COURSE SPECIFICATION

BENG (HONS) ELECTRONIC ENGINEERING (TOP-UP) (DA)

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Course Title	BEng (Hons) Electronic Engineering (Top-Up) (DA)
Final Award	BEng (Hons)
Exit Awards	N/A
Course Code / UCAS code (if applicable)	U3634PDC
Mode of study	Part Time
Mode of delivery	Campus
Normal length of course	1 Year
Cohort(s) to which this course specification applies	September 2024 onwards
Awarding Body	University of Portsmouth
Teaching Institution	University of Portsmouth
Faculty	Faculty of Technology
School/Department/Subject Group	School of Electrical and Mechanical 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-electrical-and-mechanical-engineering*
Course webpage including entry criteria	https://www.port.ac.uk/study/courses/beng-hons-electronic-engineering-top-up-degree-apprenticeship
Professional and/or Statutory Regulatory Body accreditations	Institution of Engineering and Technology
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

Electronic engineering has been the key to past advances in technology – from computers, Blu-ray recorders and games consoles to engine management systems, smart phones, satellite navigation systems, tablets and TV – and will continue to be so in the future.

This top-up degree will enable candidates with HNDs and Foundation Degrees to enhance their qualifications, knowledge and skills to degree standard. Coupled with the work experience gained from their employment, candidates potentially will be in a great position to obtain their professional Engineering status.

Candidates on this top-up degree will only study level 6 modules alongside the on-campus students. The top-up year of this degree apprenticeship covers advanced electronic systems, real time embedded systems, digital signal processing and VHDL and FPGA systems. These engineering topics are taught in a practical and exciting way. The School's laboratories and computing suites and the new Future Technology Centre will support learning and provide access to industry-standard design tools. In addition to the taught modules, candidates will also have the opportunity to carry out an individual project on a specific in-depth task related to their employment which could be undertaken in their place of work.

Upon graduation as an electronic engineer, there are employment opportunities in areas as diverse as consumer and professional electronics, robotics, defence, broadcasting and telecommunications. The problem-solving and analytical abilities of electronic engineers also make them very attractive to financial and commercial organisations.

This is a one-year; mainly day-release teaching mode degree apprenticeship that utilises the modules and basic structure of the existing BEng (Hons) Electronic Engineering degree. It will be the academic component of the degree apprenticeship standard, Embedded Electronic Systems Design and Development Engineering. The course consists of a mix of lectures, seminars, experimental work and design projects. It makes extensive use of the School's computer suites and electronics laboratories. Whilst the majority of the modules have a focus on electronic engineering and related technologies, the individual project mainly focuses on product design, ethics and environmental responsibility in a commercial context.

The course consists of 80-credit taught modules in addition to a year-long, 40-credit, individual project, which will be carried out in industry at the apprentices' places of work.
The course is highly career-focused, owing to its technical content, industry focus and opportunities to develop analytical and design skills. Practical work involves the use of hardware and software systems that are widely used in industry and; therefore; this complements and consolidates the work the candidates engaged in during their employment. The content of the course is periodically discussed with the School's Industrial Advisory Board and candidates' employers. The business concepts are mainly gained through the apprentices' employment.

This course is only available to apprentices who are in full-time employment and fully supported by their employers. The apprentices will largely be already employed individuals whose companies have decided to give them the opportunity to enhance their experience and qualifications. They are expected to continue with their employment and/or get promoted to a higher position within their current employer or elsewhere.

This course is mainly based on an IET accredited course and shares some of the level 6 modules of the accredited programme. This course is accredited by the Institution of Engineering and Technology (IET)

and meets the full educational requirements for IEng status and partially meets the educational requirements for CEng status.

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	Analogue and digital electronics, microcontrollers, Digital Signal Processing DSP, real-time embedded systems and Very High-Speed integrated circuit hardware description language VHDL & Field Programme Gate Array FPGA systems	Lectures, seminars, laboratory work and group work	Exams, coursework and tests
A2	Appropriate mathematical methods	Lectures, tutorials, seminars, and laboratory work	Exams, coursework and tests
A3	The role of computing and simulation in the solution of problems, including hardware description languages	Lectures, tutorials, seminars, and laboratory work	
A4	The need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct	Project	Project report

B. Cognitive (Intellectual or Thinking) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
B1	Select and apply appropriate knowledge of electronic principles and mathematical methods to model and analyse systems	Lectures, tutorials, seminars, and laboratory work	Exams and coursework
B2	Select and apply computer-based design and simulation techniques	Lectures and laboratory work	Coursework
B3	Design, build and test systems and subsystems to meet specified requirements	Lectures, tutorials, seminars, and laboratory work	Exams and coursework
B4	Solve problems in a systematic and manageable manner	Lectures, tutorials, seminars, and laboratory work	Exams and coursework

C. Practical (Professional or Subject) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
C1	Apply relevant practical and laboratory skills	Laboratory work	Coursework and project
C2	Be aware of relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues	Laboratory work, group work, project work and practical experience at work	Project report and End Point Assessment (EPA)
C3	Use standard and specialist laboratory instruments, conduct experiments and report on them. Search a range of sources for information pertinent to technical and professional tasks	Laboratory work, group work, project work and practical experience at work	Coursework and projects
C4	Design, construct, test and evaluate electronic systems	Lectures, tutorials, seminars, and laboratory work	Coursework and projects

D. Transferrable (Graduate and Employability) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
D1	Communicate their work to technical and non-technical audiences	Laboratory work	Project report and presentations at open days
D2	Work effectively as an individual and as part of a team to achieve goals	Laboratory work and individual project	Coursework, project report and demonstration
D3	Be proactive in recognising and addressing personal development needs, and able to make informed career decisions	Project work and practical experience at work	Project report and End Point Assessment
D4	Work with information that may be incomplete or uncertain and quantify the effect of this on the design	Laboratory work and individual project	Coursework, project report and demonstration

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.
- Project supervisors/reviewers
- Online subject support.
- The School offers excellent experimental up-to-date facilities that are also available to students for extracurricular activities. These include:
  - 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)

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: **The Institution of Engineering and Technology**

- 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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