

## EVERYONE HAS AN INNER GENIUS

We can help  
you find yours

Join our graduates  
and fast track  
your way to a  
successful career

TEF Silver

AWARDED SILVER IN THE  
2017 TEACHING EXCELLENCE  
FRAMEWORK

Course Validated by



## HND Engineering

(Pathways available; Mechanical Engineering or Electrical and Electronic Engineering)

If you are wanting to step up to the next level in Engineering then a HND could be your perfect choice.

### COURSE OVERVIEW

The Higher National Diploma in Engineering is a taught programme of academic study and is suited to students continuing from their Level 3 studies (either Diploma or A levels) or for mature students wishing to undertake a full-time engineering qualification. The purpose of the qualification is to equip students with the knowledge necessary to develop their careers to engineer level employment. Students may wish to continue from the HND qualification to university to top-up to a degree level qualification.

### MODULES

You will study a selection of the following modules according to staff availability and student preference (all core and subject mandatory modules must be studied). Modules may be subject to change.

#### - Further Mathematics for Engineering Technicians - Core Module

A preparation mathematics module that is taught across all of our HNC/HND programmes to provide a good base and preparation for the Analytical Methods module.

#### - Analytical Methods - Core Module

A mathematics module, taught across all HNC/HND programmes, providing contextualised analysis of mathematics in engineering situations.

#### - Engineering Science (Mechanical and Electrical) - Core Module

A science module, taught across all HNC/HND programmes, to provide a good general engineering science base for any engineering subject.

### LOCATION

#### WORCESTER

Electrical and  
Electronic Engineering  
WEEN-HD5-1820

Mechanical Engineering  
WMEN-HD5-1820

### UCAS CODE

Electrical and  
Electronic Engineering  
016H

Mechanical Engineering  
003H

### COURSE LENGTH

2 years (full -time)

### TUITION FEES

£8,000 per year

### AWARD ON SUCCESSFUL COMPLETION

Pearson HND Mechanical  
or Electrical and  
Electronic Engineering

### HOW TO APPLY

Please apply via UCAS  
at [www.ucas.com](http://www.ucas.com)

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### - **Project Design, Implementation and Evaluation - Core Module**

Usually a work-based project to develop skills of independent enquiry demonstrating project management skills relevant to the students own employment and ambitions.

### - **Mechanical Principles – Mandatory Module for Mechanical Engineering Pathway**

This module will develop the understanding of an extended range of mechanical principles that underpin the design and operation of mechanical engineering systems.

### - **Electrical and Electronic Principles – Mandatory Module for Electrical and Electronic Engineering Pathway**

This module will provide an understanding of electrical and electronic principles used in a range of engineering careers and provides the basis for further study of more specialist areas of electrical/electronic engineering.

### - **Materials Engineering**

This module will provide an understanding of the properties, selection, processing and failure of engineering materials.

### - **Advanced Computer Aided Design (CAD)**

A design module taught using the 3D modelling software Solidworks.

### - **Application of Pneumatics and Hydraulics**

This module is taught using simulation software that explores pneumatic and hydraulic circuits to industrial standards. The use of PLC controls will also be investigated.

### - **Supply Chain Management**

The aim of this module is to examine the main principles, concepts and practices of supply chain management.

### - **Instrumentation and Control Principles**

The aim of this module is to introduce the principles and practice of instrumentation and control in process industries.

### - **Programmable Logic Controllers**

The aim of this module is to investigate programmable logic controller (PLC) concepts and their applications in engineering.

### - **Combination and Sequential Logic**

This module will provide the skills and understanding required to design and build electronic circuits that use combinational and sequential logic.

### - **Quality and Business Improvement**

The aim of this module is to develop knowledge and understanding of the principles and applications of quality management.

### - **Engineering Design**

This module will involve preparing an engineering design specification that meets customer requirements and producing a final design report.

### - **Health, Safety and Risk Assessment in Engineering**

This module considers the importance of health and safety planning, implementation and legislation within an engineering environment.

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### - Business Management Techniques for Engineers

This module investigates the functions, structures and inter-relationships of an engineering business.

### - Design for Manufacture

This module will investigate the processes involved in analysing a product design and preparing for its manufacture.

### - Employability Skills

This module provides the students with the opportunity to acquire honed employability skills required for effective employment.

### - Further Analytical Methods for Engineers

This is a deeper mathematics based module usually undertaken by students wishing to further their studies on completion of the HND (e.g.. Top-up to degree level).

### - Energy Management

The principle focus of this module is to establish and develop an energy audit in the context of a plant engineering environment.

### - Engineering Thermodynamics

This module will develop understanding of the principles and laws of thermodynamic and their application to engineering thermodynamic systems.

### - Industrial Robot Technology

Industrial robots are used in a variety of production applications. This module will provide students with a greater understanding of the various elements of Industrial robotics including control and intelligence, end effectors and system errors.

### METHODS OF ASSESSMENT

A range of assessment techniques which may include; written assignments, examinations, work-based projects and verbal presentations.

### ENTRY REQUIREMENTS

Level 3 qualification in a suitable discipline or for mature students relevant industrial experience may be considered. In addition to this you are expected to complete an average of 3 hours independent study per week.

### STAFF EXPERIENCE

The course will be delivered by a blend of experienced staff that have a wide and extensive range of qualifications and vocational knowledge. All staff have industrial experience in their chosen focus of study and complete frequent scholarly activities to update their knowledge and skills. This breadth and depth of module specific knowledge and experience allows the team to introduce the modules using innovative approaches and vocational context in the classroom which emulates with work based learners.