

HNC Diploma in Mechanical Engineering

Level 4



NEW
UNIVERSITY
CENTRE
2016/17

About this course

Mechanical Engineers work to research, develop and manage projects to devise innovative solutions in design and manufacture. For this course, you will need an in-depth understanding of scientific principles and engineering processes. You'll also need to be able to develop solutions to real-life problems in the face of conflicting requirements.

This Higher National Certificate is a recognised industry qualification, with employers valuing the mix of practical and theoretical skills that you gain on the programme. Delivered one day a week, over two years at the College's Institute of Advanced Manufacturing and Technology centre, you will use the latest industry standard equipment. If you are not already in employment within the sector, work placement opportunities will ensure that you have access to industry exposure in order to complete the various units. The course can also be taken as part of a Level 4 Higher Apprenticeship framework.

More than just a course!

Mechanical Engineers work to research, develop and manage projects devising innovative solutions in design and manufacture. This course has been designed with employers to support Liverpool City Region priorities for growth and employment. See the Higher Education section on the College's website for further details.

As a mechanical engineer, your day-to-day duties will vary according to the job but could include:

- turning research ideas into technical plans, using computer aided design/modelling (CAD/CAM) programs
- carrying out surveys of mechanical systems and equipment to see if they're working properly
- researching and assessing new products and innovations
- presenting design plans and data to managers and clients
- producing other technical documents for projects
- supporting the contract team when bidding for new work
- overseeing maintenance programmes and quality control
- managing and leading a project team of technicians, designers and other engineering professionals

You could work in a variety of industries and on different projects. For example, you might be involved in renewable energy and the installation of off-shore wind turbines. You could be responsible for making sure the pumps and valves in the water distribution networks deliver clean water to homes and businesses. Or, you may work in healthcare, designing and testing improvements to prosthetic implants to help people with limited mobility.

The development of Employability Skills is a key thread running throughout the course. It offers a strong, sector-related emphasis on practical skills development alongside the

development of requisite knowledge and understanding. You will either be employed in the sector or will require work experience opportunities in order to complete the various units. The course can also be taken as part of a Level 4 Higher Apprenticeship framework.

Your unique experience will include:

- Latest industry standard equipment supported by Local Enterprise Partnership funding to develop the technical skills required to support local industry
- Delivery at the College's Institute of Advanced Manufacturing and Technology centre
- Close liaison with local employers to reduce the local skills gap
- Flexible entry with September and February intakes

Length of study

The course is completed using a day release model on a part-time basis over 2 years with entry points in September and February. Significant additional study will also be required outside College hours to be successful on this programme.

What will I study?

The units to be studied are:

- Analytical Methods for Engineers
- Engineering Science
- Project Design, Implementation and Evaluation
- Business Management Techniques for Engineers
- Engineering Design
- Quality and Business Improvement
- Management of Projects
- Advanced Computer-aided Design Techniques

What skills will I develop?

The course has been designed to enable you to develop the following skills during the programme of study:

- analyse, synthesise and summarise information critically
- read and use appropriate literature with a full and critical understanding
- think independently, solve problems and devise innovative solutions
- take responsibility for their own learning and recognise their own learning style
- design, plan, conduct and report on investigations
- communicate the results of studies and other work accurately and reliably using a range of specialist techniques
- apply subject-related and transferable skills in contexts where the scope of the task and the criteria for decisions are generally well defined but where some personal responsibility and initiative is required.

How will I be assessed?

Assessment methods include:

- Case Studies
- Reports and written assignments
- Oral presentations
- Practical Assessments
- Individual project work
- Data analysis
- Portfolios of evidence

All successfully completed units are graded as Pass, Merit or Distinction. Each grade achieves points with the final qualification grade dependent on the accumulation of these points.

Entry Requirements

You will need to be 18 years of age on or before 31st August of the academic year that the programme commences to complete the programme. Admission to the programme in 2016/17 would normally be on the basis of you possessing attainment from a previous course of study, and/or relevant experience, which may be ascertained by the following:-

A minimum of 120 UCAS points which may be gained from the following qualifications or combinations of qualifications:

- GCE 'A' Level or 'AS' level passes
- BTEC Subsidiary Diplomas, Diploma or Extended Diploma
- A Diploma or equivalent such as NVQ, GNVQ, International Baccalaureate, Scottish Certificate of Education
- An Access to HE Course
- Any other relevant international qualifications

You can find out how many points your qualifications are awarded by using the UCAS Tariff look-up tables on the UCAS website. In addition, GCSE English Language (Grade C or above) and GCSE Maths (Grade B or above) or successful completion of Advanced Maths for Engineers as part of a BTEC programme is required.

We also welcome students with relevant work experience subject to a successful interview. All learners who are non-native English speakers or who have not studied the final two years of school in English, will need to demonstrate capability in English (IELTS 5.5, with a minimum of 5.0 being awarded on individual sections).

What can I do after this course?

Progress to the Pearson BTEC Level 5 HND Diploma in Mechanical Engineering, or to undergraduate study in a related early years degree programme, or directly to employment in the sector.

How do I apply?

As this is a part-time course, you can apply directly to KCC. For more information visit the Higher Education section of the College's website.

Equipment and additional costs

There are additional costs for the programme that you need to be aware of and these are broken down into the following (approximate costs in brackets)

Year One

- Key textbooks (for personal use in addition to the texts and e-journals provided) - £50
- Equipment - £50
- Consumables - £20
- Educational visits - £20
- Employability enhancement courses* - £80

Year Two

- Key textbooks (for personal use in addition to the texts and e-journals provided) - £50
- Equipment - £50
- Consumables - £20
- Educational visits - £20
- Employability enhancement courses* - £80

*Short courses that are available as an option on Wednesday afternoons to enhance employability.

Additional information including fees

All courses commence week commencing 28/09/16. The tuition fees for the HNC delivered over 2 years on a Part-Time basis is £2750 per year. Students completing a L4 Higher Apprenticeship framework will not have to pay any tuition fees as the programme is part of the framework.

Key points regarding Tuition Fees:

- If you never earn more than £21,000 per year, you never pay anything back.
- If you stop earning more than £21,000 at any time your payment stops.
- If you wish, you can repay your loan in full at any time with no penalties added.
- Your employer can pay part of the fees, with you paying the rest through a loan.
- If you don't pay off the loan within 30 years, the Government will write off the outstanding amount.

Further Information on how to access Higher Education loans and bursaries can be located on the Higher Education section on the College's website

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