



University of Central Lancashire

Training 2000

Manufacturing Engineering HNC

Level 4

Delivering high level, industry-led training courses is what we do. As an engineering provider of advanced technical and academic skills, we work closely with employers to nurture and develop the employees they need for the future.

The BTEC Level 4 HNC Qualification in Manufacturing Engineering is a higher level programme aimed at developing a greater understanding and technical capability of engineering processes.

We provide employees with more than just a qualification. We develop both their industry skills and knowledge for immediate application in the workplace which maximises return on investment.

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Manufacturing Engineering

Higher National Certificate information

Duration

2 years - one day per week

Where will I study?

Training 2000 Blackburn

Course cost

£2000 per academic year

Entry requirements

Ideally you will have completed a Level 3 qualification in engineering or equivalent.

Our HNC includes:

- Face-to-face tutorials
- Flexible day delivery to minimise effect on employer
- Opportunities to develop workplace projects within employers

What you'll learn

Year 1

Engineering Maths

- The aim of this unit is to develop students' skills in the mathematical principles and theories that underpin the engineering curriculum. Students will be introduced to mathematical methods and statistical techniques in order to analyse and solve problems within an engineering context.

Engineering Science

- This unit introduces students to the fundamental laws and applications of the physical sciences within engineering and how to apply this knowledge to find solutions to a variety of engineering problems. Among the topics included in this unit are: international system of units, interpreting data, static and dynamic forces, fluid mechanics and thermodynamics, material properties and failure, and A.C./D.C. circuit theories.

Engineering Design

- The aim of this unit is to introduce students to the methodical steps that engineers use in creating functional products and processes; from a design brief to the work, and the stages involved in identifying and justifying a solution to a given engineering need.

Managing a Professional Engineering Project

- This unit introduces students to the techniques and best practices required to successfully create and manage an engineering project designed to identify a solution to an engineering need. While carrying out this project students will consider the role and function of engineering in our society, the professional duties and responsibilities expected of engineers together with the behaviours that accompany their actions.

Mechanical Principles

- The aim of this unit is to introduce students to the essential mechanical principles associated with engineering applications. Topics included in this unit are: behavioural characteristics of static, dynamic and oscillating engineering systems including shear forces, bending moments, torsion, linear and angular acceleration, conservation of energy and vibrating systems; and the movement and transfer of energy by considering parameters of mechanical power transmission systems.

Year 2

Quality and Process Improvement

- This unit introduces students to the importance of quality assurance processes in a manufacturing or service environment and the principles and theories that underpin them. Topics included in this unit are: tools and techniques used to support quality control, attributes and variables, testing processes, costing modules, the importance of qualifying the costs related to quality, international standards for management (ISO 9000, 14000, 18000), European Foundation for Quality Management (EFQM), principles, tools and techniques of Total Quality Management (TQM) and implementation of Six Sigma.

Machining and Processing of Engineering Materials

- The aim of this unit is to introduce students to the application of a variety of material forming processes involved in the production of components and articles for everyday use. Among the topics included in this unit are: conventional machining, shaping and moulding processes used in the production of components, machine tooling, jigs and fixtures required to support the manufacture of components, using metallic and non-metallic materials such as polymers and composites.

Lean Manufacturing

- The aim of this unit is to introduce students to the principles and processes of lean manufacturing, so that they can become an effective and committed practitioner of lean in whatever industry sector they are employed in. To do this, the unit will explore the tools and techniques that are applied by organisations practicing lean. The students will consider both the benefits and challenges of using lean manufacturing, and become sufficiently knowledgeable about the most important process tools and techniques to be able to operate and use them.

Production Engineering for Manufacture

- This unit introduces students to the production process for key material types; the various types of machinery used to manufacture products and the different ways of organising production systems to optimise the production process; consideration of how to measure the effectiveness of a production system within the overall context of the manufacturing system; and an examination of how production engineering contributes to ensuring safe and reliable operation of manufacturing.

Operations and Plant Management

- The underlying aims of this unit are to develop the students' knowledge of the engineering fundamentals that augment the design and operation of plant engineering systems, and to furnish them with the tools and techniques to maintain the ever more technological equipment.

How you'll be assessed?

All units are internally assessed. Each unit within the qualification has specified pass assessment and grading criteria, in addition to this there are generic merit and distinction grading descriptors that describe performance over and above a pass grade. These allow grades of pass, merit or distinction to be awarded for all units.

Other Level 4 HNC pathways

Electrical and Electronic

Operations Engineering

Next steps

Level 5 Higher National Diploma in General Engineering

If a learner completes the HNC with us, they can top up to a HND in one year.

Interested? Apply now

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