School of Mechanical Engineering

Learning and teaching

Hands-on learning

Careers and employability

Aeronautical and Aerospace Engineering (MEng, BEng)

Automotive Engineering (MEng, BEng)

Mechanical Engineering (MEng, BEng)

Medical Engineering (MEng, BEng)

Modules

Mechatronics and Robotics (MEng, BEng)

Product Design (MDes, BSc)

Modules

WE'RE RANKED TOP FIVE IN THE UK IN
THE GUARDIAN, TIMES AND SUNDAY
TIMES AND COMPLETE UNIVERSITY
GUIDE LEAGUE TABLES

Information provided by the University such as in presentations, University brochures and the University website, is accurate at the time of first disclosure. However, courses, University services and content of publications remain subject to change. Changes may be necessary to comply with the requirements of accrediting bodies or to keep courses contemporary through updating practices or areas of study. Circumstances may arise outside the reasonable control of the University, leading to required changes. Such circumstances include, industrial action, unexpected student numbers, significant staff illness (where a course is reliant upon a person's expertise), unexpected lack of funding, severe weather, fire, civil disorder, political unrest, government restrictions and serious concern with regard to the transmission of serious illness making a course unsafe to deliver. After a student has taken up a place with the University, the University will look to give early notification of any changes and try to minimise their impact, offering suitable alternative arrangements or forms of compensation where it believes there is a fair case to do so. Offers of a place to study at the University will provide up to date information on courses. The latest key information on courses, entry requirements and fees can be found at www.leeds.ac.uk/courses. Please check this website before making any decisions.
The School of Mechanical Engineering offers both a broad mechanical engineering degree and more specialised degrees in aeronautical and aerospace engineering, automotive engineering and medical engineering.

Engineers qualified in all these areas play a key role in the design and manufacture of items that impact on modern living and our everyday lives, whether it’s household goods, healthcare products, sports equipment, reliable cars, aircraft or other transport systems. They are also key to the development of new technologies, which often have to operate reliably in difficult environments: from life-enhancing medical implants and robots for volcanic exploration to large-scale projects such as the International Space Station.

While technical knowledge is crucial, engineers must have the skills to work effectively in teams. They have to be able to manage projects and to make complex decisions where there may be many competing factors.

In many ways, the challenges facing engineers are greater now than they have ever been. Through the skills and technical expertise they develop at Leeds, our graduates can combine the latest advances in materials and design tools with a fundamental understanding of engineering science to design and manufacture goods that are more reliable and environmentally sustainable.

Our degrees are accredited by the Institution of Mechanical Engineers (IMechE), and our MEng, BEng Aeronautical and Aerospace Engineering course is jointly accredited by the IMechE and the Royal Aeronautical Society (RAeS). Accreditation is vital if you want to become a chartered engineer after graduation.”

Dr Alison Jones, Lecturer and Admissions Tutor

For further details visit engineering.leeds.ac.uk
Learning and teaching

Our groundbreaking research feeds directly into teaching, so you will be taught by academics who are leaders in their fields and engaged in the active research environment. Most importantly, you will be able to engage with and contribute to current research yourself in your individual and team-based project work.

INDUSTRY RELEVANT COURSES
Our Industrial Advisory Committee helps ensure our courses are up to date with the modern practices and techniques that will enable you to thrive in industry upon graduation. All degree courses are accredited by the Institution of Mechanical Engineers (IMechE), and our Aeronautical and Aerospace Engineering course is also jointly accredited by the Royal Aeronautical Society.

FLEXIBLE DEGREES
Our courses share a common first two years. This means you have the freedom to switch courses up until the end of your second year.

You also have the option of extending your studies by taking an industrial placement year or applying to spend time abroad. Visit our ‘Careers and employability’ section on page 06 to find out more about these options.

INTEGRATED MASTERS (MEng, BEng)
All our courses are Integrated Masters (MEng, BEng) degrees, providing you with great breadth and depth of study. If you study for four years, you can graduate with an MEng – the preferred engineering qualification, which fulfils the academic requirements en route to Chartered Engineer status.

This course offers you the opportunity to work on a wider range of projects with a high level of industrial involvement. Should you wish to graduate early, you may decide at any point until the middle of the third year to graduate after three years with a BEng.

If you are sure from the start that you only want to study for three years, for example if you are an international student, it is also possible to apply for the BEng version of our courses. The BEng is identical to the first three years of the MEng course and has the same entry requirements.

FACILITIES
You will have access to extensive laboratory space and equipment for subjects such as solid mechanics, fluid mechanics, engine testing and thermofluids and control and dynamics. You will also enjoy our excellent teaching facilities such as our high-spec CAD cluster, workshop facilities and well-equipped lecture theatres and laboratories.

The LabVIEW Academy programme, the first of its kind in the UK, developed by National Instruments, combines face-to-face teaching with hands-on lab exercises, preparing students for their future careers by developing their skills in using the visual programming language LabVIEW.

The School is also home to the £4.3m EPSRC-funded National Facility for Innovative Robotic Systems, which specialises in rehabilitation robotics, surgical technologies and exploration robotics.

STUDENT SUPPORT
Our personal tutorial system will provide academic and pastoral support. You will have a designated personal tutor throughout your studies at Leeds. He or she will be an academic member of staff: you will have weekly academic tutorials throughout your first and second year, as well as one-to-one meetings with your tutor twice per semester.

In addition, our excellent Student Support team is based close to where you’ll work and study to help with anything from academic advice to timetabling and project submission enquiries.

The web-based student portal will enable you to access the University's student services and information, while our Virtual Learning Environment (VLE) will allow you access to your personal timetables, course materials, academic and social groups, and much more.

RANKED FIRST IN THE UK FOR MECHANICAL ENGINEERING IN THE GUARDIAN UNIVERSITY LEAGUE TABLES 2018
Hands-on learning

Projects provide an excellent opportunity to explore a subject further and enable you to develop essential skills such as problem-solving, communication and teamwork, all vital to success in your future career.

Our courses are built on the principles of conceive, design, implement and operate (CDIO), an international initiative that seeks to place the learning of engineering science in the context of what engineers do. We believe this approach will enable you to gain a deeper understanding of the fundamental science and help you to relate abstract concepts to real-world problems.

YEAR ONE
You’ll design 3D parts for a gearbox using computer software. You’ll have these parts manufactured by our manufacturing workshop and then test whether they fit together in a perfect assembly.

Later, you’ll work in a team to design and make an elastic-powered device to transport a box of accelerometers over a given distance. The devices are then raced or tested against each other in our industry-sponsored Shooting, Racing and Flying competition.

YEAR TWO
You’ll take part in our flagship design and make project – The Daring Dash – which is a world-class learning activity sponsored by National Instruments and Jaguar Land Rover. The challenge is to build an autonomous electric-powered buggy to travel over a bumpy course and stop on a bull’s-eye. You’ll programme a high-specification embedded controller, design a suspension and chassis, and select motors/dive train components, competing against your peers for a winning time – and a real cash or equipment prize!

The next CDIO challenge is to apply theory from the thermofluids modules to design and build a microhydroelectricity device to generate electricity from flowing water. You’ll then test your device in our water flume.

YEAR THREE
You will undertake a large individual research project, where you can get involved in an area of current research going on in the School. There is a wide selection of projects to choose from, as well as the opportunity to suggest your own project idea. You will have an academic supervisor who will meet you every week to provide guidance and support.

YEAR FOUR (MENG)
Year four will see you participate in a major team project, where you’ll work closely with one of our industrial partners to deliver real engineering solutions. The collaborations ensure that, in addition to developing your technical capabilities, you’ll be well-versed in working in a professional environment.

Examples of year four team projects include:
- Multidisciplinary optimisation of aircraft engines in collaboration with Rolls-Royce
- Conceptual design of a Mars return vehicle in collaboration with EADS Innovation Works
- Design and build of an untethered miniature surgical robot.

FORMULA STUDENT RACE TEAM
From your first year at Leeds you’ll have the opportunity to join the Leeds Formula Race team, where you’ll help to design and build a single-seat racing car and use this to compete in the various international formula student events. Some students will also be able to choose this as their final-year project.

As well as encountering many of the real-life challenges of working as a professional engineer, you’ll be responsible for raising sponsorship, marketing the project and actually racing the car at competitions. It’s also a great opportunity to demonstrate your abilities to future employers: more than 10 students from the School have been recruited to F1 teams as a result of their involvement with the project so far.

GO ONLINE TO FIND OUT MORE ABOUT OUR PROJECTS
engineering.leeds.ac.uk/mechanical/projects
Careers and employability

Your degree from the University of Leeds and the wider experience you’ll gain while you’re studying here will help you stand out from the crowd and secure that all-important graduate job.

REWARDING CAREERS
94% of our recent graduates have successfully secured a professional or managerial role within six months of graduating (DLHE).

According to the IMechE, the average starting salary for such graduate engineers in the UK is £29,726 and a survey in 2013 by the Engineering Council found that, on average, chartered engineers earn £63,000.

ACCREDITATION
All our courses are accredited by the Institution of Mechanical Engineers (IMechE), and our MEng, BEng Aeronautical and Aerospace Engineering course is jointly accredited by IMechE and the Royal Aeronautical Society (RAeS). Accreditation is vital if you want to become a chartered engineer after graduation.

STRONG INDUSTRIAL LINKS
Our close working relationships with a large number of key companies means that throughout your degree you’ll be exposed to industry and prepared for a career in a professional environment. In your fourth year you’ll find yourself working closely with an industrial partner for your team project to deliver real engineering solutions.

The companies we work with range from major transnational organisations such as BP, Shell, National Instruments and Rolls-Royce to leading high-technology companies such as Surgical Innovations. Our strong industrial links are one of the many reasons why our graduates are so highly sought after by employers. The links also ensure that our courses are industry-oriented and material is up to date and that you have direct contact with industry and potential employers from an early stage in your course.

engineering.leeds.ac.uk/mechanical

CAREERS SUPPORT
Throughout your time with us, our award-winning Faculty Employability team is here to support, guide and advise you. In addition to specialist face-to-face meetings, you’ll benefit from:

- timetabled employability sessions
- ongoing support to find internships and placements
- presentations and workshops delivered by employers.

Our Employability team also organises an annual STEM Careers Fair, which will give you the opportunity to meet over 100 graduate recruiters to gain an insight into graduate jobs and to explore placement and internship opportunities. Recruiters at last year’s event included, among others, Unilever, Jaguar Land Rover, Mars, Atkins, British Airways, L’Oreal, De Puy Synthes, DCA Design International, BAE Systems and Airbus Defence and Space.
INDUSTRIAL PLACEMENT YEAR

An industrial placement year is a great way to help you decide what kind of career you might like when you graduate. As well as giving you the opportunity to develop your own skills, you’ll gain a real insight into working life in a particular company or sector.

All our degrees allow you to undertake a placement year alongside your degree (either in the third year of the BEng or the third or fourth year of the MEng).

If you decide to undertake a placement year, this will extend your degree by 12 months. On successfully completing your placement year, you will be awarded the ‘industrial’ variant in your degree title to demonstrate your unique expertise to future employers.

STUDY ABROAD

You have the opportunity to apply to spend time abroad, usually as an extra academic year. The University has partnerships with more than 400 universities worldwide and popular destinations for our students include Europe, the USA, Canada, Australia, New Zealand, Singapore, Hong Kong, South Africa and Latin America.

Visit our website to find out more about these and other opportunities:
engineering.leeds.ac.uk/mechanical/employability

INDUSTRIAL PLACEMENT YEAR

With a unique portfolio in electrical distribution, industrial automation, critical power and cooling, and building management and security, Schneider Electric is the only global specialist in energy management and a world leader in energy efficiency.

I work as an industrial engineering intern for Schneider Electric to provide continual analysis and improvement of the assembly and manufacturing techniques through benchmarking, eliminating waste, product and quality issues, and ensuring we meet Health and Safety requirements. I also lead and implement projects that develop and improve the layout of work areas, tool design and source cost-effective external services, with the overall aim of improving labour productivity.

My advice to students would be definitely to apply for year in industry. Not only will it transform you as a person but it will give you a real insight into the professional world.”

ALI IQBAL
BEng Mechanical Engineering
Industrial Engineering Intern,
Schneider Electric
Aeronautical and aerospace engineering is among the most challenging engineering disciplines, integrating mathematics, physics, materials and computer science with a strong design philosophy. This course will equip you to design, analyse, manufacture and operate aircraft and aerospace vehicles.

You'll be taught by academics with a passion for aeronautical and aerospace engineering who are at the forefront of their fields. Their strengths and expertise include aircraft structural analysis (ensuring the aircraft is strong enough), structural optimisation (making best use of materials), aerodynamics and computational fluid dynamics (minimising drag and increasing fuel economy), and aerospace systems design and analysis (ensuring stability and control).

In years one and two, you'll study compulsory modules to establish the core mechanical engineering principles required by all branches of mechanical engineering. You'll also undertake the first-year design and manufacture project. Since many mechanical engineers go on to positions where they have management responsibilities, you'll develop your knowledge of business practices by studying economics and management, taught by Leeds University Business School.

Specialist aeronautical and aerospace modules form the basis of year three. You'll learn to apply design to different aspects of modern aerospace vehicles, leading to detailed design of different aerospace vehicle systems. You'll understand the fundamental principles of flight mechanics, stability and control, orbital mechanics and space flight, aerodynamics and propulsion systems, finite element analysis and aerospace vehicle design.

To experience some of these aspects in practice, you'll also attend a flight course where you'll be a passenger in a small aircraft, taking measurements of its performance for a range of manoeuvres.

If you take the MEng course, you'll continue into year four to learn more about analysing structures unique to the aerospace industry. You will be trained to conduct computational fluid dynamics simulations to analyse the aerodynamic characteristics of aerospace vehicles and you will develop a deeper understanding of aerospace systems. There will be a choice of an optional module, allowing you to focus on the scientific principles of design optimisation or rotary-wing aircraft.

HANDS-ON LEARNING
Project work is an important part of the course and you will undertake a project in every year of study (see page 5).

Third-year project examples include:
- Long-range wing design (with Airbus)
- Optimisation of aircraft engine turbine blades (with Rolls-Royce)
- Development of optimised and 3D-printed unmanned air vehicle (with EADS Innovation Works).

REWARDING CAREERS
When you graduate, you will be able to apply your skills in a number of areas, including aerospace design and manufacturing, in both civil and military environments, fundamental research, airline management and operations, and the space sector. The global aerospace industry drives many future developments in science and technology.

Recent graduates have secured positions including:
- Flight Physics Engineer, Airbus
- Design Engineer, Atkins
- Engineer, Babcock International
- Graduate Engineer, BAE Systems
- Project Engineer, Boeing
- Graduate Engineer, British Airways
- Graduate Engineer, Jaguar Land Rover
- Product Development Engineer, Jaguar Land Rover
- Flight Physics Engineer, QinetiQ
- Graduate Scheme, Rolls Royce
- Field Engineer, Schlumberg.
Automotive Engineering

(MEng, BEng)

Automotive engineering is concerned with the life-cycle support (including design, manufacture, performance and durability testing) of vehicles: from road and off-road vehicles to race cars, vans and trucks.

This course will give you in-depth knowledge of mechanical engineering through modules common to all our programmes, as well as the specialist knowledge and skills to work in today’s automotive industry.

In years one and two, you’ll study compulsory modules to establish core mechanical engineering principles. You’ll also undertake the first-year design and manufacture project. Since many engineers go on to positions where they have management responsibilities, you’ll develop your knowledge of business practices by studying economics and management, taught by Leeds University Business School.

Building on this foundation, you’ll explore vehicle design and analysis in detail in year three. You’ll focus on vehicle modelling, tyre-ground forces, acceleration and vehicle handling behaviour. You’ll also study further thermofluids including combustion engine cycles, turbomachinery and compressible flow dynamics, and predict the stresses, vibration and buckling of automotive structures. You’ll also choose a specialist optional module, and undertake an individual project.

If you continue into year four for the MEng qualification, you’ll study chassis design and analysis and modern drivetrain technology in detail. You’ll also have a broader choice of optional modules, allowing you to focus on topics that relate to your interests and career plans. This year also gives you the chance to work with your supervisor to apply your knowledge and skills to a specific engineering problem when you complete a team project.

You will also have the opportunity to work on the Formula Student car, a big attraction of this course and an excellent chance to put theory into practice.

engineering.leeds.ac.uk/formula-student

HANDS-ON LEARNING

Project work is an important part of the course and you will undertake a project in every year of study (see page 5).

Third-year project examples include:
- The design and build of the Formula Student race car
- Innovative design of brake rotors using plasma electrolytic oxidised aluminium material
- Computational fluid dynamics analysis of the Formula Student race car
- Determining friction loss and wear in an engine.

REWARDING CAREERS

Owing to our excellent reputation and links with industry, our graduates are actively recruited by a wide range of prestigious companies in the automotive sector.

Recent graduates have secured positions including:
- Graduate Engineer, BAE Systems
- Graduate Engineer, Bentley Motors
- Manufacturing Engineer, Cummins
- Nuclear Engineer, International Nuclear Standards
- Specialist Engineer, Jaguar Land Rover
- Powertrain Engineer, Jaguar Land Rover
- Design Engineer, JCB
- Marine Surveyor, Lloyds Register
- Graduate Engineer, Mclaren Automotive
- Automotive Engineer, Mobius Motors
- Project Coordinator, Ricardo
- Mechanical Engineer, The Environment Agency.

“During my degree I benefited from the excellent ties Leeds has with the electronics company National Instruments. I was able to take modules in electronics as well as design and simulation techniques. My dissertation also involved electronics and simulation, and this experience marked me out as a rarity among the other engineering graduates applying to Jaguar Land Rover’s graduate scheme.”

SIAN OWEN
MEng Automotive Engineering
Graduate Engineer, Jaguar Land Rover
Mechanical engineers help shape the way we live through the design and manufacture of everyday items, from sports equipment to high-tech operating theatres for hospitals, vehicles and public transport infrastructure, and industrial applications such as the structural design of oil platforms. A wide range of skills are needed to achieve this in an environmentally friendly, sustainable way.

This course will develop your knowledge and skills across the full range of mechanical engineering, from the fundamentals of design and manufacture to fluid dynamics. You’ll also have scope to specialise in fields that interest you, such as vehicle design or biomedical engineering – and you’ll participate in project work at every stage of the course.

In years one and two, you’ll study compulsory modules to establish core mechanical engineering principles. You’ll undertake the first- and second-year design and manufacture projects. Since many mechanical engineers go on to positions where they have management responsibilities, you’ll also develop your knowledge of business practices by studying economics and management, taught by Leeds University Business School.

Year three will extend and deepen your knowledge and understanding in several key areas such as thermofluids and finite element methods of analysis. In design and manufacture systems, you will study advanced manufacturing methods and strategies, as well as gaining experience of using process simulation software such as Witness.

If you take the MEng course, you’ll select four Masters-level modules from a choice of 15 in year four. You’ll have a chance to develop a comprehensive understanding of the scientific principles of design optimisation, study in detail the analysis of structures unique to the aerospace industry, and explore automotive driveline and chassis engineering. You’ll also develop a deeper understanding of challenges in materials performance with surface engineering and tribology modules.

JOE THOROGOOD
MEng Mechanical Engineering
Rolls-Royce Leadership Programme

“...The variety of teaching methods is one of the best aspects of the degree – hugely beneficial when it comes to job applications. Now I am on the Rolls-Royce Leadership Programme and I will take my first managerial position after only a couple of years in the company. I have already worked across different sectors and sites, including six months in China and visits to Singapore and South Korea.”

engineering.leeds.ac.uk/mechanical
Medical engineering applies engineering principles and design concepts to medicine and biology for healthcare purposes. The field seeks to close the gap between engineering and medicine through multidisciplinary working—engineering knowledge is also used to understand the body better, so that new and innovative tools can be developed for the medical community.

From biomaterials to joint replacement technology, this course will equip you with the knowledge and skills to advance healthcare treatments, including monitoring, diagnosis, therapy and rehabilitation.

In years one and two, you’ll study compulsory modules to establish the core mechanical engineering principles required by all branches of mechanical engineering. You’ll also undertake the first-year design and manufacture project.

In year three, you will then take specialist medical engineering modules. This will include exploring the structure and function of the body, developing an understanding of what is involved in taking a design concept for a medical device through to clinical use and learning about particular types of medical imaging modalities used clinically.

In the fourth year (MEng), you will select three modules from a choice of eight, which includes specialist medical engineering modules, and also innovation management. You will also apply your knowledge to a specific medical engineering problem when you take part in a team project.

**HANDS-ON LEARNING**

Project work is an important part of the course and you will undertake a project in every year of study (see page 5).

Third-year project examples include:
- Determining the stresses generated within the tailbone during snowboarding falls
- The dynamics of cement flow within bone used to fix artificial joints
- Developing safe robots connected directly to humans
- The mechanics of spinal cord injury.

**REWARDING CAREERS**

Our graduates are highly sought after by employers in the medical engineering sector, as well as in general engineering. In recent years, many have continued research at Leeds as graduate engineers or through study for a PhD as part of our Centre for Doctoral Training in Medical and Biological Engineering.

Recent graduates have secured positions including:
- Project Manager, AMRC
- Bioengineer, DePuy Synthes
- Test Engineer, DePuy Companies
- Consultant, Ernst and Young
- Clinical Researcher, Fisher & Paykel Healthcare, New Zealand
- Clinical Scientist Scheme, NHS
- Manufacturing Engineer, Saint Gobain
- Mechanical Engineer, Stanmore Implants Worldwide.

Although this is a specialist course, it still gave me a wide perspective on the subject, primarily through working on projects with real relevance to current medical engineering problems. Now I work for DePuy Synthes in Leeds as a test engineer. As part of the company’s new product development team, I get to test a wide range of joint implants and instruments. My time at Leeds, and the relevant research experience it provided, fully prepared me for this role: a great start to a career in practical, problem-solving engineering.”

**EMAIL BURNS**

MEng Medical Engineering
Test Engineer at DePuy Synthes
Modules

The first two years of our four degree courses share the same set of compulsory modules and in years three and four you will undertake specialist modules according to your chosen degree. The shared module structure of the first two years establishes the core skills and knowledge required in all branches of mechanical engineering, and means that it is easy to change your programme choice if you wish.

### Year 1

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<th>Core modules:</th>
<th>Programme-specific materials through:</th>
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<tr>
<td>• Computers in Engineering Analysis</td>
<td>• Tutorials</td>
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<tr>
<td>• Design and Manufacture 1</td>
<td>• Project work</td>
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<td>• Thermofluids 1</td>
<td>• Examples in core modules</td>
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<td>• Solid Mechanics</td>
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<td>• Engineering Materials</td>
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<td>• Engineering Mathematics</td>
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### Year 2

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<th>Core modules:</th>
<th>Programme-specific materials through:</th>
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<tr>
<td>• Engineering Mechanics</td>
<td>• Tutorials</td>
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<tr>
<td>• Vibration and Control</td>
<td>• Project work</td>
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<tr>
<td>• Design and Manufacture 2</td>
<td>• Examples in core modules</td>
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<tr>
<td>• Economics and Management</td>
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<tr>
<td>• Mechatronics and Measurement Systems</td>
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<tr>
<td>• Thermofluids 2</td>
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</table>

These are typical modules/components studied and may change from time to time.
These are typical modules/components studied and may change from time to time.

94% OF OUR RECENT GRADUATES HAVE SUCCESSFULLY SECURED A PROFESSIONAL OR MANAGERIAL ROLE WITHIN SIX MONTHS OF GRADUATION

### Year 3

**Aeronautical and Aerospace Engineering compulsory modules:**
- Aerospace Vehicle Design
- Aerodynamics and Aerospace Propulsion
- Aerospace Flight Mechanics
- Individual Engineering Project
- Finite Element Methods of Analysis

**Automotive Engineering compulsory modules:**
- Vehicle Design and Analysis
- Thermofluids 3
- Individual Engineering Project
- Finite Element Methods of Analysis

**Mechanical Engineering compulsory modules:**
- Thermofluids 3
- Additive Manufacturing
- Individual Engineering Project
- Finite Element Methods of Analysis

**Medical Engineering compulsory modules:**
- Structure and Function of the Body
- Biomedical Engineering Design
- Additive Manufacturing
- Individual Engineering Project
- Finite Element Methods of Analysis

**Optional modules:**
- Robotics and Machine Intelligence
- Additive Manufacturing
- Biomedical Engineering Design
- Nuclear Fundamentals
- Robotics and Machine Intelligence
- Vehicle Design and Analysis
- Cardiovascular Medical Imaging
- Digital Radiography and X-ray Computed Tomography
- Magnetic Resonance Imaging
- Ultrasound Imaging
### Year 4

#### Aeronautical and Aerospace Engineering compulsory modules:
- Team Project
- Aerospace Structures
- Vehicle and Product Systems Design
- Computational Fluid Dynamics Analysis

#### Optional modules:
- Design Optimisation (MEng)
- Rotary Wing Aircraft

#### Automotive Engineering compulsory modules:
- Team Project
- Automotive Chassis Engineering
- Automotive Driveline Engineering

#### Optional modules:
- Mechatronics and Robotics Applications
- Engineering Computational Methods
- Introduction to Tribology
- Vehicle and Product Systems Design
- Computational Fluid Dynamics Analysis

#### Mechanical Engineering compulsory modules:
- Team Project

#### Optional modules:
- Design Optimisation (MEng)
- Mechatronics and Robotics Applications
- Automotive Chassis Engineering
- Automotive Driveline Engineering
- Engineering Computational Methods
- Energy Systems, Policy and Economics for Engineers
- Surface Engineering
- Biomaterials (Short Course)
- Functional Joint Replacement Technology (Short Course)
- Introduction to Tribology
- Biotribology
- Aerospace Structures
- Rotary Wing Aircraft
- Vehicle and Product Systems Design
- Computational Fluid Dynamics Analysis

#### Medical Engineering compulsory modules:
- Team Project
- Medical Engineering Experimental Design and Analysis

#### Optional modules:
- Managing for Innovation
- Spinal Biomechanics and Instrumentation (Distance Learning)
- Biomaterials (Short Course)
- Functional Joint Replacement Technology (Short Course)
- Biomechatronics and Medical Robotics
- Biotribology
- Computational Fluid Dynamics Analysis
- Tissue Engineering

These are typical modules/components studied and may change from time to time.

engineering.leeds.ac.uk/mechanical
Mechatronics integrates electronics with mechanical design to create intelligent systems. The transport, health, entertainment, and service industries are among many that are benefiting from advances in the field.

This unique multidisciplinary course offers you the opportunity to study the most exciting aspects of electronics, mechanical design, and artificial intelligence and apply them to the design and manufacture of sophisticated intelligent systems.

It's delivered jointly by the schools of Electronic and Electrical Engineering, Mechanical Engineering, and Computing, building on the cutting-edge research being carried out in the £4.3m EPSRC National Facility for Innovative Robotic Systems, which we host on campus. You'll use industry-standard software and lab facilities and undertake project work in every year, equipping you with the knowledge and skills for a professional career in this exciting sector.

You'll study a wide variety of core modules in your first two years, giving you a solid foundation across different disciplines. You'll also see how mechanics, electronics, computer engineering, and intelligent control can come together in the development of mechatronics and robotic systems.

In year three you'll develop this knowledge in a more specialised direction. You'll study embedded systems and key issues in robotics and machine intelligence, as well as optional modules that allow you to apply your knowledge to areas such as computer vision or biomedical engineering design. An individual project will allow you to focus on an engineering problem in depth.

MEng students will be introduced to different applications of robotics and mechatronics, and benefit from an even broader choice of optional modules. You could focus on automotive driveline engineering, machine learning, electric drives or medical robotics, among others. You'll also develop your understanding of the industry through a dissertation and complete a substantial team project.

The course is accredited by the Institution of Mechanical Engineers (IMechE) and the Institution of Engineering and Technology (IET).
Product Design
(MDes, BSc)

Product design touches every aspect of modern life, and there is growing demand from industry for students who are both creative and technically literate.

This multidisciplinary course bridges the gap between arts and engineering-led courses. It offers an even balance of art and technology, allowing you to explore the links between the two. You’ll gain the broad base of skills to work with designers from both arts and engineering backgrounds to see a product development process through from initial concept to detail and production development.

You’ll study at a university with an international reputation for design and innovation across many disciplines. All our staff are experienced product designers or active researchers in related fields, which means that you’ll benefit from cutting-edge learning and teaching – and our strong links with industry ensure that course materials meet the needs of the sector.

You can choose to take either the four-year Integrated Masters (MDes, BDes) or the three-year Bachelor (BDes) degree on this course. During the first two years, the course is divided into three broad subject areas. You’ll study design studio modules, which will help you develop important design and communication skills through design project work. You’ll also study design technology modules, which cover the basics of mechanical, electronic and materials engineering. Our design awareness modules also cover a variety of topics, from design context, history and psychology to business and marketing.

Approximately half of years three and four is dedicated to major design projects. You’ll develop a project from market need through design generation and evaluation to a working prototype. As well as a technical understanding, you’ll gain the planning, time management, presentation and report writing skills that are in demand from employers.

DESIGN SHOWCASE AND NEW DESIGNERS
At the end of your third and fourth years, you’ll exhibit your work at our annual Product Design degree showcase. Selected students will have the opportunity to exhibit at the national annual degree showcase, New Designers in London. The show attracts over 3,000 of the most talented new graduate designers from the UK’s leading universities who come together to present their work in one venue – the Business Design Centre.

We run a number of ‘live’ projects throughout the programme with industrial partners with companies such as:
- Nokia
- Reckitt Benkiser
- Texcecom
- Marks & Spencer.

REWARDING CAREERS
Career prospects in the field of product design are excellent and range from employment in manufacturers’ in-house design departments to design consultancies. Our graduates are earning on average a salary of £24,000 within six months of graduating. 100% of our recent graduates have successfully secured a professional or managerial role within six months of graduating (DLHE).

Recent graduates have secured positions including:
- Tesla Design Engineer, Craftsmanship, Tesla
- User Experience Designer, Adobe
- Packaging Technologist, Unilever
- Brand Manager, Vitabiotics
- Design Engineer, Dyson
- Process Engineer, Proctor and Gamble
- Product Designer, Sensio
- Technical Support Engineer, Solid Solutions
- Design Engineer, Brand Rex.
## Modules

### MEng, BEng Mechatronics and Robotics

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compulsory modules:</strong></td>
<td><strong>Optional modules:</strong></td>
<td><strong>Compulsory modules:</strong></td>
<td><strong>Optional modules:</strong></td>
</tr>
<tr>
<td>• Circuit Analysis and Design</td>
<td>• Mobile Applications Project</td>
<td>• Professional Studies</td>
<td>• Medical Electronics</td>
</tr>
<tr>
<td>• Circuit Theory</td>
<td>• Vibration and Control</td>
<td>• Embedded Systems</td>
<td>• Industrial and E-Health</td>
</tr>
<tr>
<td>• Digital Electronics and Microcontrollers</td>
<td>• Design and Manufacture 2</td>
<td>• Individual Engineering Project</td>
<td>• Automotive Driveline Engineering</td>
</tr>
<tr>
<td>• Engineering Mathematics</td>
<td>• Mechatronics and Robotics Systems</td>
<td>• Robotics and Machine Intelligence</td>
<td>• Biomedical Engineering Design</td>
</tr>
<tr>
<td>• Further Engineering Mathematics</td>
<td>• Artificial Intelligence</td>
<td>• Electric Drive Systems</td>
<td>• Vehicle Design and Analysis</td>
</tr>
<tr>
<td>• Physical Electronics 1</td>
<td>• Power Electronics</td>
<td>• Electric Power Systems</td>
<td></td>
</tr>
<tr>
<td>• Design and Manufacture 1</td>
<td>• Solid Mechanics</td>
<td>• Mechatronics and Robotics Systems</td>
<td></td>
</tr>
</tbody>
</table>

### MDes, BSc Product Design

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compulsory modules:</strong></td>
<td><strong>Optional modules:</strong></td>
<td><strong>Compulsory modules:</strong></td>
<td><strong>Optional modules:</strong></td>
</tr>
<tr>
<td>• Visualisation Techniques</td>
<td>• Design Studio 1.2</td>
<td>• Economic Systems and Management</td>
<td>• Medical Electronics</td>
</tr>
<tr>
<td>• Materials Technology</td>
<td>• Basic Electronics for Product Design</td>
<td>• Design Studio 2</td>
<td>• Industrial and E-Health</td>
</tr>
<tr>
<td>• Contextual Studies</td>
<td>• Design Studio 1</td>
<td>• Creativity, Innovation and Shape Systems</td>
<td>• Automotive Driveline Engineering</td>
</tr>
<tr>
<td>and Ergonomics</td>
<td></td>
<td>• Advanced Electronics for Product Design</td>
<td>• Biomedical Engineering Design</td>
</tr>
<tr>
<td>• Additive Manufacturing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Design Project</td>
<td>• Mechanical Systems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These are typical modules/components studies and may change from time to time.
## Entry requirements and how to apply

If you choose to undertake an industrial placement or study abroad year, this will extend your studies by 12 months.

### Degree title

<table>
<thead>
<tr>
<th>Degree title</th>
<th>UCAS code</th>
<th>Duration (years)</th>
<th>A-level</th>
<th>BTEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEng, BEng Aeronautical and Aerospace Engineering</td>
<td>H410</td>
<td>3/4</td>
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<tr>
<td>BEng Aeronautical and Aerospace Engineering</td>
<td>H415</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEng, BEng Automotive Engineering</td>
<td>H330</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BEng Automotive Engineering</td>
<td>H335</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEng, BEng Mechanical Engineering</td>
<td>H300</td>
<td>3/4</td>
<td>A*AA</td>
<td>DDD</td>
</tr>
<tr>
<td>BEng Mechanical Engineering</td>
<td>H305</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEng, BEng Medical Engineering</td>
<td>HHH6</td>
<td>3/4</td>
<td></td>
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</tr>
<tr>
<td>BEng Medical Engineering</td>
<td>HHH1</td>
<td>3</td>
<td></td>
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<tr>
<td>MEng, BEng Mechatronics and Robotics</td>
<td>HH36</td>
<td>3/4</td>
<td>AAA</td>
<td>D*DD</td>
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<tr>
<td>BEng Mechatronics and Robotics</td>
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<tr>
<td>MDes, BSc Product Design</td>
<td>H790</td>
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<td>AAA</td>
<td>D*DD</td>
</tr>
<tr>
<td>BSc Product Design</td>
<td>H795</td>
<td>3</td>
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* Where an A-Level science subject is taken, we require a pass in the practical science element, alongside the achievement of the A-level at the stated grade.

Extended Project Qualification: while we recognise the value, effort and enthusiasm applicants make in the Extended Project, we do not currently include this as part of our offer-making. We do however encourage you to provide further information on your project in your personal statement and, if invited, at interview.

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### English Language Requirements

GCSE English Language grade C (or above) or an equivalent recognised English language qualification, eg IELTS 6.0 overall with no less than 5.5 in each section.

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### Equivalent Qualifications

We welcome students with a range of qualifications and these are listed on our website. [engineering.leeds.ac.uk/mechanical/ug-equivalents](https://engineering.leeds.ac.uk/mechanical/ug-equivalents)

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### Access to Leeds

The University of Leeds has a policy of welcoming applicants from non-traditional academic backgrounds. If you do not meet our entry criteria above, you may be eligible via the Access to Leeds scheme. [www.leeds.ac.uk/a2l](http://www.leeds.ac.uk/a2l)
FOUNDATION COURSES
If you do not have the formal qualifications for immediate entry to one of our degrees, you may be able to progress through a foundation year.

The University offers a one-year BSc Studies in Science designed to prepare students without a science background at A-level for study on one of our degrees in engineering.

We also offer an interdisciplinary Science Foundation Year for applicants who meet specific widening participation criteria.

www.llc.leeds.ac.uk

INTERNATIONAL FOUNDATION YEAR IN ENGINEERING
Our International Foundation Year (IFY) is intended for international students who do not yet have the formal qualifications required for entry to year one of our degrees.

internationalfoundationyear.leeds.ac.uk

ACADEMIC TECHNOLOGY APPROVAL SCHEME (ATAS)
If you are an international (non-EU/EEA or Swiss citizen) applicant who intends to study a four-year MEng, you will require an ATAS certificate.

www.gov.uk/academic-technology-approval-scheme

LANGUAGE CENTRE
Our Language Centre provides the Academic English for Undergraduate Studies pre-sessional course, which is designed to help international students develop the necessary language and academic study skills for undergraduate study.

www.leeds.ac.uk/languages

HOW TO APPLY
All undergraduate applications should be made through the Universities and Colleges Admissions Service (UCAS). Full instructions on how to apply are available at www.ucas.com

OFFER PROCESS
Suitable applicants will be invited to an applicant day, for which we strongly encourage attendance, as this gives you the opportunity to meet our students, academic and admissions staff, and find out more about your course. You’ll take part in a practical engineering activity, working in teams in our design office to solve a fun engineering problem. This is followed by a feedback session and prize-giving.

The tour of the School’s facilities includes interactive demonstrations of student activities, such as experiments with engines, materials and mechatronic systems, and recent project work. You will also view the Formula Student race car construction area, our new thermofluids lab, the dynamics and control lab, the National Instruments LabVIEW Academy/materials lab, and the prototyping and manufacturing lab.

An interview with an academic will normally form part of this process. This will give you the chance to discuss your application in more detail, check that it’s the right course for you and your career plans, have your questions answered and find out more about studying at Leeds.

SCHOLARSHIPS
We offer a number of scholarships within the School. Please visit our website for further details.

engineering.leeds.ac.uk/scholarships

CONTACT US
If you require any further information prior to making a formal application, please contact our Undergraduate Admissions team.

School of Mechanical Engineering
University of Leeds
Leeds LS2 9JT, UK
tel: +44 (0)113 343 2149
e-mail: ugmech@leeds.ac.uk

To find out more about the University and the School of Mechanical Engineering visit:

engineering.leeds.ac.uk/mechanical

facultyofengineeringleeds
@LeedsUniEng
@engineeringleeds
engineeringleeds
leedsuniengineering
Information provided by the University such as in presentations, University brochures and the University website, is accurate at the time of first disclosure. However, courses, University services and content of publications remain subject to change. Changes may be necessary to comply with the requirements of accrediting bodies or to keep courses contemporary through updating practices or areas of study. Circumstances may arise outside the reasonable control of the University, leading to required changes. Such circumstances include, industrial action, unexpected student numbers, significant staff illness (where a course is reliant upon a person’s expertise), unexpected lack of funding, severe weather, fire, civil disorder, political unrest, government restrictions and serious concern with regard to the transmission of serious illness making a course unsafe to deliver. After a student has taken up a place with the University, the University will look to give early notification of any changes and try to minimise their impact, offering suitable alternative arrangements or forms of compensation where it believes there is a fair case to do so. Offers of a place to study at the University will provide up to date information on courses. The latest key information on courses, entry requirements and fees can be found at www.leeds.ac.uk/courses. Please check this website before making any decisions.
Product design touches every aspect of modern life, and there is growing demand from industry for students who are both creative and technically literate.

This multidisciplinary course bridges the gap between arts and engineering-led courses. It offers an even balance of art and technology, allowing you to explore the links between the two. You’ll gain the broad base of skills to work with designers from both arts and engineering backgrounds. This will allow you to see a product development process through a product development process through from initial concept to detail and production development.

You’ll study at a university with an international reputation for design and innovation across many disciplines. All our staff are experienced product designers or active researchers in related fields, which means that you’ll benefit from cutting-edge learning and teaching – and our strong links with industry ensure that course materials meet the needs of the sector.

Our aim is to develop outstanding graduates who are both technically literate and creative. Working with both design and engineering problems, our students realise their ideas from initial concept through to detailed production development. Our programme allows students to develop their own innovative approach while mastering key skills in demand by employers such as solving complex problems, managing multiple deadlines, teamwork, and project management.”

Dr Dan Trowsdale,
Senior Teaching Fellow
Programme Leader

As a design course based in the School of Mechanical Engineering, our students have access to the School’s computing and prototyping facilities, as well as the technical expertise of its staff. This is invaluable when it comes to making and testing prototypes to inform the design process.

In recognition of our strong and continued commitment to gender equality, we have received a prestigious Athena SWAN Silver Award.

This is awarded by the Equality Challenge Unit, the national body that promotes equality in the higher education sector.
Learning and teaching

This course combines design theory and technology with practical design work. As a result, you’ll benefit from a range of teaching and learning methods including lectures, design studio work, tutorials and interactive lectures that mix teaching with practical work.

DESIGN STUDIO
While our teaching is delivered across a range of lectures, labs and workshops, our design studio provides a dedicated space for the hands-on teaching required. It is used for sessions that involve computer-aided design (CAD) software, such as SolidWorks, Photoshop or InDesign, and also offers a space for you to carry out your design work and to socialise.

DESIGN ETHICS
As a fundamental part of modern life, product design has the potential for great benefit and great harm. Good designers reflect on the ethical implications of their decisions to ensure that they are designing in a way that is socially beneficial. Many of the ethical responsibilities of engineers (honesty and integrity, the public good and responsible leadership) apply equally to the designers who help shape the technologies around us. Leeds has significant expertise in this area, demonstrated by the fact that we have been asked by the Royal Academy of Engineering to produce their ethics guide. As a product designer at Leeds, you will study design ethics as part of your design studio modules and will be taught using real-life case studies, with input from specialist ethicists as well as your tutors and lecturers. This ethics teaching will enhance your reasoning and decision-making skills so crucial to employers. It will also help you identify and respond to the ethical dilemmas you may encounter in your professional life as a designer, addressing issues such as sustainability, inclusivity and intellectual property.

100% OF OUR RECENT GRADUATES HAVE SUCCESSFULLY SECURED A PROFESSIONAL OR MANAGERIAL ROLE WITHIN SIX MONTHS OF GRADUATING (DLHE)

ASSESSMENT AND FEEDBACK
You will be assessed by a combination of examinations and coursework such as design portfolio work and exhibitions. Our guiding philosophy is to give you a clear and constructive idea of your individual progress and, where necessary, to work with you to identify areas that merit particular attention, allowing you to maximise your potential.

SPECIALIST FACILITIES
Our facilities include our product design studio, with PCs running a number of design packages, as well as model-making facilities including forming, laser cutting, foam model sculpting and CNC routing.

• You will have access to a 3D printing system to convert your concepts and ideas into physical prototypes to test for form, fit and function. These are crucial to the experienced design practitioner and allow greater freedom in design and product customisation.

• The design studio provides space for group work and allows you to interact with students from other years of the course.

• You’ll enjoy excellent teaching facilities and well-equipped lecture theatres and laboratories.

STUDENT SUPPORT
Our personal tutorial system will provide academic and pastoral support. You will have a designated personal tutor throughout your studies at Leeds. He or she will be an academic member of staff: you will have weekly academic tutorials with your tutor throughout your first and
In addition, our excellent Student Support team is based close to where you'll work and study to help with anything from academic advice to timetabling and project submission enquiries.

second years in your small tutor group, as well as one-to-one meetings twice per semester.

TOUR DE FRANCE
Product Design students were given the opportunity to be involved in the construction of an impressive countdown clock to mark the start of the Tour de France that famously came to Yorkshire in July 2014.

Students assisted with technical plans and build of the design as well as the electronics used for the light-based countdown.

INTEGRATED MASTERS
This degree is an Integrated Masters (MDes, BSc), providing you with great breadth and depth of study. The MDes incorporates additional opportunities to specialise in areas of design related to research conducted at the University and involves a multidisciplinary team design project, where you will jointly develop software systems and enhance skills relevant to the IT profession. Our Integrated Masters will also help you develop practical, transferable skills such as teamwork, decision-making, delegation, identifying and solving problems, and communication. Alternatively, you may decide at any point until the middle of the third year to graduate after three years with a BSc.

However, if you are sure from the start that you only want to study for three years, for example if you are an international student, it is also possible to apply for the BSc version of this course. The BSc course is identical to the first three years of the MDes course and has the same entry requirements.

The web-based student portal will enable you to access the University’s student services and information, while our Virtual Learning Environment (VLE) will allow you access to your personal timetables, course materials, academic and social groups, and much more.
Projects

The project work and design studio modules you’ll carry out throughout your course will take you one step closer to becoming a confident and self-motivated graduate.

Our close links with industry means that you’ll benefit from industrial input into your design projects at a variety of levels, from setting project briefs through to more direct involvement in discussions, consultancy and arranging industrial visits.

In years one and two you’ll complete a number of design projects which will provide a framework for the development of design-specific skills and knowledge such as:
- concept development
- CAD
- rapid prototyping.

By taking part in ‘live’ projects set by industry you’ll hone your commercial awareness and presentation techniques.

In the third year, individual projects will give you the opportunity to apply skills and knowledge learnt throughout the course. They’ll also allow you to develop design definitions in response to market need through design generation and evaluation of working prototype.

Year four (MEng) projects involve challenges and opportunities designed to stretch and develop your capabilities and skills. You’ll work collaboratively in teams of product designers, engineers or mechatronic students while developing real-world solutions for ‘live’ industry or research briefs.

DESIGN SHOWCASE AND NEW DESIGNERS

At the end of your third and fourth years, you’ll be given the opportunity to exhibit your work at our annual degree showcase. You’ll present your work to your peers, University staff and a variety of guests and industrial partners. Awards for design excellence such as best projects, prototypes, stands and communications are presented at the annual degree showcase.

Selected students from years three and four will have the opportunity to exhibit at the national annual degree showcase, New Designers in London. The show attracts over 3,000 of the most talented, new graduate designers from the UK’s leading universities who come together to present their work in one venue – the Business Design Centre.

We have industrial links with companies including:
- Minky Homecare
- Nokia
- Reckitt Benkiser
- Texecom
- Marks & Spencer.

engineering.leeds.ac.uk/product-design
The Product Design course at the University of Leeds appealed to me because it bridged the gap between design and engineering. As I did physics, maths and art at A-level, it felt like the perfect combination for the course.

Some of the most exciting projects I was involved with took place on my study abroad year in Singapore. The projects were futuristic and pushed you out of your comfort zone to think in a completely different way. One project I feel proud of is when I designed a light as part of a studio project that looked at collaborative and individual workspaces. I enjoyed the whole cycle, from creative exploration to finishing the final product.”

PHILIP BRIDGE
MDes Product Design (International)

My Leeds experience helped me acquire the critical soft skills required for a career in the dynamic industry of global design. With a focus on user-centred design, my degree equipped me with the problem-solving and analytical skills required for tackling real-life design projects through coursework and taught sessions, which included team projects, case studies and problem-based learning.

I currently work as a lead industrial designer at the Nigerian Headquarters of Chinese telecommunications giant, Techno-Mobile. As a member of Techno’s emerging markets (Africa, Asia, and the Middle East) Phone and Accessory Design team, I design affordable smart phones and accessories suited to the local market.”

NIFEMI MARCUS-BELLO
MDes Product Design
Lead Industrial Designer, Techno-Mobile (Nigeria)
GatorDuct primarily work with ductwork systems. They are the first and only providers of sustainable ductwork worldwide due to their innovative use of cardboard ducting. My role within the company is to work in the Innovation team to bring forward alternative uses for its unique material. I am pleasantly surprised by the fact that my work greatly depends on problem-solving and creativity, which are important skills to have in the product design sector.

Carrying out a placement year meant I had the opportunity to expand my skillset and test my potential in the design industry. What I enjoy most about my placement is the diversity in the work that I do. I feel that I am given the opportunity to work in every part of the design and manufacturing industry.”

HAREKLEA MARKIDES
MDes Product Design
Industrial placement year at GatorDuct
Careers and employability

Career prospects in the field of product design are excellent and range from employment in manufacturers’ in-house design departments to design consultancies. Our graduates are earning on average a salary of £24,000 within six months of graduating.

REWARDING CAREERS
100% of our recent graduates have successfully secured a professional or managerial role within six months of graduating (DLHE).

Employers will be interested in skills and abilities developed throughout the course, such as communication skills and the ability to critically analyse and produce creative solutions to problems. Graduates will therefore also be well placed to pursue and develop careers in marketing, advertising and management consultancy.

To gain employment in the design industry, it is important that you are able to present your work in the form of a portfolio. You will therefore take a purpose-built career development module where you will put together and critically appraise what is likely to be your first professional portfolio and CV.

STRONG INDUSTRIAL LINKS
Our close working relationships with a large number of key companies means that throughout your degree you’ll be exposed to industry and prepared for a career in a professional environment.

I did my placement at Disney Interactive, where I was a creative intern.

The role was very diverse and required a wide range of different design-related skills and approaches. Typically my day was spent creating promotional graphics and sustaining content for the website across the 23 markets we operate in.

The placement year helped me gain an insight into design industry and to recognise more specifically where I want to align myself as a designer. I also gained contacts in the art world and immersed myself in both the professional and social culture of London.

SIMON WAGSTAFF
MDes Product Design (Industrial)
Industrial placement year at Disney Interactive

CAREERS SUPPORT
Throughout your time with us, our award-winning faculty Employability team is here to support, guide and advise you. In addition to specialist face-to-face meetings, you’ll benefit from:
- timetabled employability sessions
- ongoing support to find internships and placements
- presentations and workshops delivered by employers.

Our Employability team also organises an annual Careers Fair, which will give you the opportunity to meet over 100 graduate recruiters to gain an insight into graduate jobs and to explore work experience and internship opportunities. Recruiters at last year’s event included, among others, DCA Design, P&G, Amazon, L’Oreal, Unilever, and Imagination Technology.
I did my placement at United Biscuits, an international food manufacturer, its most iconic brands being McVities, Carrs, Jacobs and Verkade. I worked in the Procurement function in the co-manufacturing team. I primarily worked with our UK-based co-packers and buying packing services. My favourite part was working on the new product development projects. I also loved visiting the different factories and seeing how the process of making biscuits has been converted to such a huge industrial scale. I found the machinery used fascinating. I received a massive amount of responsibility from day one, meaning I learnt a huge amount very quickly. I also got to meet many great friends and make a lot of business connections.”

SUSANNA LEMON
MDes Product Design (Industrial)
Industrial placement year at United Biscuits

INDUSTRIAL PLACEMENT YEAR
An industrial placement year is a great way to help you decide what kind of career you might like when you graduate. As well as giving you the opportunity to develop your own skills, you’ll gain a real insight into working life in a particular company or sector.

All our degrees allow you to undertake a placement year alongside your degree (either in the third year of the BSc or the third or fourth year of the MDes).

If you decide to undertake a placement year, this will extend your degree by 12 months. On successfully completing your placement year, you will be awarded the ‘industrial’ variant in your degree title to demonstrate your unique expertise to future employers.

STUDY ABROAD
You have the opportunity to apply to spend time abroad, usually as an extra academic year. The University has partnerships with more than 400 universities worldwide and popular destinations for our students include Europe, the USA, Canada, Australia, New Zealand, Singapore, Hong Kong, South Africa and Latin America.

Visit our website to find out more about these and other opportunities.
engineering.leeds.ac.uk/product-design/employability
Course structure

During the first and second years, the programme is divided into three broad subject areas.

**DESIGN STUDIO MODULES**
These will help you develop important design and communication skills through design project work.

**DESIGN TECHNOLOGY MODULES**
These provide you with the technological understanding to create and deliver efficient and effective designs, covering the basics of mechanical, electronic and materials engineering.

**DESIGN AWARENESS MODULES**
These modules include design context, history, psychology, creativity and innovation, design information, computer-aided design systems, and business and marketing.

Approximately half of years three and four is dedicated to major design projects, which fall into thematic areas such as intelligent homes, medical devices and packaging. These are supported by a range of modules on topics such as manufacturing processes and user-centred design.
I teach the visual communication and portfolio development aspects on the course. I have 20 years’ experience as a product designer and design manager, taking products through from early concepts to commercial production. This is particularly valuable when it comes to helping students present themselves for interview and think through the practical and commercial aspects of their designs.”

DAN TROWSDALE  
Senior Teaching Fellow  
Programme Leader

“"I teach the visual communication and portfolio development aspects on the course. I have 20 years’ experience as a product designer and design manager, taking products through from early concepts to commercial production. This is particularly valuable when it comes to helping students present themselves for interview and think through the practical and commercial aspects of their designs.”

DAN TROWSDALE  
Senior Teaching Fellow  
Programme Leader

MODULES

Year 1
- Visualisation Techniques
- Materials Technology
- Contextual Studies and Ergonomics
- Engineering Analysis for Product Designers
- Basic Electronics for Product Design
- Design Studio 1

Year 2
- Economics and Management
- Design Studio 2
- Creativity, Innovation and Shape Systems
- Advanced Electronics for Product Design

Year 3
- Additive Manufacturing
- Design Project
- Mechanical Systems
- Professional, Portfolio and Industry Awareness
- Discovery Module

Year 4 (MDes)
- Systems Thinking and Consulting Practice
- Team Project
- Design Research
- Design Communication
- User-Centred Design

Design Studio 1 and 2, Design Project and the Team project account for around 50% of the credits in each year. This unique aspect of our Product Design course delivers the balance between the creative and technical modules.

These are typical modules/components studied and may change from time to time.
Entry requirements
and how to apply

<table>
<thead>
<tr>
<th>Degree title</th>
<th>UCAS code</th>
<th>Duration (years)</th>
<th>A-level</th>
<th>BTEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDes, BSc Product Design</td>
<td>H790</td>
<td>3/4</td>
<td>AAA, preferably including an art and design-related A-level such as Design, Design Technology or Art and Design, and excluding General Studies or Critical Thinking.</td>
<td>D*DD, preferably including an art and design-related subject.</td>
</tr>
<tr>
<td>BSc Product Design</td>
<td>H795</td>
<td>3</td>
<td>Minimum grade B in Mathematics and Science at GCSE.</td>
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</tbody>
</table>

* Where an A-level science subject is taken, we require a pass in the practical science element, alongside the achievement of the A-level at the stated grade.

Extended Project Qualification: while we recognise the value, effort and enthusiasm applicants make in the Extended Project, we do not currently include this as part of our offer-making. We do however encourage you to provide further information on your project in your personal statement and, if invited, at interview.

**IF YOU CHOOSE TO**
**UNDERTAKE A PLACEMENT OR STUDY ABROAD YEAR THIS WILL EXTEND YOUR STUDIES BY 12 MONTHS**

**EQUIVALENT QUALIFICATIONS**
We welcome students with a range of qualifications and these are listed on our website.
engineering.leeds.ac.uk/mechanical/ug-equivalents

**ENGLISH LANGUAGE REQUIREMENTS**
GCSE English Language grade C (or above) or an equivalent recognised English language qualification, eg IELTS 6.0 overall with no less than 5.5 in each section.

engineering.leeds.ac.uk/product-design
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www.leeds.ac.uk/a2l

LANGUAGE CENTRE
Our Language Centre provides the Academic English for Undergraduate Studies pre-sessional course, which is designed to help international students develop the necessary language and academic study skills for undergraduate study.
www.leeds.ac.uk/languages

HOW TO APPLY
All undergraduate applications should be made through the Universities and Colleges Admissions Service (UCAS). Full instructions on how to apply are available at www.ucas.com

OFFER PROCESS
Suitable applicants will be invited to an applicant day, for which we strongly encourage attendance, as this gives you the opportunity to meet our students, academic and admissions staff, and find out more about your course. You’ll take part in a practical engineering activity, working in teams in our design office to solve a fun engineering problem. This is followed by a feedback session and prize-giving.

The tour of the School’s facilities includes interactive demonstrations of student activities and recent project work.

An interview with an academic on either a one-to-one or group basis will normally form part of this process. This will give you the chance to discuss your application in more detail, check that it’s the right course for you and your career plans, have your questions answered and find out more about studying at Leeds.

SCHOLARSHIPS
We offer a number of scholarships within the School. Please visit our website for further details.
engineering.leeds.ac.uk/scholarships

CONTACT US
If you require any further information prior to making a formal application, please contact our Undergraduate Admissions team.

School of Mechanical Engineering
University of Leeds
Leeds LS2 9JT, UK
tel: +44 (0)113 343 2149
e-mail: pdes@leeds.ac.uk

FIND US ONLINE
To find out more visit:
engineering.leeds.ac.uk/product-design

facultyofengineeringleeds
@LeedsUniEng
@engineeringleeds
engineeringleeds
leedsuniengineering