

# Mechanical Engineering



Undergraduate study

# Courses

## Single Honours

### **BEng Mechanical Engineering**

three years H305

### **MEng Mechanical Engineering**

four years H300

### **MEng Mechanical Engineering with Study in Continental Europe**

four years H301

### **MEng Mechanical Engineering with Study Abroad\***

four years

### **MEng Mechanical Engineering with a Year in Industry†**

five years

## Joint Honours

### **BEng Mechanical and Electrical Engineering**

three years H361

### **MEng Mechanical and Electrical Engineering**

four years H360

### **MEng Mechanical and Electrical Engineering with a Year in Industry†**

five years

\*Entry by transfer at the end of the first year of H300.

†Entry by transfer subject to eligibility criteria.

# Why study mechanical engineering at Bristol?

If you enjoy physics and mathematics and love designing and making things, mechanical engineering could be the course for you. If you like to figure out how machines work and then improve them, mechanical engineering will give you the skills to turn this into your career.

Mechanical engineers are practical people who have studied physics and mathematics in depth and who know how to creatively apply theory to real problems. They make an enormous contribution to society, helping to design every machine you can think of, from medical devices and miniature digital cameras, to trains, planes and satellites. They are at the forefront of future technologies, with highly valued skills, good job prospects and rewarding salaries.

Bristol's engineering heritage is world famous and the city continues to be an international leader in the field. We have valuable relationships with industry, which provide numerous opportunities for our students. We are in the top 12 mechanical engineering departments nationally for standards of teaching (*The Times* Good University Guide 2018). You will benefit from specialist teaching led by the latest developments in engineering practice and research.

**The Department of  
Mechanical Engineering  
is ranked sixth overall  
in the UK.**

*The Guardian* University Guide 2018

This leaflet contains information for students planning to start university in autumn 2019. We have made every effort to ensure all details are correct at the time of going to press (June 2018). However, since this information is subject to change, you are advised to check the University's website, [bristol.ac.uk/ug-study](http://bristol.ac.uk/ug-study), for the latest updates.

## What will you study?

The Bachelor's of Engineering (BEng) is a three-year course providing a grounding in all aspects of modern engineering. The quality of work required is the same as the Master's of Engineering (MEng) and the two courses have the same entry requirements. It is quite common to transfer between BEng and MEng courses.

The MEng offers the same quality experience, with the final two years focusing strongly on project work. The MEng is ideal if you want a broad-based mechanical engineering degree. It gives an excellent grounding in the fundamentals of engineering science and then enhances this material with advanced engineering topics and management studies. The final year provides an opportunity to specialise.

### Years one and two

The first two years are common across our mechanical engineering degrees. Teaching is based on four main themes:

- design and manufacture
- dynamics and control
- thermofluids
- materials.

In the first two years you are introduced to the fundamentals of engineering science and their application to real problems. Design is at the heart of engineering. The first-year design unit will provide you with an appreciation of the techniques of design, such as conveying ideas by graphical means. The second-year design unit involves examining engineering artefacts in more detail and getting your hands on the real issues involved in engineering. You will create your own fully engineered designs to meet a customer's requirements. Recent design projects have included a deployable bridge for cyclists and a competitive activity where students designed a vehicle to traverse an assault course.

**'What did I enjoy most?  
From designing and  
building a car to seeing  
the northern lights,  
experiencing new cultures  
to winning a sailing race,  
it was fantastic and  
I will always cherish  
the experience.'**

Peter (MEng Mechanical Engineering  
with Study in Continental Europe)



**'Not only is Bristol one of the best university cities in terms of living, but the skills and knowledge I have learned on the course have set me up for a successful career and future. Also, because you spend so much time with other engineers throughout the course, you make great friends.'**

Rebecca (MEng Mechanical Engineering  
with Study Abroad)

## What will you study?

### Years three and four

A major project in year three involves varying degrees of research, design, experimentation and computing, applying the principles covered in years one and two to more realistic and complex engineering applications. The fourth-year major group project is designed to replicate the sort of open-ended task and situation that working engineers encounter. This experience acts as a bridge to your future career.

Our Study in Continental Europe and Study Abroad courses offer you the chance to spend your third year studying at one of our partner institutions overseas. The engineering profession is becoming increasingly international and a year abroad adds real value to your degree. On the Study in Continental Europe course you will spend your third year at a European university; you will need at least GCSE-standard language experience for this course. The MEng 'with Study Abroad' is for those who wish to study at one of our worldwide exchange partners, where classes are taught in English.

In conjunction with the Department of Electrical and Electronic Engineering, we offer Joint Honours BEng and MEng Mechanical and Electrical Engineering. These degrees qualify students to work in a wide range of industries at the interface of both disciplines. Students could be designing the electric cars of the future, working on future electric aircraft or working in sustainable energy businesses – just three examples of what is possible.

To ensure you are supported in a comprehensive manner, you will be assigned a personal tutor with whom you will have regular tutorial sessions and can discuss academic or personal matters on an individual basis. In your first year you will be assigned an industrial mentor who will be a senior engineer working in industry locally. They will provide context for your degree based on their own experience; in fact, many mentors are Bristol graduates. They will give advice on engineering careers and provide information about what skills employers are looking for in graduates – and what qualities you should look for in an employer.



## Facilities and links with industry

### Our facilities

Our world-class facilities bring together our research strengths and enable the integration of engineering theory and experiment.

We are a member of the internationally recognised Centre of Excellence in Robotics, the largest robotics lab in the UK, housing wet labs, flying arenas and 3D motion capture systems. The Hele-Shaw laboratory is a new facility specialising in different areas of fluid mechanics teaching and research. The Dynamics lab is equipped with leading-edge testing technologies where students must design a control system for a 3 degree-of-freedom helicopter. The non-destructive testing lab houses facilities to support internationally leading research into ultrasonics and acoustics. We also house composites-specific equipment which links our research to the University's National Composites Centre which is at the forefront of composite technologies.

Our enhanced state-of-the-art engines and propulsion laboratory is home to seven brand new teaching engines, with a range of engine types, experiments and instrumentation ideally relevant to the industry goals of high efficiency and low environmental impact.

### Industrial Liaison Office

The Industrial Liaison Office (ILO) manages the Faculty of Engineering's links with a diverse set of world-class engineering and technology companies and works to ensure that our students engage with industry from the very start of their studies.

As an engineering student at Bristol, you will benefit from an outstanding range of activities designed to enhance your employability. These include our Inside Track lecture series, where industry insiders offer first-hand insight into the engineering industry. Our Industrial Mentoring and internships schemes provide opportunities to gain valuable experience and make important connections, and our regular newsletter highlights further opportunities and industry events. See our website for more information: [bristol.ac.uk/engineering/ilo](http://bristol.ac.uk/engineering/ilo).

**'Our internship scheme continues to attract support from a wide range of technology and engineering companies, allowing these companies to build relationships with our high-calibre students, who will form the engineering workforce of the future.'**

Professor Andrew Nix,  
Dean of the Faculty of Engineering

## Careers support and graduate destinations

Bristol's excellent reputation means that our students are consistently sought after by leading engineering companies. Our graduates join a variety of different companies, including engineering, information technology, management consultancies and many more. Our degrees are fully accredited by the Institution of Mechanical Engineers (IMechE) and provide a solid foundation for becoming a chartered engineer or undertaking further study; many of our graduates go on to study for a higher degree.

Graduate employers cover a complete spectrum of activities and have included Accenture, Airbus, Arup, Assystem, Atkins, BAE Systems, Bechtel, British Energy, E.ON, Faber Maunsell, Fluor Ltd, GKN, Hoare Lea, JP Morgan, KPMG, Lloyds, MoD, Network Rail and London Underground, PricewaterhouseCoopers, Rolls-Royce, the Army and Towers Perrin.

The department encourages students to turn some of the amazing concepts, devices and artefacts they work on during their final-year projects into viable commercial propositions. A number of our mechanical engineering students go on to start their own businesses.



**80 per cent of MEng Mechanical Engineering students are in work or further study six months after graduation, with 95 per cent employed in professional or managerial roles.**

Destinations of Leavers from Higher Education survey 2016/17



# Making your application

## Typical offer for BEng/MEng Mechanical Engineering\*

Visit [bristol.ac.uk/ug19-mecheng](http://bristol.ac.uk/ug19-mecheng) for Joint Honours and other qualifications.

**A-levels** A\*AA (contextual AAB<sup>†</sup>) including A\*A (in any order) in Mathematics and Physics (contextual including AA<sup>†</sup> in Mathematics and Physics).

**IB Diploma** 38 points overall (contextual 34<sup>†</sup>) with 18 at Higher Level (contextual with 17<sup>†</sup> at Higher Level), including 6, 6 at Higher Level in Mathematics and Physics.

**English Language profile** E<sup>††</sup>

**GCSEs** No specific subjects required.

<sup>†</sup>For information on contextual offers, visit [bristol.ac.uk/contextual-offers](http://bristol.ac.uk/contextual-offers).

<sup>††</sup>For details of English language profiles, visit [bristol.ac.uk/ug-language-requirements](http://bristol.ac.uk/ug-language-requirements).

**Selection** UCAS or Common Application.

\*The typical offer is indicative only and the University accepts a wide range of qualifications. The information is correct at the time of printing (June 2018); however, we recommend you check the University's website for the most up-to-date information: [bristol.ac.uk/ug-study](http://bristol.ac.uk/ug-study).

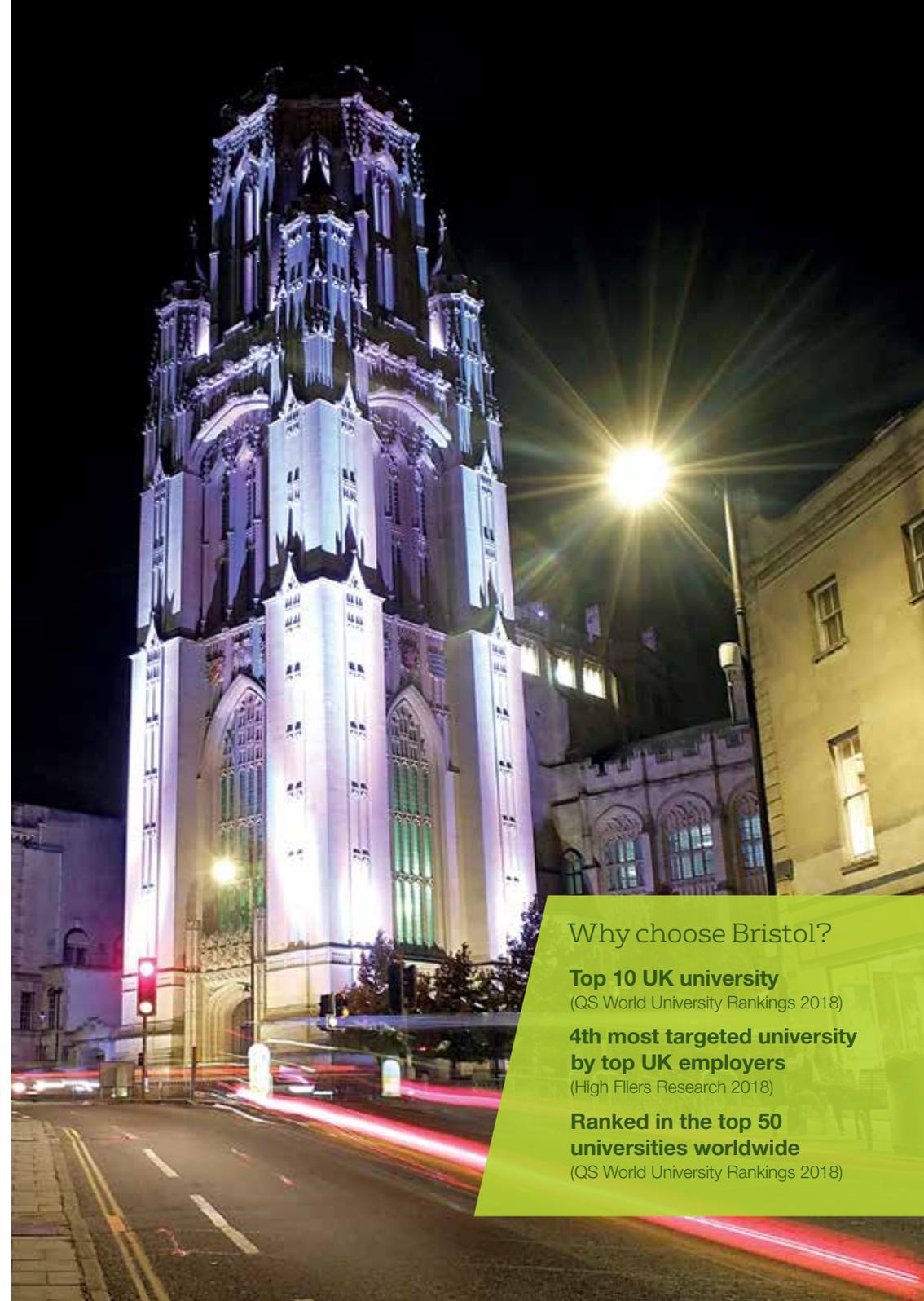
As well as seeking academic excellence, the Admissions Team will be looking at your personal profile. It is important to specify why you want to study mechanical engineering and why you want to study at the University of Bristol.

The department encourages work experience as part of an engineer's training and so any relevant experience gained during vacation periods is considered to be an advantage. We are also interested to hear about any hobbies or leisure pursuits, particularly those relevant to your chosen course. Some of our students take a gap year with the Year in Industry scheme ([www.etrust.org.uk](http://www.etrust.org.uk)) before starting their degree, but this is not a requirement.

## Further information

Find out more about the Department of Mechanical Engineering: [bristol.ac.uk/mecheng](http://bristol.ac.uk/mecheng).

Faculty of Engineering student and alumni profiles: [bristol.ac.uk/engineering/profiles](http://bristol.ac.uk/engineering/profiles).



## Why choose Bristol?

**Top 10 UK university**  
(QS World University Rankings 2018)

**4th most targeted university  
by top UK employers**  
(High Fliers Research 2018)

**Ranked in the top 50  
universities worldwide**  
(QS World University Rankings 2018)

# Contact us

## Enquiries Team

Tel +44 (0)117 394 1649

Email [choosebristol-ug@bristol.ac.uk](mailto:choosebristol-ug@bristol.ac.uk)

If you have any questions about courses, applications or any aspect of being a UK or international student at Bristol please contact the Enquiries Team.

## Accommodation Office

Tel +44 (0)117 954 6640

Email [accom-office@bristol.ac.uk](mailto:accom-office@bristol.ac.uk)

[bristol.ac.uk/accommodation](http://bristol.ac.uk/accommodation)

## Disability Services

Tel +44 (0)117 331 0444

Email [disability-services@bristol.ac.uk](mailto:disability-services@bristol.ac.uk)

[bristol.ac.uk/disability-services](http://bristol.ac.uk/disability-services)

University guide to the city of Bristol

[bristol.ac.uk/citybristol](http://bristol.ac.uk/citybristol)

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## Photography

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