

Mechanical/Electrical Engineering BTEC Higher National Certificate

Course Overview

This is a two-year full-time programme in which a Higher National Certificate (HNC) is completed in year one and Higher National Diploma (HND) in year two. With a career in engineering as your chosen route, this level 4/5 course offers pathways in both mechanical and electrical/electronic engineering. The HNC/HND in engineering course is designed to enable students who may have come through a vocational route to progress into higher education, building on the knowledge gained at level 3. From 2024/25 academic year, the HNC/D programmes in Mechanical, Aeronautical and Electrical Electronic Engineering, will be updated to make them eligible for HTQ accreditation. Higher Technical Qualifications (HTQ) at levels 4 and 5 are an alternative to apprenticeships or degrees. They may suit you if you want a more practical, employer-led study programme approved by the Institute for Apprenticeships and Technical Education. HTQs are technical qualifications that employers have helped to develop so that you can get the right training and skills you need to succeed at work. As well as studying the academic content of a standard HNC or HND programme the HTQ will also focus on the knowledge and skills required by industry.

What you will learn

In year one you will study for the HNC in engineering: eight units must be completed. Two pathways are available: Electrical/electronic engineering units include engineering design; engineering mathematics; engineering science; managing an engineering project; electronic and electrical principles; automation robotics and PLCs; instrumentation and control; electronic circuits and devices. Mechanical engineering units include engineering design; engineering mathematics; engineering science; managing an engineering project; mechanical principles; fundamentals of thermodynamics and heat engines; materials properties and testing; mechanical workshop practices; and computer-aided design and manufacture.

After successful completion of the HNC in year one, you will study a further eight units for the HND in year two. Electrical/electronic units include research project (double unit); professional engineering management; further mathematics; industrial power electronics and storage; industrial systems; further electrical, electronic and digital principles; utilisation of electrical power. Mechanical engineering units include a research project (double unit); professional engineering management; further mathematics; advanced mechanical principles; virtual engineering; further thermodynamics; advanced manufacturing techniques.

Entry Requirements

Standard entry to this course requires a minimum of 32 UCAS points from a recognised level 3 qualification in a related subject (eg. T-Level, BTEC National or A-levels or equivalent) or a higher level qualification in an unrelated subject area. You are expected to hold GCSE English and maths at grade 4 or equivalent. We welcome applicants who do not match standard entry requirements but who can demonstrate the ability to study this subject at university level and who can evidence relevant experience. An interview is required to ascertain prior achievement.

How you will be assessed

You will undertake a range of both written and practical assignments, presentations and in-class controlled assessments.

Course Progression

On successful completion of the first year of the course, you may continue to the level 5 HND in engineering. Once you have achieved the HND (after two years of study) you will be able to apply to study for a further year to obtain a full degree at university. This qualification is well regarded throughout the industry and the academic world. Career opportunities include managerial and technical positions in mechanical or electrical engineering.

What Happens Next

Applications to our full-time undergraduate courses must be made through UCAS using institution code L36 and course code 001H. If you haven't started a UCAS application yet, and only want to apply to Leicester College, you can apply directly to us using our direct application form via the College website, and we will process a UCAS application on your behalf. Due to the nature of this programme, you may also be invited to attend an interview. Where necessary, other means of interview (i.e. telephone, web-based, CD/DVD) can be arranged.

Course Details

Course Code	P00263
Start Date	15/09/2025
Study Hours	Full Time
Duration	1 year
Campus	Abbey Park Campus
Level	5

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