

Engineering MEng

COURSE DETAILS

- A level requirements: [AAA](#)
- UCAS code: H101
- Study mode: Full-time
- Length: 4 years

KEY DATES

- Apply by: [25 January 2023](#)
- Starts: 25 September 2023

Course overview

Study Engineering and you will have the opportunity to delve into a huge range of disciplines. Become a problem solver, not just learning how to fix things but to develop and invent from the very start.

INTRODUCTION

Following a broad first year of study covering all disciplines within the School, students on this programme will be required to transfer their registration onto one of the following engineering programmes, depending on whether they are on the three or four-year programme.

- [Aerospace Engineering MEng](#) (H421)
- [Architectural Engineering MEng](#) (HK28)
- [Civil and Structural Engineering MEng](#) (H220)
- [Civil Engineering MEng](#) (H202)
- [Industrial Design MEng](#) (6G11)
- [Mechanical Engineering MEng](#) (H301)

WHAT YOU'LL LEARN

- Design, build and test products and systems
 - Computer programming
 - Engineering design
 - Collaborative design
 - How to conduct independent research
 - How to deal with complex problems that may require compromise to meet competing requirements
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Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

YEAR ONE

Creo – In week seven of the second semester students take a week long course in Creo, a computer-aided design software.

COMPULSORY MODULES

ELECTRICAL CIRCUITS FOR ENGINEERS (ELEC121)

Credits: 7.5 / Semester: semester 1

To provide students with a basic understanding of electronics from first principles covering analogue and electromechanical systems. Basic circuits and theory will be introduced including the use of semiconductor devices such as diodes and transistors. Electromechanics will be developed to provide the student with a fundamental knowledge of the principles of DC and AC machines, transformers and linear actuators

ELECTROMECHANICAL SYSTEMS (ENGG121)

Credits: 7.5 / Semester: semester 2

To provide students with a basic understanding of modelling and simulation techniques. Mathematical modelling and graph theory will be introduced to develop practical skills in the modelling and designing of different types of systems including electromechanical systems.

FLUID MECHANICS (ENGG113)

Credits: 7.5 / Semester: semester 1

This module introduces fluid mechanics to the First Year Undergraduate students, describes the fundamental principles of fluid property, dimension analysis, hydrostatics and hydrodynamics. Students will be able to solve simple engineering problems involves steady fluid flow.

INTRODUCTION TO STATISTICS AND PROGRAMMING FOR ENGINEERS (ENGG185)

Credits: 7.5 / Semester: semester 1

This module introduces students to the basic concepts and principles of elementary statistics and programming. It explains the purposes and advantages of analysing data collected specifically to solve problems in engineering, reviews available software tools and programming languages used to formulate and answer basic engineering questions. It draws on examples from applications across the range of School of Engineering program areas.

ENGINEERING MATHEMATICS (MATH198)

Credits: 22.5 / Semester: whole session

MATH198 is a Year 1 mathematics module for students of programmes taught in the School of Engineering, e.g. Aerospace, Civil, Mechanical or Industrial Design Engineering. It is designed to reinforce and build upon A-level mathematics, providing you with the strong background required in your engineering studies and preparing you for the Year 2 mathematics module MATH299 (Mathematics engineering II). In the first semester, the foundations are laid: differential calculus, vector algebra, integration and applications. Semester two covers complex numbers, differential equations, Laplace transformations and functions of two variables

MECHANICAL ENGINEERING DESIGN A (MECH113)

Credits: 15 / Semester: semester 1

This module provides students with an introduction to mechanical design and the skills required by a professional engineer.

The module is configured around a group design project but is enhanced with lecture material and practical exercises to introduction to mechanical design and the skills required by a professional engineer.

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The majority of these are brought together through their application to the design project that runs alongside them.

MECHANICAL ENGINEERING DESIGN B (MECH114)

Credits: 15 / Semester: semester 2

This module provides students with a hands on introduction to mechanical design and the skills required by a professional engineer.

The module is configured around a group design project but is enhanced with lecture material and practical exercises to introduce skills such as report writing, oral presentation, computer aided design and the analysis of engineering mechanisms and components.

The majority of these are brought together through their application to the design project that runs alongside them.

MECHANICAL PRODUCT DISSECTION (MECH109)

Credits: 7.5 / Semester: semester 2

This is predominantly a practical module in which students work in small groups to examine in detail the workings and manufacture of a single-cylinder, 4-stroke petrol engine by dismantling it into component parts and documenting the disassembly process in a Wiki.

SOLIDS AND STRUCTURES 1 (ENGG110)

Credits: 15 / Semester: whole session

This module aims to introduce students to the fundamental concepts and theory of how engineering structures work to sustain loads. It will also show how stress analysis leads to the design of safer structures. It will also provide students with the means to analyse and design basic structural elements as used in modern engineering structures.

THERMODYNAMICS I (ENGG112)

Credits: 7.5 / Semester: semester 2

The module provides an introduction to the laws of thermodynamics which are essential to understanding many branches of engineering. The module will be taught through reference to everyday examples and applications drawn from aerospace, civil and mechanical engineering.

Programme details and modules listed are illustrative only and subject to change.

YEAR TWO

Year two follows your chosen path from your choice of the following:

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Programme details and modules listed are illustrative only and subject to change.

YEAR THREE

Year three follows your chosen path from your choice of the following:

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- [Architectural Engineering MEng](#) (HK28)
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YEAR FOUR

Year four follows your chosen path from your choice of the following:

- [Aerospace Engineering MEng](#) (H421)
- [Architectural Engineering MEng](#) (HK28)

- [Civil and Structural Engineering MEng](#) (H220)
- [Civil Engineering MEng](#) (H202)
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HOW YOU'LL LEARN

We are leading the UK's involvement in the international 'Conceive-Design-Implement-Operate' (cdio.org) initiative – an innovative educational framework for producing the next generation of engineers – providing students with an education stressing engineering fundamentals set in the context of conceiving, designing, implementing and operating real world systems and products. Students will benefit from this involvement and become 'industry-ready' graduates.

We offer an engineering education distinctive in the way students engage actively, through the design and make activities, with their learning process. Our degree programmes encompass the development of a holistic, systems approach to engineering. Technical knowledge and skills are complemented by a sound appreciation of the life-cycle processes involved in engineering and an awareness of the ethical, safety, environmental, economic and social considerations involved in practicing as a professional engineer. The School also houses the Engineering and Materials Education Research Group, which advises all UK teachers about innovations in engineering education.

LIVERPOOL HALLMARKS

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

Careers and employability

Engineering graduates are sought after in a variety of engineering fields and a wide range of other sectors. Graduates go on to work in engineering fields including healthcare, food production, aerospace, construction, power generation and manufacturing.

4 IN 5 OF OUR ENGINEERING STUDENTS FIND THEIR MAIN ACTIVITY AFTER GRADUATION MEANINGFUL.

Graduate Outcomes, 2018-19.

Recent employers of Engineering graduates include:

- Airbus
- Arup
- BAE Systems
- Balfour Beatty
- Bentley
- BMI
- British Airways
- British Army
- Corus
- Highways Agency
- Jaguar Land Rover
- Mott Macdonald
- Mouchel
- National Grid Transco
- National Nuclear Laboratory
- Network Rail
- Pilkington
- RAF
- Rolls Royce
- Royal Navy
- Siemens
- Tarmac
- United Utilities.

PREPARING YOU FOR FUTURE SUCCESS

At Liverpool, our goal is to support you to build your intellectual, social, and cultural capital so that you graduate as a socially-conscious global citizen who is prepared for future success. We achieve this by:

- Embedding employability within your curriculum, through the modules you take and the opportunities to gain real-world experience offered by many of our courses.
- Providing you with opportunities to gain experience and develop connections with

people and organisations, including student and graduate employers as well as our global alumni.

- Providing you with the latest tools and skills to thrive in a competitive world, including access to Handshake, a platform which allows you to create your personalised job shortlist and apply with ease.
- Supporting you through our peer-to-peer led [Careers Studio](#), where our career

coaches provide you with tailored advice
and support.

Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

TUITION FEES

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support. [Learn more about tuition fees, funding and student finance.](#)

UK fees	
Full-time place, per year	£9,250
Year in industry fee	£1,850
Year abroad fee	£1,385

International fees	
Full-time place, per year	£24,500

Fees stated are for the 2022-23 academic year and may rise for 2023-24.

ADDITIONAL COSTS

We understand that budgeting for your time at university is important, and we want to make sure you understand any course-related costs that are not covered by your tuition fee. This may include a laptop, books, or stationery. All safety equipment, other than boots, is provided free of charge by the department.

Find out more about the [additional study costs](#) that may apply to this course.

SCHOLARSHIPS AND BURSARIES

We offer a range of scholarships and bursaries to help cover tuition fees and help with living expenses while at university.

[Scholarships and bursaries you can apply for from the United Kingdom](#)

Select your country or region for more scholarships and bursaries.

Entry requirements

The qualifications and exam results you'll need to apply for this course.

Your qualification	Requirements About our typical entry requirements
A levels	<p>AAA including Mathematics and a second science.</p> <p>Applicants with the Extended Project Qualification (EPQ) are eligible for a reduction in grade requirements. For this course, the offer is AAB with A in the EPQ.</p> <p>You may automatically qualify for reduced entry requirements through our contextual offers scheme.</p>
GCSE	4/C in English and 4/C in Mathematics
Subject requirements	<p>Mathematics and a second science.</p> <p>Applicants following the modular Mathematics A Level must be studying A Level Physics or Further Mathematics as the second science (or must be studying at least one Mechanics module in their Mathematics A Level).</p> <p>Accepted Science subjects are Biology, Chemistry, Computing, Economics, Electronics, Environmental Science, Further Mathematics, Geography, Geology, Human Biology, Physics and Statistics.</p> <p>For applicants from England: Where a science has been taken at A Level (Chemistry, Biology or Physics), a pass in the Science practical of each subject will be required.</p>
BTEC Level 3 Subsidiary Diploma	Acceptable at grade Distinction alongside AA in A Level Mathematics and a second science.
BTEC Level 3 Diploma	D*D in relevant BTEC considered alongside A Level Mathematics grade A. Accepted BTECs include Aeronautical, Aerospace, Mechanical, Mechatronics and Engineering.

Your qualification	Requirements About our typical entry requirements
BTEC Level 3 National Extended Diploma	Not accepted without grade A in A Level Mathematics.
International Baccalaureate	35 overall, including 5 at Higher Level Mathematics and Physics.
Irish Leaving Certificate	H1, H1, H2, H2, H2, H2 including H1 in Higher Mathematics and Higher Second Science.
Scottish Higher/Advanced Higher	Pass Scottish Advanced Highers with grades AAA including Mathematics and a second science.
Welsh Baccalaureate Advanced	Not accepted.
Cambridge Pre-U Diploma	D3 in Cambridge Pre U Principal Subject is accepted as equivalent to A-Level grade A Global Perspectives and Short Courses are not accepted.
Access	Not accepted.

Your qualification	Requirements About our typical entry requirements
International qualifications	<div data-bbox="491 499 927 633" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Select your country or region to view specific entry requirements. </div> <p data-bbox="1002 499 1417 577">guaranteed a place on your chosen course.</p> <p data-bbox="491 667 927 1081">Many countries have a different education system to that of the UK, meaning your qualifications may not meet our entry requirements. Completing your Foundation Certificate, such as that offered by the University of Liverpool International College, means you're</p>

ALTERNATIVE ENTRY REQUIREMENTS

- If your qualification isn't listed here, or you're taking a combination of qualifications, [contact us](#) for advice
 - [Applications from mature students](#) are welcome.
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THE ORIGINAL

REDBRICK