Mechanical Engineering with a Year in Industry MEng

COURSE DETAILS

- A level requirements: AAB
- UCAS code: H303
- Study mode: Full-time
- Length: 5 years

KEY DATES

- Apply by: 29 January 2025
- Starts: 22 September 2025

Course overview

Study Mechanical Engineering and learn to design, build and test new products, processes and systems. You'll develop holistic engineering knowledge and problem solving abilities as you work towards an industry-accredited degree that's sought after in a wide range of sectors. This Master of Engineering degree satisfies the academic requirements for you to register as a Chartered Engineer and allows for a year-long industry work placement.

INTRODUCTION

A degree in Mechanical Engineering is the basis for a professional career in a broad range of industry sectors.

Mechanical Engineering is one of the oldest and broadest of the engineering disciplines. It is sought by employers in almost all sectors of engineering and beyond. Our graduates go on to work in fields such as medicine and healthcare, sustainable power generation, environmental technology, food production, sports science, aerospace, automotive, construction, nuclear, mechatronics and robotics, industrial product design, manufacturing, and project management.

Engineering graduates are also in demand in sectors such as accountancy, management consulting, and logistics. More than any other discipline, a degree in mechanical engineering is preparation for an enormously wide range of careers.

Our professionally accredited degree programmes offer an exciting blend of learning experiences designed to ensure our students not only master the scientific fundamentals, but also develop the skills, attitudes and experience demanded by 21st century engineering and society. Our ethos is to spend as much time outside the lecture theatre as possible. Our students spend a significant amount of their time working in teams to apply their learning in the solution of practical problems; or in the design, building and testing of new products processes and systems. This means our graduates are very well prepared for their careers ahead, and industry recognises them as highly employable.

The most important element of the MEng programme is the two-year Capstone project: a team project in which students design, build and race a single seat race car, a high speed bicycle or an underwater remotely operated vehicle; or in which students work with our industrial partners, alongside professional engineers, as they develop solutions to real industrial problems. These projects are designed to transform student engineers into fledgling professionals. They are rewarding for the students, are valued by industry and have been commended by the Institute of Mechanical Engineers.

WHAT YOU'LL LEARN

- Design, build and test products and systems
- Mechanical engineering scientific fundamentals
- Thermodynamics
- Fluid and solid mechanics
- Dynamic systems
- Materials
- Electronics and mathematics
- Project management
- Computer programming
- Engineering design
- Collaborative design

ACCREDITATION

Mechanical engineering programmes are accredited (or pending accreditation), by the Institution of Mechanical Engineers. They’re a recognised qualification on the route to Chartered Engineer status.

Course content

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

YEAR ONE

Years one and two of our programmes are designed to provide students with fundamental knowledge of engineering science in subjects such as thermodynamics; fluid mechanics; solid mechanics; dynamic systems; materials and electronics and mathematics. It is this scientific understanding that underpins the practice of all professional engineering. Students also learn about project management, computer programming, and engineering design. Lecture-based learning is complemented by a wide range of laboratory work, practical challenges, team-based 'design-build-test' projects, site visits and other activities.

COMPULSORY MODULES

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.

PROFESSIONAL ENGINEERING: A SKILLS TOOLKIT (ENGG111)

Credits: 30 / Semester: whole session

This module aims to provide students with an early understanding of the preliminary design processes including engineering drawing/visualisation, data analysis, computer aided engineering. It includes a team project and develops report writing and oral presentation skills. It also introduces vital topics of engineering sustainability and engineering ethics. It develops student ability to reflect upon and record their learning and development.

ENERGY SCIENCE (ENGG116)

Credits: 15 / Semester: whole session

To develop an understanding of the basic principles of fluid mechanics, the laws of thermodynamics, and an appreciation of how to solve simple engineering problems. To develop skills in performing and reporting simple experiments.

DIGITAL ENGINEERING (ENGG125)

Credits: 15 / Semester: whole session

Students completing the module should be able to understand simple computer programs and write their own simple MATLAB programs to solve problems and process data as required by other modules and in engineering practice.
Students completing the module will be able to understand simple electrical circuits with passive and active components, mechanical (mass-spring-damper) systems and electromechanical systems (DC machines). They will learn basic mathematical, practical and computational methods for analysing and modelling these.

ENGINEERING MATHEMATICS (ENGG198)

Credits: 22.5 / Semester: whole session

ENGG198 is a Year 1 mathematics module for students of programmes taught in the School of Engineering, e.g. Aerospace, Civil, Architectural, Mechanical, Product Design and Industrial Design Engineering. It is designed to reinforce and build upon A-level (or equivalent) mathematics, providing you with the strong background required in your engineering studies and preparing you for Year 2 mathematics modules.

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.

INTRODUCTION TO ENGINEERING MATERIALS (MATS105)

Credits: 15 / Semester: whole session

To provide students with a basic introduction to various classes of engineering materials, their mechanical properties, deformation and failure and how the properties structure and processing can be controlled to design materials with desired properties for various engineering applications.

Any optional modules listed above are illustrative only and may vary from year to year. Modules may be subject to minimum student numbers being achieved and staff availability. This means that the availability of specific optional modules cannot be guaranteed.

YEAR TWO

Years one and two of our programmes are designed to provide students with fundamental knowledge of engineering science in subjects such as thermodynamics; fluid mechanics; solid mechanics; dynamic systems; materials and electronics and mathematics. It is this scientific understanding that underpins the practice of all professional engineering. Students also learn about project management, computer programming, and engineering design.

Lecture-based learning is complemented by a wide range of laboratory work, practical challenges, team-based 'design-build-test' projects, site visits and other activities.

COMPULSORY MODULES

AEROENGINES (AERO213)

Credits: 15 / Semester: whole session

This module covers the main technical aspects of gas turbine engines used on aircraft and other mechanical applications (e.g. power generation, marine). It covers many topics from the basic principles of aeroengines (e.g. production of thrust) through to the design of axial flow turbomachinery (compressors and turbines). An understanding of the principles of compressible flow is also developed. Students do a laboratory using the Virtual Engine Test Bench to explore aeroengine components, thermodynamics and performance. In addition, they use a commercial CFD package to perform a compressible flow simulation.

EXPERIMENTAL METHODS (ENGG201)

Credits: 7.5 / Semester: semester 1

The module focusses on the essentials of data analysis and interpretation, engineering experimentation, measurement techniques and principles of instrumentation.

SOLIDS & STRUCTURES 2 (ENGG209)

Credits: 15 / Semester: whole session

This module aims to introduce students to techniques for load and displacement analysis of simple structures.

ENGINEERING MATHEMATICS AND COMPUTING (ENGG295)

Credits: 15 / Semester: whole session

Engineering Mathematics and Computing will provide a fundamental understanding of mathematical techniques used to solve Engineering problems. Successful completion of this module will provide students with basic skills and solution methodologies (mathematical, and using MATLAB) for various engineering applications. The module will expose the essentials of numerical methods to solve systems of linear, non-linear, ordinary and partial differential equations. A series of classic engineering problems, such as trusses, mass-spring dampeners, 2D trajectory calculation, and 2D heat flow will place the acquired knowledge in an engineering context.

ENGINEERING DESIGN (MECH212)

Credits: 15 / Semester: whole session

Professional Engineering can be defined as the application of science in the solution of problems and the development of new products, processes and systems. It is vital that all Engineering graduates have a solid design education; and this module is a core part of that.

In Year 1 students are introduced to the basic tools and techniques involved in engineering design.

In this module students are taught the basics of design theory in a lecture setting; but crucially they are required to apply this learning in a variety of group and individual projects: to design several innovative engineering products

Students are given a design brief and are "coached" through product design specification; creative conceptual design; they complete a detailed design & 3D CAD modelling project; they consider design for manufacture, assembly and environment; and materials selection.

The module also enables students to develop and practice teamwork, communication, project management and problem solving skills.

DYNAMIC SYSTEMS (MECH215)

Credits: 15 / Semester: whole session

Dynamic systems are encountered in most engineering disciplines such as mechanical engineering, aerospace engineering, electrical engineering. These systems require specific techniques to be analysed for design or monitoring purpose.

In this module, students will learn the main methods for analysing dynamic systems in time and frequency domains. They will learn how to solve dynamical problems, how to evaluate and control the stability, the accuracy and the rapidity of a dynamical system.

This module will be mainly delivered through class lectures and assessed through a final exam. Additionally, students will be taught some experimental techniques related to second-order dynamical systems through an assessed laboratory work.

THERMODYNAMICS (MECH217)

Credits: 15 / Semester: whole session

Steam, standard air and refrigeration cycles

PROJECT MANAGEMENT (MNGT202)

Credits: 7.5 / Semester: semester 1

Project Management is a core skill for professional engineers of all types and a sound education in this subject area is required by the professional accrediting bodies. The knowledge and skills developed in this module will equip students for their future UG project work and for their careers ahead.
This module teaches students the theory of fundamental techniques in project management, risk management, and cost management.

In this modules student undertake a group "virtual project" in which they undertake all stages of project management involved n a major construction projects. The five virtual project tasks require students to apply their theoretical learning; and they provide an opportunity to develop key professional skills.

ENGINEERING MATERIALS PROCESSING & SELECTION (MATS201)

Credits: 15 / Semester: semester 2

This module introduces the main processing and manufacturing techniques used to make metallic, ceramic, polymer and composite materials. The students will learn and appreciate how the microstructure and properties of materials are impacted by the processing methods. The students will also learn how to derive materials performance indices and select appropriate materials for a given situation.

Any optional modules listed above are illustrative only and may vary from year to year. Modules may be subject to minimum student numbers being achieved and staff availability. This means that the availability of specific optional modules cannot be guaranteed.

YEAR IN INDUSTRY

Get work experience and enhance your employability on a year-long placement with an approved organisation.

You'll source your own industry placement with the support from the School of Engineering. Industry placements are sought after and competition to be accepted, so a placement cannot be guaranteed. You'll transfer to the standard version of the programme if you can't secure a placement.

International students are eligible for the year in industry, though restrictions may apply.

COMPULSORY MODULES

SCHOOL OF ENGINEERING YEAR IN INDUSTRY (ENGG299)

Credits: 120 / Semester: whole session

This module is associated with the placement year of the 'year in industry' programme. On accepting an approved offer, students spend a minimum of 40 weeks employed in a company/organisation. Placements will be approved and arranged at places accessible to the individual student. An academic mentor will be assigned to monitor and assess the student's progress during placement. This will involve at least one site visit and follow-up telephone call as well as checking that the student's placement log is being kept up to date. The placement year should be a mutually beneficial experience for both student and employer. Students will be given opportunities and gain confidence to apply theories and technical skills learned in Years 1 and 2 of their studies in a real-time work environment. Ideally (depending on the placement), these activities will be engineering/industry relevant and project (team) based extending over several months and will therefore provide opportunities to develop the student's transferable skills and professional competence leading to enhanced employability.

Any optional modules listed above are illustrative only and may vary from year to year. Modules may be subject to minimum student numbers being achieved and staff availability. This means that the availability of specific optional modules cannot be guaranteed.

YEAR FOUR

In years four and five students move on to study advanced engineering science and undertake a 300-hour individual research project on a topic of their choice. They can also choose their engineering specialism by selecting one of five thematic streams: biomedical engineering, materials engineering, manufacturing, management, or simulation and analytics.

COMPULSORY MODULES

INDIVIDUAL PROJECT (ENGG341)

Credits: 30 / Semester: whole session

The Year 3 individual research project; 300 hours student work over 2 semesters; 3 assessment stages (proposal 5%, interim 20%, final 75%).

HEAT TRANSFER (MECH301)

Credits: 15 / Semester: semester 2

The aim of this module is to give the students a good understanding of the basic mechanisms of heat transfer and to equip them to solve significant engineering problems.

They will also learn about different designs of heat exchanger and how to carry out performance/design calculations.

VIBRATION AND CONTROL (MECH303)

Credits: 15 / Semester: semester 2

This module is built on MECH215. It consists of Vibration and Control as 2 main components. Both are on an advanced level and basically deal with multi-degree-of-freedom (or multi-input multi-output) systems.

The main mathematical tools are Laplace transforms, differential equations, simultaneous linear equations, complex numbers, trigonometry, vectors and matrices, eigenvalues and eigenvectors.

ENGINEERING FLUID MECHANICS (MECH326)

Credits: 15 / Semester: semester 1

The module provides students with the fundamental concepts of Engineering Fluid Mechanics, and in particular: the role of viscosity in fluid mechanics, including the no-slip condition and the concept of vorticity; the basic principles of laminar and turbulent flow through pipes including definition and evaluation of the Fanning and Darcy friction factors; the concept of a boundary layer, including separation and transition, and basic equations for friction factor in laminar and turbulent flow with zero pressure gradient; the calculation methods of bluff-body drag using drag coefficients with qualitative explanations the potential-flow theory including the concept of irrationality and the principle of superposition; the analysis of compressible flow through constant-area ducts accounting for friction or heat transfer and to use the Fanno- and Rayleigh-flow tables; the analysis of external compressible flow including expansion and compression turns (Prandtl-Meyer expansions and oblique shock waves).

MECHANICAL ENGINEERING CAPSTONE 1 (MECH327)

Credits: 15 / Semester: whole session

The 2-year Capstone Projects are a hallmark of the Mechanical Engineering MEng programmes at Liverpool. They are group projects in which students apply their scientific knowledge, design training and management skills to design-build-test innovative engineering products or systems. These projects provide students an opportunity to develop and evidence a wide range of technical, personal and professional skills. The Capstone modules make the greatest contribution to graduate employability.

Students are given the choice of project from a portfolio of 6-8 options: some target international sporting competition (eg Velocipede or Formula Student); others are industry-led and address real world challenges (eg Nuclear Rover decommissioning robot with NNL or Paediatric Wheelchairs with Alder Hey Hospital). The range of available projects varies each year.

Each project team is assigned an academic project supervisor and a dedicated member of technical staff. You will work closely with these staff and a range of other technical experts from industry and/or the research community. It should be noted that the students "own" their project and it is their responsibility to specify, plan, manage and report on all project work.

Students will be timetabled for 4-hours per week but will be expected to spend a significant amount of additional time working on their project.

A variety of assessment methods are used that are as close as possible to professional engineering practice.

At four key points in the year the Careers and Employability Service will join the module to help students reflect on, record in CV, and communicate at interview the professional development.

ADVANCED MODERN MANAGEMENT (MNGT352)

Credits: 7.5 / Semester: semester 1

The Aims of this module are as follows:

To introduce the student to various aspects of advanced modern management.

To develop a knowledge and understanding of modern management tools.

To stimulate an appreciation of management and its importance in organisational success.

COMPUTATIONAL METHODS IN ENGINEERING (ENGG386)

Credits: 15 / Semester: whole session

Finite element analysis and computational fluid dynamics tools have become ubiquitous in engineering practice to design trains, planes and automobiles, to analyse the structural mechanics of gears, shafts, bridges and skyscrapers and the fluid flow in power generation systems and in heating, ventilation and air conditioning, and many more applications. The module will provide students with the skills to use finite element analysis and computational fluid dynamics tools with confidence with an understanding of the underlying theory and technology, and limitations thereof.

MECHATRONICS (MECH316)

Credits: 7.5 / Semester: semester 1

This module aims to provide students with an appreciation of the challenges related to the design of Mechatronics systems.

Both hardware and software integration issues will be studied within this module.

General design principles will be introduced first and learning will focus on the popular Arduino platform.

Any optional modules listed above are illustrative only and may vary from year to year. Modules may be subject to minimum student numbers being achieved and staff availability. This means that the availability of specific optional modules cannot be guaranteed.

YEAR FIVE

In years four and five students move on to study advanced engineering science and undertake a 300-hour individual research project on a topic of their choice. They can also choose their engineering specialism by selecting one of five thematic streams: biomedical engineering, materials engineering, manufacturing, management, or simulation and analytics.

COMPULSORY MODULES

ADVANCED FLUID MECHANICS AND AERODYNAMICS (AERO406)

Credits: 15 / Semester: semester 1

To reinforce and deepen the students' understanding of:

— the mathematical description of fluid kinematics.

— the physical laws expressed by the equations of fluid motion.

— the assumptions associated with particular limits of the equations of fluid motion.

— simple exact solutions of the equations of motion.

— the governing equations for compressible flows.

— the differences between laminar and turbulent flow.

— the origins of laminar-turbulent flow transition.

— the physics of turbulence.

— the need for turbulence modelling and fundamental concepts of turbulence modelling.

To introduce students to advanced concepts in potential flow theory building upon existing knowledge of:

— the analytical generation of inviscid flow over two-dimensional objects using elementary potential flows.

— the analytical calculation of resulting forces and moments on lifting surfaces.

— the numerical computation of aerodynamic properties using panel methods

To enable student to:

— recognize the capabilities and weaknesses of CFD.

— choose appropriate levels of CFD analysis for a specific problem.

— use a suitable CFD package, including meshing and setting up a simulation.

— understand preliminary aerodynamic knowledge related to turbomachinery.

STRUCTURAL INTEGRITY (ENGG409)

Credits: 15 / Semester: semester 2

This module introduces the concepts required to maintain structural integrity. Topics covered are: detecting structural defects, predicting when defects will cause failure, and mitigating against failure.

MECHANICAL ENGINEERING CAPSTONE 2 (MECH431)

Credits: 30 / Semester: whole session

The 2-year Capstone Projects are a hallmark of the Mechanical Engineering MEng programmes at Liverpool. They are group projects in which students apply their scientific knowledge, design training and management skills to design-build-test innovative engineering products or systems. These projects provide students an opportunity to develop and evidence a wide range of technical, personal and professional skills. The Capstone modules make the greatest contribution to graduate employability.

Students are given the choice of project from a portfolio of 6-8 options: some target international sporting competition (eg Velocipede or Formula Student); others are industry-led and address real world challenges (eg Nuclear Rover decommissioning robot with NNL or Paediatric Wheelchairs with Alder Hey Hospital). The range of available projects varies each year.

Each project team is assigned an academic project supervisor and a dedicated member of technical staff. You will work closely with these staff and a range of other technical experts from industry and/or the research community. It should be noted that the students "own" their project and it is their responsibility to specify, plan, manage and report on all project work.

Students will be timetabled for 4-hours per week but will be expected to spend a significant amount of additional time working on their project.

A variety of assessment methods are used that are as close as possible to professional engineering practice.

At four key points in the year the Careers and Employability Service will join the module to help students reflect on, record in CV, and communicate at interview the professional development.

ENERGY AND THE ENVIRONMENT (MECH433)

Credits: 15 / Semester: semester 2

This modules discusses energy generation and usage, and how they complement each other. The topics are introduced in lectures that then lead onto a case study on a specific topic.

NUCLEAR TECHNOLOGIES (MECH434)

Credits: 7.5 / Semester: semester 1

The module provides an understanding of nuclear engineering, with coverage going from the atomic scale through to the bulk scale. The topics will cover reactor dynamics, design and operation, lifetime behaviour, evolution of technologies and nuclear waste. For example, understanding the implications of the fission/fusion processes themselves on the behaviour of the core.

ENTERPRISE STUDIES (MNGT414)

Credits: 7.5 / Semester: semester 2

The module teaches the concepts of Entrepreneurship, Intrapreneurship, Company Infrastructure and Investment Proposals. It is taught using lectures, class questions, case studie sand a comprehensive coursework assignment. Successful students will have acquired knowledge and understanding at mastery level of the process and how itis executed in a modern industrial environment.

OPTIONAL MODULES

MUSCULOSKELETAL BIOMECHANICS (ENGG410)

Credits: 15 / Semester: semester 2

This module will give students an understanding of the biomechanics of the musculoskeletal system and will cover techniques used to measure and analyse body movements as mechanical systems.

TISSUE ENGINEERING (ENGG412)

Credits: 15 / Semester: semester 2

The module will explore the understanding for the need for enhanced control of material induced biological interactions and how we can utilise novel material development and engineering techniques to control biological responses from the “bottom-up” (controlled biological interactions), developing the next generation of smart-implantable medical devices. As well as presenting fundamental concepts that are relevant to real clinical situations the module will also explore the need for cost effective solutions and viable routes for scale up and translation.

ADVANCED 4TH YEAR RESEARCH PROJECT (ENGG443)

Credits: 15 / Semester: whole session

This module focuses on a specific project related to a students third year project, with a journal style paper written.

STRUCTURAL BIOMATERIALS (MATS410)

Credits: 15 / Semester: semester 1

This modules covers topics related to the structure and properties of materials that are used in medical devices, including metals and alloys, polymers and ceramics. Corrosion and polymer degradation is also covered.

LASER MATERIALS PROCESSING (MECH605)

Credits: 15 / Semester: semester 1

The module will cover: how lasers work, what are the key beam properties of high power lasers, how the beam is deployed and delivered to the process/workpiece, safety in laser materials processing, and the working principles and industry practice for a range of laser processes.

INDUSTRIAL ROBOTICS AND AUTOMATED ASSEMBLY (MNFG409)

Credits: 15 / Semester: semester 2

This module investigates how industrial robots and other equipment are used and integrated into more complex automated systems. The module emphasis is upon the application and use of these systems, with less emphasis on the underlying theoretical mechanisms. The module is based in the concept of learning through doing, the underlying content being presented as videos, while the contact time is used in practical sessions using industrial robots and in the development of robotic systems using industrial simulation software. The assessments are designed to help reinforce understanding rather than short term memory. As an FHEQ level 7 module the tasks and assessments are designed to develop deeper knowledge and skill in application than that expected for those at FHEQ level 6.

ADDITIVE MANUFACTURING (MNFG603)

Credits: 15 / Semester: semester 1

This module aligns our graduates with the market needs. The UK additive manufacturing market was valued at 0.54 billion pounds sterling in 2022 and is predicted to reach 2.01 billion pounds sterling by 2030, with a compound annual growth rate of 18.0% from 2023 to 2030.

ADVANCED ENGINEERING MATERIALS (MATS631)

Credits: 15 / Semester: semester 2

This module aims to understand advanced engineering materials, focusing on non-ferrous alloys and composite materials. It covers the processing, heat treatment, microstructure and properties of Al, Ti and Ni alloys. It introduces constituent materials, manufacturing methods, test methods and mechanical response of composite materials.

Any optional modules listed above are illustrative only and may vary from year to year. Modules may be subject to minimum student numbers being achieved and staff availability. This means that the availability of specific optional modules cannot be guaranteed.

HOW YOU'LL LEARN

We are leading the UK's involvement in the international Conceive-Design-Implement-Operate (CDIO) initiative – an innovative educational framework for producing the next generation of engineers.

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.

You will be taught through a combination of face-to-face teaching in group lectures, laboratory sessions, tutorials, and seminars. Our programmes include a substantial practical component, with an increasing emphasis on project work as you progress through to the final year. You will be supported throughout by an individual academic adviser.

You'll study in The School of Engineering, which hosts modern, world-class teaching and learning facilities. This includes the Active Learning Laboratories, which feature lab space, manufacturing robots and prototyping facilities so you can learn, build and test. You'll also have access to high-spec workstations featuring industry-standard engineering software.

HOW YOU'RE ASSESSED

Assessment takes many forms, each appropriate to the learning outcomes of the particular module studied. The main modes of assessment are coursework and examination. Depending on the modules taken, you may encounter project work, presentations (individual and/or group), and specific tests or tasks focused on solidifying learning outcomes.

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

Mechanical engineering graduates are sought after in 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.

Recent employers of Mechanical Engineering graduates include:

- Aerospace/Aviation: Airbus, British Airways, Jaguar Land Rover, Rolls Royce
- Engineering/Construction: Arup, Balfour Beatty, Bentley, Corus, Mott Macdonald, Mouchel, Pilkington, Siemens, Tarmac
- Defense/Military: BAE Systems, British Army, RAF (Royal Air Force), Royal Navy
- Utilities/Energy: BMI, National Grid Transco, National Nuclear Laboratory, United Utilities
- Transportation/Infrastructure: Highways Agency, Network Rail.

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

Graduate Outcomes, 2018-19.

Fees and funding

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

TUITION FEES

UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)	
Full-time place, per year	£9,535
Year in industry fee	£1,850

International fees	
Full-time place, per year	£29,100
Year in industry fee	£1,850

The UK full-time tuition fee and international course fee shown are correct for 2025/26 entry. We are currently awaiting confirmation of whether the year in industry fees will change, so the fees shown are for 2024/25.

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 fees and funding.

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 that could help pay your tuition and living expenses.

We've set the country or region your qualifications are from as United Kingdom. Change it here

- ## UNDERGRADUATE GLOBAL ADVANCEMENT SCHOLARSHIP

  - International students

  If you're a high-achieving international student starting an undergraduate degree with us from September 2024, you could be eligible to receive a fee discount of up to £5,000. You'll need to achieve grades equivalent to AAA in A levels. Most of our undergraduate degrees are eligible, with the exception of clinical programmes in Medicine and Dental Surgery.

- ## THE LIVERPOOL BURSARY

  - Home students

  If you're a UK student joining an undergraduate degree and have a household income below £35,000, you could be eligible for a Liverpool Bursary worth up to £2,000 for each year of undergraduate study.

- ## ASYLUM SEEKERS SCHOLARSHIP

  - Home students

  Apply for an Asylum Seekers Scholarship and you could have your tuition fees paid in full and receive help with study costs. You'll need to have applied for asylum in the UK, or be the dependant of an asylum seeker, and be joining an eligible undergraduate degree.

- ## CARE LEAVERS' OPPORTUNITY BURSARY

  - Home students

  If you've spent 13 or more weeks in Local Authority care since age 14, you could be eligible for a bursary of £3,000 per year of study. You'll need to be a UK student joining an eligible undergraduate degree and be aged 28 or above on 1 September in the year you start.

- ## COWRIE FOUNDATION SCHOLARSHIP

  - Home students

  Are you a UK student with a Black African or Caribbean heritage and a household income of £25,000 or less? You could be eligible to apply for a Cowrie Foundation Scholarship worth up to £8,000 for each year of undergraduate study.

- ## ESTRANGED STUDENTS BURSARY

  - Home students

  If you're a UK student identified as estranged by Student Finance England (or the equivalent UK funding body), you could be eligible for a bursary of £1,000 for each year of undergraduate study.

- ## GENESYS LIFE SCIENCES SCHOLARSHIP

  - Home students

Joining a School of Biosciences degree and have a household income of less than £25,000? If you're a UK student, you could apply to receive £4,500 per year for three years of your undergraduate course.

- ## GRADUATE ASSOCIATION HONG KONG & TUNG UNDERGRADUATE SCHOLARSHIPS

  - International students
  - Hong Kong

If you're an undergraduate student from Hong Kong who can demonstrate academic excellence, you may be eligible to apply for a scholarship worth £10,000 in partnership with the Tung Foundation.

- ## KAPLAN DIGITAL PATHWAYS EXCELLENCE SCHOLARSHIP

  - International students

Completed a Kaplan Digital Pathways Foundation Certificate? We're offering a £5,000 fee discount off the first year of undergraduate study for a maximum of two high achieving students joining one of our non-clinical degrees from an online Kaplan Foundation Certificate.

- ## NOLAN SCHOLARSHIPS

  - Home students

Do you live in the Liverpool City Region with a household income of £25,000 or less? Did neither of your parents attend University? You could be eligible to apply for a Nolan Scholarship worth £5,000 per year for three years of undergraduate study.

- ## RIGBY ENTERPRISE AWARD

  - Home students

Are you a UK student with a household income of £25,000 or less? If you've participated in an eligible outreach programme, you could be eligible to apply for a Rigby Enterprise Award worth £5,000 per year for three years of your undergraduate degree.

- ## ROLABOTIC SCHOLARSHIP

  - Home students

Are you a UK student with a household income of £25,000 or less? Did neither of your parents attend University? You could be eligible to apply for a ROLABOTIC Scholarship worth £4,500 for each year of your undergraduate degree.

- ## SPORT LIVERPOOL PERFORMANCE PROGRAMME

  - Home and international students

Apply to receive tailored training support to enhance your sporting performance. Our athlete support package includes a range of benefits, from bespoke strength and conditioning training to physiotherapy sessions and one-to-one nutritional advice.

- ## TECHNETIX BROADHURST ENGINEERING SCHOLARSHIP

  - Home students

Joining a degree in the School of Electrical Engineering, Electronics and Computer Science? If you're a UK student with household income below £25,000, you could be eligible to apply for £5,000 a year for three years of study. Two awards will be available per academic year.

- ## UNIVERSITY OF LIVERPOOL INTERNATIONAL COLLEGE EXCELLENCE SCHOLARSHIP

  - International students

Completed a Foundation Certificate at University of Liverpool International College (UoLIC)? We're offering a £5,000 fee discount off the first year of undergraduate study to some of the highest achieving students joining one of our non-clinical degrees from UoLIC.

- ## UNIVERSITY OF LIVERPOOL INTERNATIONAL COLLEGE FIRST CLASS SCHOLARSHIP

  - International students

We're offering a £1,000 fee discount for years 2 and 3 of undergraduate study to eligible students progressing from University of Liverpool International College. You'll need to be studying a non-clinical subject and get an average of 70% or above in year 1 of your degree.

- ## UNIVERSITY OF LIVERPOOL INTERNATIONAL COLLEGE IMPACT PROGRESSION SCHOLARSHIPS

  - International students

If you're a University of Liverpool International College student awarded a Kaplan Impact Scholarship, we'll also consider you for an Impact Progression Scholarship. If selected, you'll receive a £3,000 fee discount off the first year of your undergraduate degree.

- ## YOUNG ADULT CARER'S (YAC) BURSARY

  - Home students

If you're a young adult and a registered carer in the UK, you might be eligible for a £1,000 bursary for each year of study. You'll need to be aged 18-25 on 1 September in the year you start your undergraduate degree.

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	AAB including Mathematics and a second science. Applicants with the Extended Project Qualification (EPQ) are eligible for a reduction in grade requirements. For this course, the offer is **ABB** with **A** in the EPQ. You may automatically qualify for reduced entry requirements through our contextual offers scheme.
GCSE	4/C in English and 4/C in Mathematics
Subject requirements	Mathematics and a second science. 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). Accepted Science subjects are Biology, Chemistry, Computing, Economics, Electronics, Environmental Science, Further Mathematics, Geography, Geology, Human Biology, Physics and Statistics. For applicants from England: For science A levels that include the separately graded practical endorsement, a "Pass" is required.
BTEC Level 3 National Extended Certificate	Acceptable at grade Distinction* alongside BB in A Level Mathematics and a second science.
BTEC Level 3 Diploma	Distinction* Distinction* in relevant BTEC considered alongside A Level Mathematics grade B. Accepted BTECs

Your qualification	**Requirements** About our typical entry requirements
	include Aeronautical, Aerospace, Construction, Mechanical, Mechatronics and Engineering.
BTEC Level 3 National Extended Diploma	D*DD in acceptable BTEC, plus B in A level Maths (not accepted without B in A level Maths)
International Baccalaureate	35 overall, including 5 at Higher Level Mathematics and 5 at Higher Level in a second science.
Irish Leaving Certificate	H1,H1,H2,H2,H2,H3, including H2 in Higher Maths and Higher Second Science. We also require a minimum of H6 in Higher English or O3 in Ordinary English
Scottish Higher/Advanced Higher	Pass Scottish Advanced Highers with grades AAB including Mathematics and a second science
Welsh Baccalaureate Advanced	Acceptable at grade B alongside AA in A Level Mathematics and a second science
Access	Considered if taking a relevant subject. Check with Department or Admissions team.
International qualifications	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 guaranteed a place on your chosen course.

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.

THE ORIGINAL REDBRICK