University of Suffolk

DEFINITIVE COURSE RECORD

Course Title	**HNC Engineering (General)**
Awarding Bodies	**Pearson**
Level of Award[1]	**FHEQ Level 4**
Professional, Statutory and Regulatory Bodies Recognition	**The Energy Institute**
Credit Structure[2]	**Level 4: 120 Credits**
Mode of Attendance	**Full-time**
Standard Length of Course[3]	**1 year**
Intended Award	**HNC Engineering (General)**
Named Exit Awards	**None**
Entry Requirements[4]	**60 UCAS tariff points or above (or the equivalent)** **GCSE English and Maths at grade C/4 or above**
Delivering Institution(s)	**East Coast College (Lowestoft)**
UCAS Code	**H100**

This definitive record sets out the essential features and characteristics of the Pearson HNC Engineering (General) course. The information provided is accurate for students entering Level 4 in the 2024-25 academic year[5].

Course Summary

This Pearson HNC Engineering (General), delivered by East Coast College under the banner of the University of Suffolk, whose frameworks, policies and procedures it is offered, in line with Pearson requirements for such courses. It is intended to provide a vocationally-based Level 4 programme of study for those seeking progression from level 3 in a related discipline, those seeking to improve their career choices and who may already be working in the sector. As such, it presents study areas identified as requirements of employers in the local area and beyond to provide a broad skills-base to students and equip them for employment or further study.

Course Aims

- Lay the foundations of learning by providing a broad introduction to engineering and manufacturing;
- Develop and strengthen core skills while preparing students for specialist subjects at Level 5 or to enter employment;
- Develop the qualities necessary for job roles that require some personal responsibility;

[1] For an explanation of the levels of higher education study, see the QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2024)
[2] All academic credit awarded as a result of study at the University adheres to the Higher education credit framework for England.
[3] Where the course is delivered both full-time and part-time, the standard length of course is provided for the full-time mode of attendance only. The length of the part-time course is variable and dependent upon the intensity of study.
[4] Details of standard entry requirements can be found in the Admissions Policy and further details about Disclosure and Barring Checks (DBS) can be found on the University's DBS webpage
[5] The University reserves the right to make changes to course content, structure, teaching and assessment as outlined in the Admissions Policy.

- Gain a wide range of engineering and manufacturing knowledge linked to practical skills gained through research, independent study, directed study and workplace scenarios;
- Develop vocational behaviours and transferable skill - such as communication, teamwork, research and analysis.

Course Learning Outcomes

The following statements define what students graduating from the Pearson HNC Engineering (General Engineering) course will have been judged to have demonstrated in order to achieve the award. These statements, known as learning outcomes, have been formally approved as aligned with the generic qualification descriptor for level 4 awards as set out by the UK Quality Assurance Agency (QAA)[6].

Knowledge and Understanding

1. Knowledge of the fundamental principles and practices of the contemporary global engineering industry;
2. Knowledge of the external engineering environment and its impact on local, national and global levels of strategy, behaviour, management and sustainability;
3. Understanding into different engineering practices, their diverse nature, purposes, structures and operations and their influence on the external environment;
4. Understanding of the ethical, environmental, legal, regulatory, professional and operational frameworks within which engineering operates;
5. Understanding of processes, practices and techniques for effective management of products, processes, services and people;
6. Understanding of the evolving concepts, theories and models within the study of engineering across the range of operational alternatives;
7. Ability to analyse a range of concepts, theories, models and techniques to make appropriate engineering operational and management decisions;
8. Appreciation of the principles of continuing professional development (CPD), staff development, team dynamics, leadership and reflective practice as strategies for personal and people development;
9. Knowledge of how the key areas of engineering and the environment it operates within influence the development of people and businesses;
10. Knowledge of the skills, techniques and methodologies used to resolve problems in the workplace;
11. Knowledge of the human–machine interaction to inform the development of good design and fitness for purpose

Cognitive Skills

1. Apply knowledge of essential concepts, principles and models within the contemporary global engineering industry;
2. Consider strategies and methods to show how resources (human, financial, environmental and information) are integrated and effectively managed to successfully meet objectives;
3. Evaluate current principles and operational practices used within the engineering industry as applied to problem solving;

[6] As set out in the QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014)

4. Consider project management skills and techniques for reporting, planning, control and problem-solving;
5. Recognise and evaluate the professional, economic, social, environmental and ethical issues that influence the sustainable exploitation of people, resources and businesses;
6. Explore a range of engineering information technology (IT) systems and operations and their application to maximise and successfully meet strategic objectives;
7. Interpret and analyse a range of engineering data, sources and information to inform evidence-based decision making;
8. Synthesise knowledge and evaluate strategies and plans to understand the relationship between theory and real-world engineering situations;
9. Analyse the changing needs of the engineering industry and have the confidence to self-evaluate and undertake additional CPD as necessary.

Applied Skills

1. Evidence the ability to begin to show customer-relationship management skills and develop appropriate policies and strategies to meet stakeholder expectations;
2. Apply engineering ideas to design and develop new products or services that respond to the changing nature of the engineering industry and the global market;
3. Begin to combine theory and practice through the investigation, evaluation and development of practices and products in the workplace;
4. Begin to develop outcomes for customers using appropriate practices and data to make justified recommendations

Transferable Skills

1. Develop a skill set to enable the analysis of appropriate actions taken for problem-solving in specific engineering contexts;
2. Develop self-reflection, including self-awareness, to become an effective self-managing student;
3. Develop independent learning to expand on own skills and delivered content
4. Begin to competently use digital literacy to access a broad range of research sources, data and information;
5. Communicate both orally and in writing and both internally and externally, with engineering professionals and other stakeholders;
6. Develop strong interpersonal skills, including effective listening and oral communication skills, as well as the associated ability to persuade, present, pitch and negotiate;
7. Identify personal and professional goals for CPD to enhance competence to practise within a chosen engineering field;
8. Make use of available pathways for CPD through higher education and professional body qualifications;
9. Develop a range of skills to ensure team working, project and time management, independent initiatives, organisational competence and problem-solving strategies;
10. Demonstrate adaptability and flexibility in approach to engineering, developing resilience under pressure and meeting targets within given deadlines;

11. Begin to develop quantitative skills to manipulate data and evaluate and verify existing theory;
12. Begin to develop emotional intelligence and sensitivity to diversity in relation to people, cultures and environments.

Course Design

Pearson BTEC Higher National qualifications are designated Higher Education qualifications in the UK. They are aligned to the Framework for Higher Education Qualifications (FHEQ) in England, Wales and Northern Ireland, and Quality Assurance Agency (QAA) Subject Sector Benchmarks. These qualifications are part of the UK Regulated Qualifications Framework (RQF).

Course Structure

The Pearson HNC Engineering (General) comprises units at Level 4 only.

Specifications for each of these units is included within the course handbook, available to students on-line at the beginning of each academic year. This will contain the details of the 8 units offered from the syllabus as provided by Pearson, outlined below:

	Units	Credits	Credits[7]
Level 4			
	Engineering Design	15	M
	Engineering Mathematics	15	M
	Engineering Science 1	15	M
	Managing a Professional Engineering Project (Pearson-set)	15	M
	Mechanical Principles	15	O
	Materials, Properties and Testing	15	O
	Fundamentals of Thermodynamics and Heat Transfer	15	O
	Electrical and Electronic Principles	15	O

Full-time students will undertake these units within one academic year.

Awards

On successful completion of the course, students will be awarded a Pearson HNC Engineering (General).

Course Delivery

The course is delivered at East Coast College Lowestoft campus. Students studying on Pearson HNC Engineering (General) are likely to have approximately 10 contact hours. The contact hours will be a mix of class sessions, practical time in workshops, use of IT rooms and tutorials. Students will normally be expected to undertake approximately 25 hours of independent study in an average week, but should be prepared for this to vary based on assignment deadlines and class exercises.

[7] Units designated as mandatory core (MC) must be taken and passed in order to achieve the award. For further information, see the Framework and Regulations for Higher National Awards

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Course Assessment

A variety of assessments will be used on the course to enable students to experience and adapt to different assessment styles. The assessment methods used will be appropriate to assess each unit's intended learning outcomes. Assessment on the course overall will be predominantly internally set coursework (including essays, reports, presentations, group work, reflective learning journals and research projects) with some externally set assessments.

Special Features

During the course students are eligible for student membership of the Energy Institute and on successful completion of the Pearson HNC in Engineering (General) they will be partially accredited as an Incorporated Engineer (IEng) with the Engineering Council.

Course Team

The academic staff delivering this course are drawn from a team that includes teaching specialists and current practitioners. All staff are qualified in their subjects with their own specialist knowledge to contribute.

Course Costs

Students undertaking Pearson HNC Engineering (General) will be charged tuition fees as detailed below.

Student Group	Tuition Fees
Full-time UK/EU	£6,168 per year

Payment of tuition fees is due at the time of enrolment and is managed in accordance with the Tuition Fee Policy.

Academic Framework and Regulations

This course is delivered according to the Framework and Regulations for Higher National Awards and other academic policies and procedures of the University and published on the website.