (Intellectual or Thinking) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
B1	*Select, acquire and apply appropriate knowledge of communications, **electrical,** electronic, software, computer and principles to model and analyse systems.*	*Lectures, seminars, laboratory work, group work and simulations.*	*Examinations, coursework, practical assessments, project reports.*
B2	*Select and apply appropriate mathematical methods to model, analyse, plan or program **electrical** systems.*	*Lectures, tutorials, laboratory activities, simulation*	*Examinations, coursework, report.*
B3	*Select and apply computer-based design and simulation techniques.*	*Lectures, tutorials, laboratory activities, simulation*	*Coursework, exam, report*
B4	*Design, build and test systems and subsystems to meet specified sometimes conflicting requirements.*	*Lectures, tutorials, laboratory activities, simulation*	*Coursework, report*
B5	*Assess **electrical,** electronic, software and computer systems from commercial and statutory viewpoints, including assessment of risks*	*Lectures, tutorials, laboratory, simulation*	*Coursework, report, presentation*
B6	*Solve problems in a systematic and manageable manner.*	*Lectures, tutorials, laboratory, simulation*	*Coursework, report, presentation*

C. Practical (Professional or Subject) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
C1	*Use standard and specialist laboratory instruments, conduct experiments and report on them.*	*Lectures, laboratory activities, simulation*	*Laboratory, Coursework, report*
C2	*Use computer-based simulation, design and software development tools.*	*Lectures, laboratory activities, simulation*	*Laboratory, Coursework, report*
C3	*Design, construct, test and evaluate **electrical and** electronic circuits and computer systems.*	*Lectures, laboratory activities*	*Laboratory, Coursework, report*
C4	*Search a range of sources for information pertinent to technical and professional tasks.*	*Lectures, laboratory activities, simulation*	*Laboratory, Coursework, report*
C5	*Plan, manage and undertake a range of engineering projects, taking into account constraints.*	*Lectures, laboratory activities*	*Coursework, report*

D. Transferrable (Graduate and Employability) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
D1	*Manipulate and present information.*	*Lectures, group work*	*Laboratory, Coursework, presentation, report*
D2	*Analyse scientific and technical information in the solution of problems.*	*Lectures, laboratory activities, group work*	*Coursework, presentation, report*
D3	*Use information technology to handle text and data and for simulation and design.*	*Lectures, laboratory activities*	*Exam, Coursework, presentation*
D4	*Develop solutions in a creative manner, sometimes based on inadequate information.*	*Lectures, laboratory activities*	*Exam, Coursework, presentation*
D5	*Communicate effectively in a variety of formats.*	*Lectures, laboratory activities*	*Coursework, presentation, report*
D6	*Work effectively as an individual and as part of a team to achieve goals.*	*laboratory activities, group work*	*Coursework, presentation, report*

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…

· Extensive induction programme introduces students to the University and their course.

· Each student has a personal tutor, responsible for pastoral support and guidance.

· Industrial placement tutors

· Subject lecturers offer drop-in tutorial sessions every week for students to seek further support and guidance with their work.

· The School offers excellent experimental up-to-date facilities that are also available to students for extracurricular activities. These include:

- The Power Engineering Laboratory
- The Energy Engineering Laboratory
- The Digital Electronics and Microprocessor Laboratory
- The Analogue Electronics Laboratory
- The Control Engineering Laboratory
- The Telecommunications and Digital Signal Processing Laboratory
- The Computer Suites (Linux and Windows)

· The School offers student-led surgeries in the areas of electronics and computing.

· The School has an Industrial Liaison Officer whose particular role is to maintain contact with employers, although most staff maintain good industrial and research links.

· The Faculty Student Placement and Employability Centre (SPEC) office offers a wide range of guidance and support to students to enable them to secure placements.

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**
- Quality Assurance Agency Framework for Higher Education Qualifications
- Requirements of Professional and/or Statutory Regulatory Bodies: **NA**
- 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.

Document Details	
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