

Programme Specification

ENG-EE-HN-2017: Engineering HNC (Electrical & Electronic)

Pearson Higher National Certificate awarded by Pearson (FHEQ Level 4)

Programme Status: Approved | Version: 1

Introduction

This programme specification provides a summary of the main features of the Engineering HNC (Electrical & Electronic) programme and the learning outcomes that you as a student might reasonably be expected to achieve and demonstrate on successful completion of the programme.

Further detailed information related to this programme and the College can be found in the following resources:

- Programme Handbook
- B&FC Student Handbook
- B&FC Admissions Policy
- Work based and placement learning handbook (for foundation degrees)
- Student guide to assessment and feedback

Key Programme Information

Programme Code	ENG-EE-HN-2017
Programme Title	Engineering HNC (Electrical & Electronic)
Teaching Institution	Blackpool and The Fylde College
Professional, Statutory and Regulatory Body (PSRB) Accreditation	None
UCAS Code	
Language of Study	English
Version	1
Approval Status	Approved
Approval Date	12 July 2018
JACS Code	Other: Other
Programme Leader	Amy Maxwell

Programme Awards

Award	Award Type	Level	Awarding Body
Pearson Higher National Certificate	Higher National Certificate	Level 4	Pearson

Programme Overview

The HNC Level 4 Engineering programme has been delivered at Blackpool and the Fylde for over 25 years. The programme pathways have a history of effective employer engagement and support making them an ideal choice for employee and potential employee development in the engineering sector. The programme has, over the years, provided local and regional engineering companies and employers with a trained and educated workforce, helping to meet technical and professional skills shortages and plug skills gaps contributing to economic prosperity and the development of engineering technologies and productivity. The programme has produced many successful cohorts who have been able to either access a rewarding career in engineering or progress within their career with a particular employer.

This strong, industry relevant and recognised qualification meets your needs in that it develops core engineering subject discipline knowledge and skills whilst enabling you to choose pathways and options which are particular to your current and future needs and contexts. This variability in pathways is a key strength to the programme and makes it attractive to employees and

employers alike. Students who have graduated from the programme have been able to access careers as diverse as Mechanical Design Engineers, Mechanical Production Engineers, Quality Control Engineers, Electrical & Electronic Instrumentation Engineers, Field Service Engineers, Mechanical and Electronic CAD Engineers, Continuous Improvement Engineers, Engineering Product Designers, Manufacturing Engineers, Mechanical Maintenance Engineers, Motion Control Application Engineers, Nuclear Power Generation Engineers, Technical Project Engineers and Engineering Surveyors of Pressure Systems.

The Edexcel BTEC Level 4 HNC in Electrical and Electronic Engineering provides you with a specialist work-related programme of study which covers the key knowledge, understanding and practical skills required in the Electrical and Electronic Engineering sector, and also offer you the opportunity to engage in particular specialisms through the choice of specialist modules.

Edexcel BTEC Level 4 HNCs provide a nationally recognised qualification offering you career progression and professional development for those of you already in employment; and opportunities to progress further in higher education. This HNC in Electrical and Electronic Engineering programme works in close partnership with local and regional employers and the programme is recognised by The Engineering Council Engineering Technician Standard (**EngTech**) (Engineering Technician member of The Engineering Council) and The Institute of Engineering Technology (**TMIET**) (Technician Member of the Institution of Engineering and Technology). These are designatory letters you may use after graduating from this programme, subject to joining both Professional Bodies.

The programme is intended for those students who wish to pursue a career at higher professional/technician level within the Electrical and Electronic Engineering industry but who may not, as yet, have decided upon a specific career area. The variety of units covered allows you to explore different specialist areas that best match your individual strengths and aspirations and your employers' business needs.

The School of Engineering and Science has excellent, well-developed working relationships with a wide range of employers. These links to local and national employers will give you the skills and applied knowledge required for a career in Electrical and Electronic Engineering. Many past students are now employed by companies such as BAE Systems, EDF Energy (Heysham) Power Stations, United Utilities, Rolls Royce (Barnoldswick), Westinghouse Springfield Fuels (Preston), Scanlite Electronics, Blackpool Illuminations and Fylde Micros to name but some.

Industry experienced tutors, aided by input from employers and partner organisations, ensure this course is kept up-to-date and closely aligned to the needs of industry. The programme content is delivered by highly-qualified tutors, all with industrial experience from a variety of Electrical and Electronic Engineering disciplines who work to create a strong climate of student support.

Admission Criteria

Admission to a part-time level 4 (HNC) would normally be on the basis of the following prior achievement:

A Levels or Level 3 Diploma or Extended Diploma in an engineering related discipline PLUS GCSE Maths and English at grade C or above.

As this is a part-time programme, application through UCAS is not necessary.

Non-traditional applicants, who do not possess the formal entry qualifications but can demonstrate relevant industry experience, will be considered on merit but would not normally be considered without GCSE Maths and English at grade C or above.

Programme Aims

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- To develop engineers with core knowledge skills and techniques who are able to be successful and progress in the engineering sector,
 - To provide students with the opportunity to fault find, problem solve, propose solutions and engage in professional engineering practices relevant to the engineering context in which they work; exercising resilience, ethical and social responsibility,
 - To provide a structured programme of development to equip students with the necessary transferable skills to support academic and or professional progression in the industry,
 - To provide a flexible and engaging programme of study informed by employers, the Engineering Council Engineering Technician Standard (EngTech) and The Institute of Engineering Technology (TMIET) (Technician Member of the Institution of Engineering and Technology).

Programme Learning Outcomes

Level 4

Upon successful completion of this level, students will be able to:

1. Develop the core knowledge, skills and techniques that all engineers require, irrespective of future specialism, to achieve high performance in the engineering profession
2. Build a body of specialist knowledge, skills and techniques in order to be successful in a range of careers in engineering at the Associate Engineer or Operational Engineer level
3. Develop the skills necessary to fault find and problem solve in a timely, professional manner, reflecting on their work and contributing to the development of the process and environment they operate within
4. Understand the responsibilities of the engineer within society, and work with integrity, regard for cost, sustainability and the rapid rate of change experienced in world class engineering
5. Enter, or progress in, employment within the engineering sector, or progress to higher education qualifications such as degrees and honours degree in engineering or a closely related area, by balancing employability skills with academic attainment
6. Make progress towards achieving internationally recognised registration with a Professional Body regulated by the Engineering Council

Programme Structure

Pathway	Module	Level	Credits	Coursework	Practical	Written Exam
Stage 1						
All	A/615/1478: Managing a Professional Engineering Project (Mandatory)	4	15	100%		
	M/615/1476: Engineering Maths (Mandatory)	4	15	50%		50%
	M/615/1493: Electrical and Electronic Principles (Mandatory)	4	15	50%		50%
	T/615/1477: Engineering Science (Mandatory)	4	15	100%		
Stage 2						
Stage exit award: Pearson Higher National Certificate (Awarded by Pearson)						
All	A/615/1495: Electric Machines (Mandatory)	4	15	100%		
	F/615/1496: Electronic Circuits and Devices (Mandatory)	4	15	100%		
	K/615/1475: Engineering Design (Mandatory)	4	15	60%	40%	
	K/615/1489: Automation, Robotics and Programmable Logic Controllers (PLC's) (Mandatory)	4	15	100%		

Programme Delivery: Learning and Teaching

The HNC in Electrical and Electronic Engineering programme combines theoretical and practical elements which are delivered in a number of different ways. Interactive lectures and problem based learning are the most common techniques used, which will offer you the opportunity to engage with other students in your group, and is where the focus is on sharing knowledge through the use of presentations, calculations and case studies. Another delivery technique which will be used in a number of modules is practically orientated teaching, where you will use testing equipment in electrical and electronic workshops and laboratory work, bringing the real world of electrical and electronics into the college environment. Tutorials will present you with an opportunity for group and focused one to one support, where teaching is led by your individual requirements. These tutorials are sometimes most effective in the run up to assessment, where tutors can provide you with more focused direction, perhaps based on a formative assessment.

Moodle Virtual Learning Environment (VLE) is an invaluable aid to your studies, acting not only as a repository for taught material but also for the setting of formative assessment such as quizzes. Further reading and research support will also be provided for you on Moodle VLE, along with a copy of your programme documents, such as the Programme Handbook and Assessment Timetable. As the majority of students on your HNC in Electrical and Electronic Engineering programme will be employed in the industry, there will be an opportunity for staff and your employer to integrate work based learning into your programme. This will add realism, and will give you the opportunity to link theory to practice in a way in which case studies cannot. For example, in the Managing an Engineering Project module, the teaching and learning approach differs in that only 18 hours are covered by lecture methods and the majority of teaching and learning is focused on your real world work context. Your Project brief may therefore be based on a real world workplace electrical or electronic requirement, which will require work based application of knowledge thereby bringing theory to life through the curriculum. Assessment will be through written assignment, which may be in the form of a detailed log book, and a formal presentation of the completed project in front of your peers and invited external guests such as your employer.

Programme Delivery: Assessment

Formative Assessment

You will receive many opportunities to take part in formative assessment on your HNC programme. We encourage all students to take advantage of the opportunity to submit drafts of assignments for review and formative feedback. You will receive constructive and useful feedback from all tutors, which will enable you to understand the strengths and limitations of your performance, providing positive comments where possible as well as explicit comments on how improvements can be made in future assessments. In addition to drafts, you may be set self and peer assessments, short exercises or quizzes on the VLE (Moodle), calculations, short written and verbal tasks, group work, practical observations and question and answer activities which will all help structure your work in preparation for the demands of the summative formal assessments.

Summative Assessment

The formal summative assessments on this programme are in the main assignments which are written and practical in nature but more often a mixture of the two. Projects are used as are examinations and presentations to ensure that there is a variety of assessments to support your development and achievement.

We aim to ensure that you experience an enjoyable and at the same time vocationally relevant learning experience which will prepare you for the demands of progression within the Electrical and Electronic Engineering industry.

Programme Delivery: Work Based and Placement Learning

There is no formal work placement within this qualification; however if you are not employed within the industry, you will be encouraged to engage in work experience. The School has excellent relationships with local employers and opportunities for work experience frequently arise.

The programme is highly vocational in nature and uses industry examples and assignment briefs to ensure that you continuously develop employability and work related skills. For the vast majority of you who are already employed in industry, the Managing a Professional Engineering Project module will align with the needs of your employer whereby a work based project will be conducted which provides value to your employer's business needs.