



FdEng/HNC Engineering - Mechanical Design

2024/25

Inspiring Lives, Discovering Futures

The Course

In brief...

The course will give you a superb grounding in the essential principles and techniques needed to meet the increasingly challenging and exciting nature of the Engineering industry. It has been designed to be relevant to the needs of employment in the fields of Design and within Mechanical Engineering.

As a student on this course you will have the benefits of using the College's excellent facilities including 3D printing, an industrial robot, CAD/CAM suites and material testing laboratory. Current students are registered as student members of the Institute of Engineering Designers (IED). Completion of the course enables partial Incorporated Engineer registration.

During the first year you will use CAD software to produce both 2D production drawing and 3D models, undertake design simulations and run stress analysis. You will be introduced to the capabilities of 3D printing to produce physical models and use a CAM package to develop and simulate a milled product. There will be an introduction to business processes and theory within engineering companies and different project management techniques. This is tied together with the underpinning of mathematical theory, engineering science and materials science, including metal and polymer experiments.

During the second year you will be introduced to different design principles and how to undertake a design project. The importance of considering manufacturing methods is emphasised, as is engineering calculations and the behaviour of materials when developing your design. You will undertake a group design project and an individual, company relevant, project that will also demonstrate your ability to project manage. The business processes and theories from the first year will be applied through the production of a business plan. Your understanding of mathematical theory and engineering science will continue to be developed throughout the second year. If successful, you graduate at this point with an HNC and if you achieve the necessary grades you have the option to progress to the Foundation Degree.

In this third year of study you will develop your design techniques and analysis further with the work directly linked to marketing and business requirements within engineering. A more detailed company relevant major project is undertaken to demonstrate you can apply what you have learned over the last three years. You will also undertake writing your first academic paper for possible publication. To link in with the requirements for the IED and IMechE you will also undertake Continual Professional Development and a work based log throughout the year.

Who is it for?

These courses have been specifically designed, in consultation with Industry and Professional Institutions, to enable those predominately working in engineering to study alongside their work. Our HNCs and Foundation Degrees in engineering are ideally suited to those who are looking to gain the essential skills to advance their career in a variety of engineering roles.

This course is also offered as a Degree Apprenticeship. Please [click here](#) for more information.

What the Course Leads to

Key Information

Duration

3 Years

Attendance

Part-time

UCAS Code

N/A

Campus Code

P

Qualification Name

FdEng/HNC

Institution

Bournemouth & Poole College

Awarding Body

Bournemouth University

Curriculum Area

Engineering - Engineering and Electronics

What courses can I do after this?

Progression to the BEng/MEng (Hons) Engineering is an option for appropriate students.

What do I need to apply

To do this course you should have...

HNC

- Four GCSEs at at least grade 4/C, to include English and mathematics or an equivalent qualification, plus
- One A Level at grade C in a relevant subject or equivalent AVCE or National Diploma / Certificate (or equivalent UK or overseas qualifications), or
- A BTEC National Certificate or National Diploma in Manufacturing or Engineering (Mechanical Design). Students should normally have a Merit in Mathematics and/or Mechanical Principles,
- An Access to Higher Education Diploma
- Applicants should have good literacy and numerical skills appropriate to the programme, a good understanding of computing and an aptitude for technical work

UCAS tariff points 32 from one full A Level or equivalent Level 3 qualification in a relevant subject

Relevant subjects: Physics, Maths, CDT, Engineering

FdEng

120 Level C credits from an HNC in an appropriate discipline

Normally at least 40 credits should be at Merit level or above and 20 of these credits should be from a mathematical analytical unit

International entry requirements

If you are not from an English Language speaking country, you will need to have a minimum of UKVI IELTS 6.0. We accept a wide range of academic qualifications awarded overseas and use the UK NARIC (National Academic Recognition Information Centre) guidelines for international comparisons. For tuition and accommodation fees please visit www.thecollege.co.uk/international/courses/tuition-fees and our International Operations team can offer you advice and guidance before and during your studies.

Course costs

Course Code	UCAS Code	Start Date	Costs
BP10017	N/A	04/09/2024	TBC

* Please note fees are subject to change.

Costs

HNC - £3,250 per academic year

FdEng - £4,000

Students who are eligible, can [apply for a student loan with Student Finance](#).

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Course Content

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HNC Years 1 & 2 - Level 4 (Part time over 2 academic years or full time over 1 academic year)

- Analytical Methods for Design
- Business & Project Management
- Computer Aided Engineering
- Design Principles
- Mechanical Design Principles
- Project

FdEng Year 3 - Level 5 (1 calendar year)

- Design Applications
- Major Project
- Mechanical Design Applications
- The Engineering Professional
- Work Based Unit

Next Steps ...

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Telephone: 01202 205205

Web: www.thecollege.co.uk

Live chat available on the website

