Aeronautical and Automotive Engineering

HESA UG STUDENT RECORD 2016/17: ENGINEERING & TECHNOLOGY SEND 15% MORE STUDENTS ON ENGINEERING PLACEMENTS THAN ANY OTHER UK UNIVERSITY

THE COMPLETE UNIVERSITY GUIDE 2019 AERONAUTICAL AND MANUFACTURING ENGINEERING CATEGORY TOP 10 IN THE UK FOR AERONAUTICAL ENGINEERING

DLHE, 2017 GRADUATES £27,000 AVERAGE STARTING SALARY
Loughborough University is regarded as one of the best institutions in the UK to study Aeronautical and Automotive Engineering. We bring together outstanding facilities, superb teaching and strong links with industry – making sure you are completely ready for your future engineering career.

Loughborough University send 15% more engineering students on engineering year-long placements than any other UK university* having an established industrial placement scheme available to all of our undergraduates. This provides you with the opportunity to gain vital paid work experience in a professional environment. This gives you a major boost to your employment prospects.

We enjoy close working links with Rolls-Royce, Ford Motor Company, BAE Systems, Jaguar Land Rover, Caterpillar, Airbus, Lotus, Bentley, JCB and many others. Studying at Loughborough is an enriching and valuable experience that opens routes to many career possibilities.

We aim to realise the potential of all of our students, and to help you find your place in the busy and exciting world of engineering.

Professor Martin Passmore
Head of Aeronautical and Automotive Engineering

*HESA UG Student Record 2016/17: Engineering & Technology
We think it is important that you get as much hands-on experience as possible during your time at Loughborough. This is why we’ve added a range of exciting and unique experiences to our courses to help you make the most of your time with us.

Flight testing Jetstream aircraft
As part of the BEng and MEng Aeronautical Engineering course you will take part in a week long flight test. During this time you’ll get four flights in a Jetstream aircraft and gain really valuable first-hand experience of testing and flight procedures. You’ll be able to see how the theories and calculations you learn during lectures apply to real flight dynamics and gain essential hands-on experience.

Professional level vehicle testing
As part of the BEng and MEng Automotive Engineering course you will take part in a week long vehicle testing course at the Motor Industry Research Association (MIRA) proving ground. This is unique to the Automotive Engineering course at Loughborough. You’ll get the opportunity to test your theoretical understanding in a series of practical tests on production vehicles. This will help you gain a more rounded understanding of the subject and allow you an insight into the world of the professional engineer.

Previous students have worked on real vehicle experiments including ISO drive-by-noise of a Lotus Evora and shape optimisation of a Jaguar XF in MIRA’s full scale wind tunnel.

Formula student, the testing ground for the next generation of world-class engineers
Formula student is a competition to design and build a small racing car to a given specification. You can get involved in every aspect of the car design and build and the finished car is judged and assessed against other teams from across the world. The exciting finale is the 22km endurance demonstration where the cars are timed for 18 laps of the Grand Stand section of the Silverstone Grand Prix race track.

Involvement with Formula Student is voluntary but in the final year of the MEng Automotive Engineering course you’ll take a compulsory module, ‘Automotive Group Project’, to design, engineer and test the Formula Student Car.

Find out more at www.lumotorsport.com
Outstanding facilities

Our extensive laboratories allow you the opportunity to use some of the UK’s best aeronautical and automotive experimental facilities.

Our facilities include:
- A chassis dynamometer
- A computer controlled rolling road with an exhaust emissions measurement system
- A fuel cell laboratory
- A powertrain laboratory
- An acoustics and vibration laboratory
- An aircraft/road vehicle simulator
- An anechoic chamber
- An electric vehicle research laboratory
- An instrumented turbojet engine
- Numerous instrumented test vehicles
- One of the UK’s largest indoor and outdoor unmanned aerial vehicle laboratories
- Wind tunnels equipped with force balances and flow visualisation and measurement systems

STEMLab, new £17million facilities

STEMLab is a £17million investment in new state-of-the-art laboratory facilities and part of a wider £25million investment in our campus which includes an adjacent student learning and teaching hub. STEMLab includes a suite of laboratories for practical work, allowing students crucial opportunities to gain applied experience in a safe and modern environment. Aeronautical and Automotive Engineering students use the STEMLab for workshops and lab work. Take an interactive tour of STEMLab at www.lboro.ac.uk/stemlab

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Top: The Department’s flight/driving simulator is fully integrated in both the Aeronautical and Automotive courses. It is a valuable tool for teaching Aircraft Systems and Performance, as well as Vehicle Handling Dynamics. Students also benefit from using the simulator in final year projects.

Bottom left: Final year project students measure the directivity of sound from an acoustic array in the Department’s anechoic chamber. The acoustic array acts as a novel type of pedestrian warning system for electric and hybrid vehicles.

Bottom right: Second year students use the wind tunnel facilities to understand the air flow around objects. This complements the theory learned throughout the course.
The courses are taught in a modular format with typically six modules running concurrently, with approximately three contact hours per module per week. Contact hours are approximately 22-25 hours per week during non-project based semesters.

You’ll work on tutorial questions in your own time. These are designed to reinforce and develop understanding of material covered in lectures. Tutorial sessions give you the opportunity to sort out any problems with particular questions and clarify points you may not have understood during lectures. Group and individual project work form an important part of your course and will help you develop vital project management and communication skills for your future career.

Laboratory sessions are run to support analytical subjects. These sessions are designed to help you understand the material covered in lectures and tutorials. You’ll carry out experiments using engines, wind tunnels and large structural testing machines. You’ll be assigned a personal tutor who can provide advice and help you to choose your subject options.

Assessment
At the end of each module you’ll be assessed either by examination, coursework or a combination of both. With the successful completion of each module, you accrue a set number of credits, which over time lead to the award of your final degree. The first year does not count towards the final degree mark but you must pass. This provides you with an ideal opportunity to find your feet and understand your subject fully.

The MEng and BEng Course
The first two years of a BEng or MEng share the same format and structure, with a high aeronautical or automotive specific content from day one. The MEng courses differ from the BEng by offering the opportunity to study technical and management topics at a more advanced level, plus the option of studying a modern language. The individual project in the final year of the MEng is a more significant piece of work than for the BEng and may be carried out at an overseas university or in conjunction with an industrial sponsor.

All of our MEng/BEng courses can be studied with or without the industrial placement year. Courses which lead to MEng take four or five years, while those leading to BEng take three or four years. The placement is normally taken after the second year but MEng students can opt to take it after the third year.

It is possible to transfer from a BEng to an MEng from the commencement of the course up to the end of the second year providing that the transfer progression criteria have been met.

Course structure

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MEng with placement</th>
<th>MEng</th>
<th>BEng</th>
<th>BEng with placement</th>
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<td>Part C</td>
<td>Part C</td>
<td>Part C</td>
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<td>4</td>
<td>Part D</td>
<td>Placement*</td>
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<tr>
<td>5</td>
<td>Part D</td>
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*placement after 2nd year or before final year

Your learning experience
You will be taught via a combination of lectures, tutorials, laboratory experiments and practical engineering exercises.

You’ll work on tutorial questions in your own time. These are designed to reinforce and develop understanding of material covered in lectures. Tutorial sessions give you the opportunity to sort out any problems with particular questions and clarify points you may not have understood during lectures. Group and individual project work form an important part of your course and will help you develop vital project management and communication skills for your future career.

Laboratory sessions are run to support analytical subjects. These sessions are designed to help you understand the material covered in lectures and tutorials. You’ll carry out experiments using engines, wind tunnels and large structural testing machines. You’ll be assigned a personal tutor who can provide advice and help you to choose your subject options.

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It is possible to transfer from a BEng to an MEng from the commencement of the course up to the end of the second year providing that the transfer progression criteria have been met.

Staff
Our staff are closely connected with industry and pursue a diverse range of research interests in Aeronautical and Automotive Engineering. They have links with the world’s top engineering companies including Rolls-Royce, Caterpillar, Lotus and Jaguar Land Rover. These links mean that our staff can keep our courses up-to-date and industry relevant.

IT skills
We support students with their computing skills. You’ll be given a basic course in Microsoft Office when you start and quickly move on to cover mathematical packages (such as Maple and MATLAB), mechanical drawing packages (Siemens NX), process simulation packages (UNISIM) and computational fluid dynamics (STAR-CMM+).

Defence Technical Undergraduate Scheme (DTUS)
The DTUS scheme was set up by the Ministry of Defence to support sponsored students studying for engineering and science degrees, all of whom are committed to become officers in one of the services (Army, Royal Navy, Royal Air Force, Civil Service).

To find out more about Loughborough’s typhoon squadron, visit: www.typhoonsquadron.com
Aeronautical Engineering  
MEng / BEng

This course is designed to provide the foundation for a career in the aerospace industry. This focused aeronautical engineering course allows you to specialise from day one. We are in the UK top 10 for Aeronautical Engineering in both the Times Good University Guide and the Guardian University Guide* meaning we are one of the very best places to study this exciting subject area.

All students on this course take part in a week long flight test on a Jetstream aircraft. You’ll be able to apply the theories and calculations you learn during lectures and gain essential hands-on experience.

During the course you can take the option of an industrial placement. This is an experience that will really help you stand out when applying for your first engineering job (see page 16 for more details).

Alongside core engineering and scientific knowledge you’ll develop important professional skills such as team-working, presentation skills, project management and report writing. This will enable you to pursue a career as a professional aeronautical engineer or choose from a wide range of other career options.

About the course
As well as studying the traditional core subjects involved in the mechanical engineering sciences, there is a significant proportion of aircraft design, gas turbine design, spacecraft design and related theoretical analysis throughout. Specialisation in subjects key to the aviation industry is possible later on in the course in fields such as composite structures, propulsion design for the environment, turbulence and advanced reliability.

Throughout the course there is extensive group and individual project work, including aircraft and jet engine design projects supervised by industry based designers and engineers. You’ll have access to our outstanding facilities. These include wind tunnels, a flight simulator, an instrumented turbojet engine and an airliner laboratory equipped with laser systems.

This course is available as a three year BEng or a four year MEng, each with an additional optional year in industry. While the broad philosophy of the MEng and BEng courses is the same, MEng students are required to study a wider range of technical subjects with additional depth. They are also exposed to a greater number of management topics and can study a foreign language.

As a testament to the quality of this course it is professionally accredited by the Institution of Mechanical Engineers and the Royal Aeronautical Society.

Design project examples
• Airship for Rainforest Observation
• Firefighting Unmanned Air Vehicle
• Space Debris Removal System

Final year project examples
• Out-of-planes bending after impact of composite panels
• The Aerodynamics of Cavities
• Unsteady Spray in a Gas Turbine Control System

* DIS/DIntS Diploma in Industrial/International Studies

Automotive Engineering
MEng / BEng

MEng (Hons) DIS/DIns* 5 years full-time
UCAS Code: H342

BEng (Hons) 4 years full-time
UCAS Code: H343

BEng (Hons) DIS/DIns* 4 years full-time sandwich
UCAS Code: H341

BEng (Hons) 3 years full-time
UCAS Code: H330

Typical offers
A levels: A*AA (MEng) including Mathematics and Physics, with A* in Mathematics or Physics / (BEng) AAA including Mathematics and Physics.
IB: 38 (7,6,6 HL) including Mathematics and Physics, with 7 in HL Mathematics or Physics / (BEng) 37 (6,6,6 HL) including Mathematics and Physics.

BTEC Level 3 National Extended Diploma: (BEng only)
DSD in relevant subjects plus A-Level Mathematics Grade A (see online prospectus).

Typical offers correct at the time of print. Please check our website for the latest version and other qualifications.

* DIS/DIns Diploma in Industrial/International Studies

Automotive Engineering design and development has become a wide-ranging branch of engineering encompassing electronics, computing, materials science and ergonomics, as well as the traditional core subjects involved in the mechanical engineering sciences. This degree was the first of its kind in the UK and has established a national and international reputation for the quality of the course and the graduates produced.

As part of this course you will take part in a week long vehicle testing course at the Motor Industry Research Association (MIRA) proving ground. You’ll take part in a number of hands-on experiments analysing vehicle aerodynamics, performance and handling.

During the course you can take the option of an industrial placement. This is an experience that will really help you stand out when applying for your first engineering job (see p16 for more details).

About the course
As well as studying the traditional core subjects involved in the mechanical engineering sciences, there is a significant proportion of automotive design and related theoretical analysis throughout. You’ll focus on vehicle design, development and manufacturing and use automotive examples to illustrate core principles of engineering science, such as fluid mechanics, statics and dynamics.

Throughout the course there is extensive group and individual project work, including supporting the design and build of the University’s Formula Student Team car. To support your studies you’ll have access to our outstanding facilities. These include wind tunnels, a vehicle simulator, an acoustics and vibration lab, numerous instrumented test vehicles, an electric vehicle research lab, airflow laboratory equipped with laser systems, a powertrain lab and much more.

While the broad philosophy of the MEng and BEng courses is the same, MEng students are required to study a wider range of technical subjects with additional depth. They are also exposed to a number of management topics and can study a foreign language.

As a testament to the quality of this course it is professionally accredited by the Institution of Mechanical Engineers.

Vehicle Design Group project examples
• Dakar Rally fuel cell car
• Earthquake response vehicle
• JCB Dieselmax land speed record car

Final year project examples
• Battery electric Smart car with fuel cell range extender
• Optimul control of hybrid electric vehicles
• Simulating autonomous driving

Year 1
Compulsory modules
• Mechanical Engineering; Engineering Materials; Engineering Mathematics 1 & 2; Engineering Mechanics; Fluid Mechanics; Thermodynamics; Vehicle Design and Development; Vehicle Systems and Design; Risk Analysis

Year 2
Compulsory modules
• Control Engineering; Dynamics and Vibration; Electrotechnology; Engineering Mathematics 3; Ground Vehicle Aerodynamics; Internal Combustion Engines; Machine Elements and Automotive Materials; Mechanics of Materials; Powertrain Technologies and Attributes; Structural Design Project; Vehicle Loading and Suspension; Systems Reliability Assessment

Year 3
Compulsory modules
• Vehicle Concept Definition and Design; Individual Project (BEng only); Management (MEng only)

Optional modules
• Crashworthiness; Finite Element Methods; Introduction to Computational Fluid Dynamics; Noise, Control; Principles of Composite Materials and Structures; Sound Radiation from Structures; Stress and Structural Analysis; Vehicle Dynamics and Simulation; Vehicle Engine Analysis; Appropriata Language (MEng only)

MEng Final Year
Compulsory modules
• Automotive Group Project; Business Model; Individual Project Stages 1 & 2

Optional modules
• Advanced Reliability; Availability and Maintainability; Autonomous Vehicles; Vehicle Energy Technology; Vehicle Handling

“Before applying I contacted a lot of UK automotive companies, asking where they like their graduates to come from. Every single one mentioned Loughborough.”

— Sam
Automotive Engineering

Accredited by:
Industrial placement year

We offer industry placements on all of our courses. The placement year is optional but is highly recommended because of the many benefits it can provide. Most students go on their placement after the second year, but MEng students can opt to take it after their third year.

Key benefits of an industrial placement
• Improved job prospects – some placement students are offered a permanent job with their host company when they graduate. Completing a placement gives you real world experience that will really help you stand out when applying for your first engineering job.
• Financial reward – the average salary for a placement student is over £17,000 per annum.
• Professional status – a year of industrial work experience can contribute towards achieving professional status.
• Professional skills – skills such as time management, team working, presentation skills and project management are developed on placement.
• Improved academic performance – placement students often demonstrate an improved performance on return from a placement due to the additional experience and maturity they have gained.
• Additional qualification – the Diploma in Industrial Studies (DIS) is awarded to students on completion of their placement.
• Professional contacts – the placement year is an ideal opportunity to start making industrial contacts at your host company and amongst their customers and suppliers.

Companies providing recent placements

You can opt to take a placement at any point before it starts but most companies interview in the Autumn term of the preceding year so it is advisable to have made a decision by then. If you are not sure whether to take a placement you do not have to specify a sandwich option on your UCAS form.

During the placement, an engineer nominated by your employer will supervise you and you will also be visited by your university tutor at your place of work. Throughout the year in industry, you are required to write reports about your progress and experiences with your host company.

On successful completion of the placement you’ll be awarded an additional qualification called the Diploma in Industrial Studies (DIS).

Finding a placement
Our students are keenly sought after by high profile engineering companies who know from past experience that Loughborough students are enthusiastic and equipped with the knowledge and skills needed to make a positive contribution to their organisation.

We have an Industrial Training Coordinator who gathers and supplies information about placement opportunities and advises students on what to expect from the placement experience. The placement process is overseen by the Department’s Industrial Placement Tutor and we make every effort to help our students secure placements which match their interests and ambitions.

Study abroad – Diploma in International Studies (DisIS)

With the study abroad option, students can study at a partner educational organisation in a foreign academic and cultural environment for a full academic year. This programme of study is intended to be of benefit for professional and/or academic advancement upon graduation.

The Unitech Scheme
Exceptional students have the opportunity to apply to join the Unitech Scheme. Loughborough is unique as the only English member University of the prestigious UNITECH International Society’s industrial placement and exchange programme, which includes other top European Universities such as RWTH Aachen, Chalmers and ETH Zürich, and aims to develop future senior engineers in the global marketplace. The scheme brings together international higher education institutions and corporate partners to prepare top engineering students for their professional future by spending a semester studying at a leading European university and providing a work placement with a top multinational engineering company.

To find out more about Unitech visit: www.unitech-international.org

Laura Webber
Mercedes-AMG Petronas Formula One Team
MEng Aeronautical Engineering

Laura joined the Aerodynamics department at Mercedes-AMG Petronas Formula One Team, and established herself as a valuable part of the front of car development group.

She progressed from supporting more experienced colleagues to developing her own increasingly complex concepts, demonstrating a sophisticated understanding of the mechanics, processes and tools involved.

As well as working on vehicle development, Laura also spent time in the Race Support Room, supporting trackside activities.

The team are so proud of Laura’s significant contribution to their 2015 World Championship winning car – the Mercedes F1 W06 Hybrid – that they welcomed her back as part of their team upon Laura’s graduation.

“You’ve got to put yourself forward, apply and then you can experience it. It will be a brilliant experience so I really encourage people to just go for it.”
Luke Boston
Aeronautical Engineering MEng
Graduate Vehicle Systems Engineer, BAE Systems Military Air and Information, Future Combat Air Systems

“My studies have been vital in allowing me to pursue an interesting and rewarding career in industry. After graduating I immediately joined the BAE Systems Graduate Development Scheme. For the first two years I went on placements around the business, which included working on the Eurofighter Typhoon. I then began work within the Future Combat Air Systems area in my current role as a Vehicle Systems Engineer.

In my role I help to develop new Unmanned Air Vehicles by developing and integrating key aircraft flight systems including the air data, ice protection and flight control actuation systems. This involves working closely with other departments including Aerodynamics, Design and external suppliers to understand the possibilities given technical, programme and commercial considerations.

BAE Systems is a fantastic place to work with so many opportunities available to suit your individual interests and development needs. I took the opportunity to go on a six month secondment to the UK Ministry of Defence in Bristol, enabling me to gain a greater understanding of our customers’ requirements.

My studies at Loughborough University have provided me with the necessary mix of technical and soft skills and have been vital in allowing me to pursue an interesting and rewarding career in industry.”

Andrew Coventry
Automotive Engineering BEng
Graduate Team Leader, Aerodynamics Department, Red Bull Racing Formula 1 Team

“As Team Leader I am in charge of a number of projects within the department, principally focused on wind tunnel testing and development. My time at Loughborough continues to help me perform in my current role, with a sound understanding of aerodynamics, vehicle dynamics and engineering in general providing a solid foundation to depend upon.”

Andrew Coventry
Automotive Engineering BEng
Graduate Team Leader, Aerodynamics Department, Red Bull Racing Formula 1 Team

“After graduating I joined motor sport company Ray Mallock Ltd (RML) who were involved in the British Touring Car Championship. It was immediately clear to me that my studies and time at Loughborough had provided me with exactly the right knowledge and understanding to begin work, with RML being a great place to start my career.

My career moved into Formula One with the Jaguar Team in 2002, where I enjoyed a year with the race team in 2004. From there I became a Team Leader in the Aerodynamics Department at the time when the team became Red Bull Racing.

As Team Leader I am in charge of a number of projects within the department, principally focused on wind tunnel testing and development. My time at Loughborough continues to help me perform in my current role, with a sound understanding of aerodynamics, vehicle dynamics and engineering in general providing a solid foundation to depend upon.”

Recent graduate destinations include:

Due to their unique and specialist skills, engineers are the top earners in terms of starting salaries alongside graduates from medicine and dentistry (The Times Good University Guide). Chartered Engineers command even higher salaries and once you have reached this status you can expect to earn a salary of over £50,000 per year.

As well as a top salary, a degree in engineering presents wide reaching opportunities from world leading blue chip organisations to developing countries. With a degree in Aeronautical or Automotive Engineering from Loughborough University, you can expect to have gained a diverse skill set. This will include project management, team work, leadership, business acumen and people management as well as technical expertise setting you up for a successful career. We are favoured by many leading organisations as a source of exceptional graduates.

Inspiring graduates

Recent graduate destinations include:
### Programme structure

#### Year 1 (MEng and BEng)
- **Year 1** provides a grounding in engineering subjects and an introduction to Aeronautical or Automotive technology and design.
- **Lectured subjects Year 1** typically 70/30 – hands-on subjects 50/50 exam/coursework.
- **Key**
  - Orange: Aeronautical and Automotive Engineering
  - Blue: Aeronautical Engineering
  - Green: Automotive Engineering

#### Year 2 (MEng and BEng)
- **Year 2** provides a broad coverage of Aeronautical and Automotive Engineering.
- **Common to both BEng and MEng students.**
- **Lectured subjects Year 2** typically 50/50 – hands-on subjects 50/50 exam/coursework.
- **Key**
  - Orange: Aeronautical and Automotive Engineering
  - Blue: Aeronautical Engineering
  - Green: Automotive Engineering

#### BEng – Final Year
- **The aim of Year 2 is to provide a substantial individual project and also continues to deepen their knowledge with a combination of compulsory and optional subjects.**

#### MEng – Year 3
- **The aim this year is to enable students to broaden their knowledge and understanding with a combination of compulsory and optional subjects.**

#### MEng – Final Year
- **The MEng culminates where a student undertakes a substantial individual project and also continues to deepen their knowledge with a combination of compulsory and optional subjects.**

### Compulsory modules

<table>
<thead>
<tr>
<th>Course</th>
<th>Year 1 (MEng and BEng)</th>
<th>Year 2 (MEng and BEng)</th>
<th>BEng – Final Year</th>
<th>MEng – Year 3</th>
<th>MEng – Final Year</th>
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<td>Engineering Materials</td>
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<td>Vehicle Systems and Design</td>
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<td>Vehicle Design and Development</td>
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<td>Introduction to Aircraft Design</td>
<td>Low Speed Aerodynamics</td>
<td>Aircraft Systems and Performance 2</td>
<td>Aircraft Design or Gas Turbine Design 2</td>
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<td>Manufacturing, Technology and Management</td>
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<td>Aircraft Stability and Flight Test Week</td>
<td>Aircraft Stability and Flight Test Week</td>
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<td>Vehicle Design</td>
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<td>Introduction to Computational Fluid Dynamics</td>
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<td>Manufacturing, Technology and Management</td>
<td>High Speed Aerodynamics</td>
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<td>Vehicle Design and Development</td>
<td>Internal Combustion Engines</td>
<td>Aerospace CFD</td>
<td>Crashworthiness</td>
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<td>Vehicle Systems and Design</td>
<td>Machine Elements and Automotive Materials</td>
<td>Aircraft Structural Analysis</td>
<td>Vehicle Dynamics and Simulation</td>
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<td>Vehicle Systems and Design</td>
<td>Powertrain Technologies and Attributes</td>
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<td>Vehicle Design and Development</td>
<td>Vehicle Loading and Suspensions</td>
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### Optional modules

- **Final Element Methods**
- **Introduction to Computational Fluid Dynamics**
- **Noise Control**
- **Principles of Composite Materials and Structures**
- **Sound Radiation from Structures**
- **Stress and Structural Analysis**
- **Aerodynamics**
- **Flight Control Systems**
- **Gas Turbine Design 1**
- **Rotorcraft Engineering**
- **Spacecraft Engineering**
- **Crashworthiness**
- **Vehicle Dynamics and Simulation**
- **Vehicle Engine Analysis**
- **Aerodynamics**
- **Flight Control Systems**
- **Gas Turbine Design 1**
- **Rotorcraft Engineering**
- **Spacecraft Engineering**
- **Crashworthiness**
- **Vehicle Dynamics and Simulation**
- **Vehicle Engine Analysis**
- **Aerodynamics**
- **Flight Control Systems**
- **Gas Turbine Design 1**
- **Rotorcraft Engineering**
- **Spacecraft Engineering**
- **Crashworthiness**
- **Vehicle Dynamics and Simulation**
- **Vehicle Engine Analysis**

### FAQs

**Q:** Does this degree lead to Chartered Engineer status?

Yes, you can apply as a graduate to become a Chartered Engineer.

**Q:** Can I transfer from BEng to MEng?

If you apply for the BEng and your results meet the grade requirements on results day, you will be transferred to the BEng programme (i.e. a double offer). If you don't achieve the BEng requirements, we will transfer you to the BEng programme (i.e. a double offer). If you don't achieve the BEng requirements we may make a change course offer to you for another department within the School or university.

**Q:** What is the difference between MEng and BEng?

MEng: 4 years or 5 years with a year in industry
BEng: 3 years or 4 years with a year in industry

The MEng programme gives students the opportunity to study for an extra year. Subjects cover more breadth by offering management/business topics and the option of a foreign language. Depth of knowledge is increased by including technical topics studied at a more advanced level. The individual final year project for the MEng is a more significant piece of work than for the BEng and may be carried out at a European university. These extra skills are attractive to employers.

**Q:** Are the courses accredited?

Yes. The courses comply with the educational base for UK-SPEC. The Aeronautical course is accredited by both the Royal Aeronautical Society and the Institution of Mechanical Engineers. The Automotive course is accredited by the Institution of Mechanical Engineers.

**Q:** How do I transfer from BEng to MEng?

If you apply for the BEng and your results meet the MEng requirements we will offer you the chance to change to the MEng programme before the commencement of the first year. If you start on the BEng programme, you can transfer to the MEng programme after the first semester of the second year provided you achieve the transfer requirements.

**Q:** What if I change my mind and decide to take a different route or in conjunction with Industry?

If you started on a non-US programme and wish to change you have up until the Christmas of the second year to decide.

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*Project may be undertaken off campus at an approved UK or Overseas Institution, or in conjunction with Industry.

** These compulsory elements contribute to a number of modules.