UNIVERSITY OF LIVERPOOL

MEng

Mechanical Engineering with a Year in Industry

UCAS code H303

Entry requirements	Study mode	Duration
A level: AAB	Full-time	5 years

Apply by: **29 January 2025**
Starts on: **22 September 2025**

About this course

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.

Accreditation in detail

Institution of Mechanical Engineers

All mechanical engineering programmes are accredited, or pending accreditation, by the Institution of Mechanical Engineers. This is the professional body for Mechanical Engineers. Our programmes are a recognised qualification on the route to Chartered Engineer status.

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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

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.

Modules

Compulsory modules	Credits
SOLIDS AND STRUCTURES 1 (ENGG110)	15
PROFESSIONAL ENGINEERING: A SKILLS TOOLKIT (ENGG111)	30
ENERGY SCIENCE (ENGG116)	15
DIGITAL ENGINEERING (ENGG125)	15
ENGINEERING MATHEMATICS (ENGG198)	22.5
MECHANICAL PRODUCT DISSECTION (MECH109)	7.5
INTRODUCTION TO ENGINEERING MATERIALS (MATS105)	15

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

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.

Modules

Compulsory modules	Credits
AEROENGINES (AERO213)	15
EXPERIMENTAL METHODS (ENGG201)	7.5
SOLIDS & STRUCTURES 2 (ENGG209)	15
ENGINEERING MATHEMATICS AND COMPUTING (ENGG295)	15
ENGINEERING DESIGN (MECH212)	15
DYNAMIC SYSTEMS (MECH215)	15
THERMODYNAMICS (MECH217)	15
PROJECT MANAGEMENT (MNGT202)	7.5
ENGINEERING MATERIALS PROCESSING & SELECTION (MATS201)	15

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

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.

Modules

Compulsory modules	Credits
SCHOOL OF ENGINEERING YEAR IN INDUSTRY (ENGG299)	120

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

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.

Modules

Compulsory modules	Credits
INDIVIDUAL PROJECT (ENGG341)	30

Compulsory modules	Credits
HEAT TRANSFER (MECH301)	15
VIBRATION AND CONTROL (MECH303)	15
ENGINEERING FLUID MECHANICS (MECH326)	15
MECHANICAL ENGINEERING CAPSTONE 1 (MECH327)	15
ADVANCED MODERN MANAGEMENT (MNGT352)	7.5
COMPUTATIONAL METHODS IN ENGINEERING (ENGG386)	15
MECHATRONICS (MECH316)	7.5

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

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.

Modules

Compulsory modules	Credits
ADVANCED FLUID MECHANICS AND AERODYNAMICS (AERO406)	15
STRUCTURAL INTEGRITY (ENGG409)	15

Compulsory modules	Credits
MECHANICAL ENGINEERING CAPSTONE 2 (MECH431)	30
ENERGY AND THE ENVIRONMENT (MECH433)	15
NUCLEAR TECHNOLOGIES (MECH434)	7.5
ENTERPRISE STUDIES (MNGT414)	7.5

Optional modules	Credits
MUSCULOSKELETAL BIOMECHANICS (ENGG410)	15
TISSUE ENGINEERING (ENGG412)	15
ADVANCED 4TH YEAR RESEARCH PROJECT (ENGG443)	15
STRUCTURAL BIOMATERIALS (MATS410)	15
LASER MATERIALS PROCESSING (MECH605)	15
INDUSTRIAL ROBOTICS AND AUTOMATED ASSEMBLY (MNFG409)	15
ADDITIVE MANUFACTURING (MNFG603)	15
ADVANCED ENGINEERING MATERIALS (MATS631)	15

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

Teaching and assessment

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.

The Liverpool Curriculum framework sets out our distinctive approach to education. Our teaching staff support our students to develop academic knowledge, skills, and understanding alongside our **graduate attributes**:

- Digital fluency
- Confidence
- Global citizenship

Our curriculum is characterised by the three **Liverpool Hallmarks**:

- Research-connected teaching
- Active learning
- Authentic assessment

All this is underpinned by our core value of **inclusivity** and commitment to providing a curriculum that is accessible to all students.

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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.

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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 - £1,905

International fees

Full-time place, per year - £29,100
Year in industry fee - £1,905

The tuition fees shown are correct for 2025/26 entry. Please note that the year abroad fee also applies to the year in China.

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 paying for your studies.

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.

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Entry requirements

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

A levels

AAB

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. Based on your personal circumstances, you may automatically qualify for up to a two-grade reduction in the entry requirements needed for this course. When you apply, we consider a range of factors – such as where you live – to assess if you're eligible for a grade reduction. You don't have to make an application for a grade reduction – we'll do all the work.

Find out more about how we make reduced grade offers.

T levels

T levels are not currently accepted.

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 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

Select your country or region to view specific entry requirements.

If you hold a bachelor's degree or equivalent, but don't meet our entry requirements, you could be eligible for a Pre-Master's course. This is offered on campus at the University of Liverpool International College, in partnership with Kaplan International Pathways. It's a specialist preparation course for postgraduate study, and when you pass the Pre-Master's at the required level with good attendance, you're guaranteed entry to a University of Liverpool master's degree.

English language requirements

You'll need to demonstrate competence in the use of English language, unless you're from a majority English speaking country.

We accept a variety of international language tests and country-specific qualifications.

International applicants who do not meet the minimum required standard of English language can complete one of our Pre-Sessional English courses to achieve the required level.

IELTS

6.0 overall, with no component below 5.5

TOEFL iBT

78 overall, with minimum scores of listening 17, writing 17, reading 17 and speaking 19. TOEFL Home Edition not accepted.

TOEFL Paper

Grade 6 at Standard Level or grade 5 at Higher Level

Duolingo English Test

115 overall, with speaking, reading and writing not less than 105, and listening not below 100

Pearson PTE Academic

59 overall, with no component below 59

LanguageCert Academic

65 overall, with no skill below 60

Cambridge IGCSE First Language English 0500

Grade C overall, with a minimum of grade 2 in speaking and listening. Speaking and listening must be separately endorsed on the certificate.

Cambridge IGCSE First Language English 0990

Grade 4 overall, with Merit in speaking and listening

Cambridge IGCSE Second Language English 0510/0511

0510: Grade C overall, with a minimum of grade 2 in speaking. Speaking must be separately endorsed on the certificate. 0511: Grade C overall.

Cambridge IGCSE Second Language English 0993/0991

0993: Grade 5 overall, with a minimum of grade 2 in speaking. Speaking must be separately endorsed on the certificate. 0991: Grade 5 overall.

Cambridge ESOL Level 2/3 Advanced

169 overall, with no paper below 162

LanguageCert

Grade 4 at Standard Level or grade 4 at Higher Level

Pre-sessional English

Do you need to complete a Pre-sessional English course to meet the English language requirements for this course?

The length of Pre-sessional English course you'll need to take depends on your current level of English language ability.

Pre-sessional English in detail

If you don't meet our English language requirements, we can use your most recent IELTS score, or the equivalent score in selected other English language tests, to determine the length of Pre-sessional English course you require.

Use the table below to check the course length you're likely to require for your current English language ability and see whether the course is available on campus or online.

Your most recent IELTS score	Pre-sessional English course length	On campus or online
5.5 overall, with no component below 5.5	6 weeks	On campus
5.5 overall, with no component below 5.0	10 weeks	On campus and online options available
5.0 overall, with no component below 5.0	12 weeks	On campus and online options available
5.0 overall, with no component below 4.5	20 weeks	On campus
4.5 overall, with no component below 4.5	30 weeks	On campus
4.0 overall, with no component below 4.0	40 weeks	On campus

If you've completed an alternative English language test to IELTS, we may be able to use this to assess your English language ability and determine the Pre-sessional English course length you require.

Please see our guide to Pre-sessional English entry requirements for IELTS 6.0 overall, with no component below 5.5, for further details.

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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