Programme Specification

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she passes the programme. More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each unit can be found in the programme handbook. The accuracy of the information contained in this specification is reviewed annually by Activate Learning and may be checked by Pearson as the awarding body.

Higher National Certificate (HNC) Electrical and Electronic Engineering for England (HTQ)

Awarding Institution/Body	Pearson Education Ltd
Teaching Institution	Activate Learning
Faculty responsible for management of the programme	Construction and Engineering
Teaching site	Reading College
Mode of Delivery	Part-time (On-campus)
Final award	Higher National Certificate
Programme	Electrical and Electronic Engineering for England
UCAS Code	
Credits/ECTS Value	120 (60 ECTS)
Study level (FHEQ)	4
Date of creation/revision (for version control)	September 2023 (Version 1)
Intended start date of delivery	September 2024

1. Programme Aims

The HNC in Electrical and Electronic Engineering, delivered by Activate Learning at our Reading College and University Centre, is a new Higher Technical Qualification (HTQ) which has been developed in collaboration with employers, professional bodies, and higher education providers to develop students as professional, self-reflecting individuals able to meet the demands of employers in the engineering sector. The qualification aims to widen access to higher education and enhance the career prospects of those that undertake it.

The Level 4 HNC units provide a broad introduction to the engineering sector as well as a focused introduction to electrical and electronic engineering. This develops and strengthens core skills while preparing students for more specialist subjects at Level 5 or to enter employment with the qualities necessary for job roles that require some personal responsibility. Students will gain a wide range of scientific and engineering knowledge linked to practical skills obtained through research, independent study, directed study and workplace scenarios. Students are involved in vocational activities that help them to develop behaviours (attitudes and approaches) and transferable skills. Transferable skills are those such as communication, teamwork, research, and analysis, which are highly valued in higher education and in the workplace. By the end of Level 4 study, students will have sound knowledge of the basic concepts of electrical and electronic engineering. They will be competent in a range of subject-specific skills as well as in general skills and qualities relevant to these key areas of engineering.

2. Programme Objectives

The main objectives of the programme are to:

- equip students with the skills, knowledge and understanding they need to achieve high performance in the engineering and manufacturing environment.
- develop students with enquiring minds, who have the abilities and confidence to work across different engineering functions and to lead, manage, respond to change, and tackle a range of complex engineering situations.
- provide the core skills required for a range of careers in engineering, specifically those related to electrical and electronic engineering.
- offer a balance between employability skills and the knowledge essential for students with entrepreneurial, employment or academic ambitions.
- develop students' understanding of the major impact that new digital and software technologies have on the engineering environment.
- provide insight to electrical and electronic engineering operations and the opportunities and challenges presented by a global marketplace.
- equip students with knowledge and understanding of culturally diverse organisations, cross-cultural issues, diversity, and values.
- to allow flexible study to meet local and specialist needs.

Teaching and Learning Strategy

The teaching and learning strategy has been designed to support students to acquire the knowledge, skills, and attributes essential to be successful on the programme.

Teaching will be classroom based and is designed to be interactive, allowing students to adapt their learning to the approach that best suits their learning style and needs.

All students are provided with their programme resources via the Virtual Learning Environment (VLE), known as Activate Learning On-line (ALO). This system also facilitates the submission of assignments and receipt of grades and feedback enabling students to track their progress and is a key tool in providing students with access to a wide range of student services. The underpinning pedagogy of the programme allows students to experience tutor led teaching whilst also developing their ability to control their own learning and study.

The following learning and teaching interventions have been designed to enable students to achieve the learning outcomes:

Strategy	Content and Learning outcomes	Mode of experience
Lectures	These are the most common techniques used by tutors. They offer an opportunity to engage with a larger number of students, where the focus is on sharing knowledge using presentations. They are used to introduce each topic area, contextualising students' prereading and drawing out interesting points of academic interest in a practical, business context.	These may be experienced live, streamed online, with the facility to ask questions or prerecorded with an interactive question and answer session.
Seminars	These provide a forum for students to explore practice techniques and explore and apply theory to problems and case studies, developing their skills and	These are small group sessions timetables through ALO to discuss the unit topics

	deepening their knowledge in the process. They are often premised upon the flipped classroom approach, with students expected to have reviewed the lecture, done the reading, and prepared exercises in advance.	
Tutorial /Feedback sessions	These provide an opportunity for students to develop their individual learning through individual or small group contact with their lecturer. These sessions provide the opportunity for students to clarify issues arising from their reading / any of the above activities, as well as to seek guidance on how to develop and improve their skills. There is no formal teaching structure for these sessions. Students might use these to i) revisit topics covered in lectures, seminars or their own individual study. ii) ii) develop their understanding of topics covered in lectures and seminars iii) iii) obtain formative feedback on work or coursework assessments.	Students can book time during staff 'Office hours' using the calendar on ALO. These give students the opportunity to have individual time to discuss their progress and address any academic questions. They can choose to attend individually of in small groups depending on the topic under discussion
Workshops	These provide a forum for students to apply the knowledge and skills that they have developed in the context of practical sessions. External speakers may also contribute to workshops. The focus here is on the development of general transferable skills	These may be experienced live online, using appropriate technology.
One-to-one support	These provide the opportunity for students to discuss wider issues related to their learning as such, there is both a knowledge, skills, and welfare component to this support, albeit tailored to the specific needs of the individual students. These sessions are also available for specific HE study support	Students will have open access to their module tutor for advice by a range of communication methods (face to face, telephone, email, chat etc.). Again, these can be booked via the ALO calendar
Virtual Learning Environment (VLE). Activate learning Online (ALO	Our VLE, known as ALO, is invaluable. It is more than a repository for teaching material such as presentation slides or handouts. Further reading could also be located on ALO, along with a copy of the programme documents, such as the handbook and assessment timetable	ALO is used as the conduit for effective teaching and learning all delivery it is via the VLE and all formative and summative assessment is undertaken via ALO

Assessment Strategy

A variety of assessment methods are used on the programme. These are designed to be the most appropriate assessment methods for each of the units in question in terms of their learning outcomes. Assessments are designed to replicate the kind of activity students would be expected to undertake in the workplace wherever possible.

The following assessments may be employed:

- Written assignments.
- Individual presentations
- Group presentations.
- Group assessments
- Peer assessment.
- Portfolio assessment

This multi-dimensional approach has the benefit that as in work students can demonstrate their knowledge and skills via a range of different methods. During the programme students' written, oral and online communication skills will be tested along with their capacity to work in a team and individually to set deadlines.

Assessment Feedback

Students will have the opportunity to receive formative and summative feedback for each assignment, typically as part of the academic feedback sessions during the term. During the sessions feedback will be provided in writing and orally. Draft presentations and assignments are also scheduled for which feedback is provided in advance of the summative assessment deadline. Students will receive feedback on summative assessment within 15 working days of their submission deadline.

The Virtual Learning Environment

Students are supported by a wide range of learning resources made available via the Virtual Learning Environment (Activate Learning Online, ALO) enabling them to undertake independent study wherever and whenever they want, on their laptop, tablet or smartphone.

Through Activate Learning Online (ALO) students can access a variety of high-quality study materials designed to support their learning. These include all essential reading including textbooks, articles, and multimedia content such as videos. In addition:

- Recommended reading is available in electronic format which can be read online or downloaded on to student devices for offline reading.
- All lectures are recorded and available online so that students can watch them on their laptops, tablets, or smartphones, pause and review subject matter that they find difficult to understand and watch them again as revision.
- Interactive topic reviews are provided to help students self-assess their understanding of a subject either at the start or end of a topic to help embed learning.
- Discussion forums for online discussion and debate are provided.

In addition to learning resources, ALO also provides students with a gateway to a wide range of other resources to help them with their studies including news and announcements, timetables, support, and guidance.

In addition to the provision of all essential reading in electronic format students also have access to a wide range of online library resources via ALO provided at the start of the programme.

Library resources include full access to an online library that contains access to academic books and journals across a range of business -related subjects, disciplines, and databases.

Programme Structure and Requirements, Levels, Units and Credits

Introduction to the programme

The programme is designed to be studied part-time (one day per week) for two academic years in order to support students who may have other commitments such as work and/or

family responsibilities. The academic year is 32 weeks, starting in September, and delivery is planned over 2 semesters of 16 weeks

The programme is designed around enhancing the employability of students and their long-term career prospects. This includes developing attributes in students such as resilience and an appreciation of cultural diversity, drawing upon Activate Learning's Educational Gains model, and its impact on commercial entities and decision-making, particularly in a global environment. It aims to provide a solid theoretical and academic foundation, enabling students to solve problems and capitalise on opportunities within an engineering context.

In order to achieve the HNC in Electrical and Electronic Engineering students must successfully complete each unit in order to be awarded the specified number of credits for that unit. One credit corresponds to approximately ten hours of 'learning time' (including all taught classes and independent study and research). Thus obtaining 60 credits in an academic year requires 600 hours of overall learning time.

Where a student fails to achieve a unit(s) due to illness or other mitigating circumstances, students will either be provided with a further opportunity to submit work, or subject to the requirements of the assessment board, a failed unit may be condoned provided that the student has attempted the unit and achieved the programme learning outcomes.

Progression

Students who successfully achieve 120 credits on the HNC will be eligible to progress to the HND (top-up) in Electrical and Electronic Engineering at Activate Learning or progress to another institution depending on their entry requirements.

Part-time delivery model

Unit Nº	Unit Type	Unit Title	Level	Credit Value	Yr1	Yr 2
1.	Core	Engineering Design	4	15	X	
2.	Core	Engineering Maths	4	15	X	
3.	Core	Managing a Professional Engineering Project	4	15	X	
4.	Specialist	Production Engineering for Manufacture	4	15		X
5.	Specialist	Automation, Robotics and Programmable Logic Controllers	4	15		X
6	Specialist	Quality and Process Improvement	4	15		X
7	Specialist	Electrical and Electronic Principles	4	15	X	
8	Specialist	Electrical Machines	4	15		X

Support for Students and their learning

Academic and pastoral support:

- At the start of the programme, students will be allocated a personal tutor, who will effectively act as their academic mentor.

- Personal Tutors will provide ongoing advice on academic and pastoral matters (in partnership with academic tutors in other modules). They will act as students' first port of call for support during their studies.
- Students will have an initial one-to-one meeting with their Personal Tutor in the first few weeks of their studies as part of a settling in process, in which any early issues of an academic or pastoral nature may be addressed.
- Students' academic progress will be formally reviewed at least twice per academic year by their Personal Tutor.

Learning support:

- Students with specific learning support needs will be directed to our team of HE Study Support tutors to obtain support, advice, and guidance on how to progress through their studies. This includes addressing any special needs requirements. Further information is available in the Student Handbook.
- All students will be able to access the services of a Study Support Tutor regardless of whether they have a specific learning support need.

Admissions Criteria

Applicants will be expected to possess the following:

- Relevant Access to Higher Education Diploma, or
- Level 3 Extended Diploma in Engineering or related subject, at a Merit; and,
- GCSE grade 4 or above in Maths and English. Other L2 qualifications in English and Maths may be accepted.

Applications from mature students returning to education who do not possess the formal entry qualifications, but can demonstrate relevant industry experience, will be considered on merit but they would normally be expected to have achieved a Level 2 Maths and English qualification.

Applicants whose first language is not English must also demonstrate that their level of English is acceptable by achieving a score in a recognised test such as:

Common European Framework of Reference (CEFR) level B2
PTE Academic 51, or
IELTS 5.5 (reading and writing must be at 5.5)

Personal Profile
A typical applicant might be expected to demonstrate at the commencement of his/her studies the following:
● a general interest in Electrical and Electronic Engineering
● a strong interest in developing their career
● a willingness to work collaboratively with others
● good oral and written communication skills
● a willingness to build knowledge across all aspects of Engineering
● appropriate levels of numeracy and literacy

Methods for Evaluating and Enhancing the Quality and Standards of Teaching and Learning

- Student module evaluations
- Annual programme and module monitoring reports
- External Examiners report
- Periodic programme review
- Annual staff appraisals
- Peer observations

- Student outcomes

Committees with responsibility for monitoring and evaluating quality and standards

HE Committees/Boards at Activate Learning:

- Programme Committee
- Faculty Improvement Boards
- Higher National Assessment Board
- Quality and Consistency Committee

Mechanisms for gaining student feedback on the quality of teaching and their learning experience

- Student satisfaction surveys
- Student complaints procedure
- Academic appeals procedure
- Programme Committees
- Student module evaluations
- Student representation system

Indicators of Quality and Standards

- Annual External Examiner reports
- Annual programme monitoring reports
- Annual programme quality statement
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Study Costs:

Students are advised that they will need access to a laptop or PC with a camera and microphone functionality, and are also recommended to budget c£100 a year for additional costs such as for stationery to undertake their studies. Students can borrow textbooks and access journals from the recommended reading lists from the Learning Resource Centre. If you choose to purchase textbooks, you are advised to budget c£20-30 for each book.

Micorsoft Office 365 software is available to students from the College.

Reference points used in creating this specification

- QAA UK Quality Code for Higher Education
- Pearson BTEC Higher Nationals Centre Guide to Quality Assurance and Assessment L4-7