

# Programme Specification for Undergraduate Programmes

Leading to:

## BEng Electronic Engineering



Applicable for all undergraduate students **starting at FHEQ Level 6 in 2021**

Version No.	Date	Notes – QA USE ONLY	AO
2021-22 v0.5	30 June 2021	Programme recommended by Design Review Panel to College Education Committee.	JP
2021-22 v0.6	27 July 2021	New programme and award approved by Senate (Chairman's action) on 23 July 2021. Programme to commence in September 2021.	JP
2021-22 v1.0	23 August 2021	Route code added.	JP

Undergraduate Programme	
1. Awarding institution	Brunel University London
2. Teaching institution(s)	Brunel University London
3. Home college/department/division	College of Engineering, Design and Physical Sciences/ Dept. of Electronic and Electrical Engineering
4. Contributing college/department/division /associated institution	College of Engineering, Design and Physical Sciences/ Dept. of Electronic and Electrical Engineering
5. Programme accredited by	
6. Final award(s) and FHEQ Level of Award	BEng (Honours) Electronic Engineering (FHEQ level 6)
7. Programme title	BEng Electronic Engineering (FHEQ level 6)
8. Programme type (Single honours/joint/major minor)	Single
9. Normal length of programme (in months) for each mode of study	12 months FT
10. Maximum period of registration for each mode of study	Normal length of programme (as defined above in 9) 1 year
11. Variation(s) to September start	None
12. Modes of study	Full-time
13. Modes of delivery	Standard
14. Intermediate awards and titles with FHEQ Level of Award	BEng (Ordinary) Electronic Engineering – FHEQ Level 6 BEng Engineering (Electronic) - FHEQ Level 6
15. UCAS Code	H600 (Full time)
16. JACS / HECoS Code	H600 / 100163
17. Route Code	M12DUELEENB6

18. Relevant subject benchmark statements and other external and internal reference points used to inform programme design	<a href="#">UK Quality Code for Higher Education</a> <a href="#">QAA Subject Benchmark Statement (Engineering)</a> <a href="#">IET accreditation policy and guidance</a> <a href="#">Brunel University London 2030</a> Useful Pdf links:- <a href="#">Engineering Benchmark Statement</a> Engineering Council “The Accreditation of Higher Education Programmes” - <a href="#">Framework for Higher Education Qualifications</a> <a href="#">Brunel's Programme Approval Policy</a>
19. Admission Requirements	Details of entry requirements are provided on the University's and College website.  Merit pass (or equivalent) for all modules at level 5 (including any bridging modules)
20. Other relevant information (e.g. study abroad, additional information on placements)	Students enter this level 6 top-up programme after completing their level 4 and level 5 outside Brunel. Currently, students are considered with Higher National Diploma (HND) qualifications from: 1) West London Institute of Technology (WIoT)
21.. Programme regulations not specified in Senate Regulation 2. Any departure from regulations specified in Senate Regulation 2 must be stated here and approved by Senate.	<b>No more than 20 credits of grade band E is allowable.</b>  To achieve a grade of D- or better in any module students must achieve a minimum grade of E- in assessment elements weighted 30% or above
22. Further information about the programme is available from the College website.	BEng Electronic Engineering

### 23. EDUCATIONAL AIMS OF THE PROGRAMME

BEng Electronic Engineering programme aims to produce graduates that are creative, knowledgeable, have perspective and are professional in their approach. This electronic engineering top-up degree is ideal for students qualified to Higher National Diploma (HND) level in the general area of electronic engineering and who want to further their educational development to degree level and beyond.

This programme will provide students with the opportunity to develop the knowledge, understanding, cognitive and technical skills to work and research in electronic engineering. The programme focuses on analogue and digital electronics, signal processing and emerging technologies in electronic engineering. Graduates will be able to design, integrate, and develop technological solutions for the generation of electronic engineering systems. The programme provides a coherent curriculum through which problem solving, professional development and transferable skills required to work in electronic engineering and related industries are developed.

## 24. PROGRAMME AND INTERMEDIATE LEARNING OUTCOMES

The programme provides opportunities for students to develop and demonstrate knowledge and understanding (K) cognitive (thinking) skills (C) and other skills and attributes (S) in the following areas:

Level	Category (K = knowledge & understanding, C = cognitive (thinking) skills, S = other skills and attributes)	Learning Outcome	Associated Assessment Blocks Code(s)	Associated Study Blocks Code(s)	Associated Modular Blocks Code(s)
4					
N/A					
5					
N/A					
6					
	K, C	Systematic understanding of engineering principles and a systems approach to engineering problems, and the ability to apply them to critically analyse key engineering processes, and to work with uncertainty.			EE3099, EE3049, EE3623, EE3052, EE3621,
	C	Ability to apply appropriate computational and analytical techniques to model complex problems in electronic engineering recognising limitations			EE3099, EE3622, EE3049, EE3623, EE3621,
	C	Ability to apply quantitative methods and/or computer software relevant to Electronic Engineering, in order to solve engineering problems with uncertainty.			EE3049, EE3622, EE3623, EE3621, EE3052
	K, S	Ability to undertake a design process taking into consideration a range of factors and an understanding of different needs, constraints and uncertainty.			EE3099, EE3621, EE3622
	K	Knowledge and understanding of the wider context of engineering processes and the need for a high level of professional and ethical conduct in engineering.			EE3099
	K, S	Specialist knowledge of characteristics of particular materials, equipment, engineering technologies and processes, or products and critical understanding of contexts in which engineering knowledge can be applied and the use of technical literature and other information sources			EE3099
	S	Demonstrate independence and competence in practical Engineering and time management skills.			EE3099
	S	Effectively communicate ideas and results in a major technical report and oral presentation			EE3099

**Learning/teaching strategies and methods** to enable learning outcomes to be achieved, including formative assessments

Modern teaching methodologies and technologies including virtual learning environments will be used to ensure maximum engagement from the students. Team learning exercises will provide students with training in communication skills and ability to work in teams as well as ability to hold a debate and justify choice of their design or solution to a set problem

The knowledge and understanding LOs will be achieved through lectures, seminars etc. The individual project aims to develop the students' abilities in a wide range of skills, including research, technical knowledge and understanding, project planning and management, and communication skills via the written report and progress review meetings and demonstrations.

Experienced engineers working in industry will deliver selected parts of the programme, ensuring students are exposed to the practicalities of the industry and understand more of the world of work. Students will also have the opportunity to work on industry-related projects at FHEQ L6.

The opportunity to think and work creatively will be given at level 6, particularly:

FHEQ L6: EE3099 Individual Project

**Summative assessment strategies and methods** to enable learning outcomes to be demonstrated.

The assessment strategy is developed to cover all needs and abilities of students and help them to achieve the programme learning outcomes, to make studying more interactive for the students and to help them to benefit from continued professional development.

Testing of knowledge and understanding is through a combination of unseen examinations and assessed coursework including laboratory reports, individual and group assignment reports and presentations, coursework portfolios and project reports and presentations. Skills are also assessed in written reports, coursework, assignments, presentations and examinations as well as the final year project.

## 25. Programme Structure, progression and award requirements

Programme structures and features: levels, assessment blocks, credit and progression and award requirements

- **Compulsory block:** one which all students registered for the award are required to take as part of their programme of study. These will be listed in the left-hand column;
- **Optional block:** one which students choose from an 'option range'. These will be listed in the right hand column;
- **A Core assessment** is an assessment identified within an assessment block or modular block (either compulsory or optional) which must be passed (at grade D- or better) in order to be eligible to progress and to be eligible for the final award. All core assessments must be specified on the programme specification next to the appropriate assessment or modular block:

Where students are expected to pass the block at D- or better, but not necessarily all elements, then the block itself is core.

e.g. AB3000 Project (40)

Core: Block

Where only some elements of assessments are required to be passed at D- or better, these will be identified by listing each element that is core

e.g. ABXXX1 Title (XX credits)

Core: 1 & 4

Where students are expected to pass all assessments in a block then this will be identified. By setting the assessment this way, students are also required to pass the block by default. This will be identified thus:

e.g. ABXXXX Title (XX credits)

Core: All, Block

- A **non-core assessment** does not have to be passed at grade D- or better, but must be better than a grade F, in order to progress and to be eligible for the final award.

<b>Foundation level</b>
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N/A

<b>FHEQ Level 4</b>	
<b>Compulsory study block codes, titles and credit volume</b>	<b>Optional Study block codes, titles and credit volume</b>
N/A	
<b>Level 4 Progression Requirements</b> N/A	

<b>FHEQ Level 5</b>	
<b>Compulsory study block codes, titles and credit volume</b>	<b>Optional Study block codes, titles and credit volume</b>
N/A	N/A
<b>Level 5 Progression Requirements</b> N/A	

<b>FHEQ Level 6</b>	
<b>Compulsory study block codes, titles and credit volume</b>	<b>Optional study block codes, titles and credit volume</b>
(All modules are 20 credits unless otherwise specified)  EE3099 Individual Project (40 credits) Core: Block EE3049 Advanced Electronics  Although EE3099 is a compulsory module, the project topic worked on is chosen by the student, subject to staff approval  <b>Please note: To achieve a D- grade or better in any module students must achieve a minimum grade of E- in assessment elements weighted 30% or above</b>	(All modules are 20 credits unless otherwise specified)  Students must select three.  EE3622 Artificial Intelligence Systems EE3040 Digital Communication Systems EE3623 Robotics and Control Systems EE3052 Multimedia Digital Signal Processing EE3621 Embedded Systems  <b>Please note: To achieve a D- grade or better in any module students must achieve a minimum grade of E- in assessment elements weighted 30% or above</b>
<b>Level 6 Progression and Award Requirements</b>  <a href="#"><u>As per Senate Regulation 2</u></a>  <b>NOTE: to achieve recognition of having completed an accredited degree, students must have a total of no more than 20 credits at grade band E, at this level, in their profile.</b>	
Please note: this specification provides a concise summary of the main features of the programme and the learning outcomes that a student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods can be found in the modular block, assessment and study block outlines and other programme and block information. The accuracy of the information contained in this document is reviewed by the University from time to time and whenever a modification occurs.	