UNIVERSITY OF LIVERPOOL

MSc (Eng)

Mechanical Engineering Design with Management

Study mode	Duration	
Full-time	12 months	Apply by: **29 August 2025** Starts on: **22 September 2025**

About this course

The Mechanical Engineering Design with Management MSc aims to develop your academic knowledge and technical engineering skills with the integration of creative, problem-solving design elements within a business context.

Introduction

Mechanical Engineering Design incorporates designing complex systems in order to develop and evaluate the design performance using technical engineering knowledge and skills, with the aim to continuously improve the product and manufacturing techniques.

Mechanical Engineering Designers are responsible for the design process including the concept of designs, analysis of existing products, production of prototypes for product testing and identification of new systems, processes and feasibility to drive quality, efficiency and save costs.

Mechanical Design Engineers are in demand by employers as they embrace challenges, can solve problems effectively, and have strong technical knowledge – as well as excellent communication and leadership skills.

This MSc will enable you to develop your knowledge and technical skills by combining the numerical, analytical and scientific principles of Mechanical Engineering Design with an in-depth understanding of management and business acumen to master's degree level.

Who is this course for?

BEng Aerospace, Mechanical or Civil Engineering Graduates from University of Liverpool are not eligible for this programme.

What you'll learn

- 3D design tools and computer aided design
- Advanced modern management tools
- Fluid mechanics
- Reactor dynamics, design and operation, lifetime behaviour, evolution of technologies and nuclear waste
- Rapid Prototyping, Rapid Manufacturing and Additive Manufacturing
- Advanced engineering materials, focusing on non-ferrous alloys and composite materials.

Accreditation

This programme has been accredited by the Institution of Mechanical Engineers (IMechE), which will help you gain Chartered 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.

Semester one

UK students are exempt from **Technical Writing for Engineers** and should instead take **Project Management**. EU/International students with strong English language skills can be exempt as well, subject to Programme Director's approval.

For students from suitable backgrounds or University of Liverpool Engineering graduates, replace Engineering Fluid Mechanics with Advanced Fluid Mechanics.

Modules

Compulsory modules	Credits
ENGINEERING FLUID MECHANICS (MECH627)	15
COMPUTER AIDED DESIGN (MNFG604)	7.5
NUCLEAR TECHNOLOGIES (MECH434)	7.5
PROJECT MANAGEMENT (MNGT502)	7.5
ADVANCED MODERN MANAGEMENT (MNGT352)	7.5
TECHNICAL WRITING FOR ENGINEERS (ENGG596)	7.5
GROUP ENGINEERING DESIGN (MECH401)	15

Optional modules	Credits
FINITE ELEMENT ANALYSIS (MECH452)	7.5

Optional modules	Credits
ADDITIVE MANUFACTURING (MNFG610)	7.5
ADVANCED ENGINEERING MATERIALS (MATS301)	7.5
FORMULATION ENGINEERING (ENGG413)	7.5

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

Semester two

Modules

Compulsory modules	Credits
ADVANCED MANUFACTURING WITH LASERS (MECH607)	15
ENERGY AND THE ENVIRONMENT (MECH433)	15
ENTERPRISE STUDIES (MNGT414)	7.5
STRUCTURAL INTEGRITY (ENGG409)	15
GROUP ENGINEERING DESIGN (MECH401)	15

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

Final project

You will undertake and complete your final project over the summer.

Modules

Compulsory modules	Credits
MSC(ENG) PROJECT (60 CREDITS) (ENGG660)	60

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

Teaching and assessment

How you'll learn

You'll learn across a variety of teaching methods, like lectures, seminars, and tutorials – some online and some in person. You'll also access asynchronous online content on a weekly basis with personal tutorials and take part in group work projects, based on engineering grand challenges faced by global society today.

There's opportunity to get hands-on too with active learning lab sessions, laser micromachining and lab work using special design software such as Finite Element.

How you're assessed

Across your modules, you'll be assessed in a number of different ways, including exams, lab activity, case studies, project journals, poster presentations, and CAD models of products. You'll also solve example Finite Element problems with randomly generated geometry specifically for you. For each problem, you must report a key result per problem (maximum stress etc.) to within an error tolerance.

Your final project work will be based on a topic of industrial or scientific relevance, and will be carried out in laboratories in the University or at an approved placement in industry. You'll examine this project in your dissertation and show evidence of in-depth understanding, mastery of research techniques, ability to analyse assembled data, and assessment of 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

This programme includes a strong practical element and incorporates the latest academic and industry research, enabling you to work effectively at the forefront of engineering.

Career Destinations are wide and varied**.** Some employers include:

- Agusta Westland
- NHS
- BAE Systems
- Ford
- Jaguar
- Unilever
- Armed Forces
- QinetiQ
- National and International bodies such as EPSRC and the European Commission.

Career support from day one to graduation and beyond

Career planning

From education to employment

Networking events

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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 - £13,300

International fees

Full-time place, per year - £29,900

Fees stated are for the 2025-26 academic year.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support.

- You can pay your tuition fees in instalments.
- All or part of your tuition fees can be funded by external sponsorship.
- International applicants who accept an offer of a place will need to pay a tuition fee deposit.

If you're a UK national, or have settled status in the UK, you may be eligible to apply for a Postgraduate Loan worth up to £12,167 to help with course fees and living costs. **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 could include buying a laptop, books, or stationery.

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.

Postgraduate entry requirements

We accept a 2:2 honours degree from a UK university, or an equivalent academic qualification from a similar non-UK institution. This should be in Engineering or Science with appropriate knowledge of core mechanical engineering science topics at undergraduate degree level.

International qualifications

Select your country or region to view specific entry requirements.

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.

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

6.5 overall, with no component below 6.0

TOEFL iBT

88 overall, with minimum scores of listening 19, writing 19, reading 19 and speaking 20. TOEFL Home Edition not accepted.

Duolingo English Test

125 overall, with writing not less than 125, speaking and reading not less than 115, and listening not below 110

Pearson PTE Academic

61 overall, with no component below 59

LanguageCert Academic

70 overall, with no skill below 65

PSI Skills for English

B2 Pass with Merit in all bands

INDIA Standard XII

National Curriculum (CBSE/ISC) - 75% and above in English. Accepted State Boards - 80% and above in English.

WAEC

C6 or above

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
6.0 overall, with no component below 6.0	6 weeks	On campus
6.0 overall, with no component below 5.5	10 weeks	On campus and online options available
6.0 overall, with no more than one component below 5.5, and no component below 5.0	12 weeks	On campus and online options available
5.5 overall, with no more than one component below 5.5, and no component below 5.0	20 weeks	On campus
5.0 overall, with no more than one component below 5.0, and no component below 4.5	30 weeks	On campus
4.5 overall, with no more than one component below 4.5, and 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 6.5 overall, with no component below 6.0, for further details.

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