

# Engineering Design



Undergraduate study

## Courses

### Single Honours

#### **MEng Engineering Design with Study in Industry**

five years H150

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.

## Why study engineering design at Bristol?

If you have broad engineering interests, are ambitious, and would like to work on large engineering projects vital to modern society in areas such as renewable energy, sustainable cities and transport, then engineering design could be for you.

The Engineering Design course at Bristol has been specifically developed to educate and train students for future leadership roles in industry. This unique, accredited, five-year interdisciplinary degree was created with the Royal Academy of Engineering and is supported by a partnership of leading companies in a wide range of engineering sectors, such as energy, the built environment, transport, manufacturing and product design. These companies help select our students, guide the curriculum and provide placements and projects. As a result, graduates of the course are highly attractive to our partner companies and have a head start in their careers.

This degree teaches you the fundamentals of all the main engineering disciplines; you can then specialise to develop expertise in a particular field. The placements in industry will help you understand the sort of engineering you would like to do and provide valuable real-world work experience. Large-scale engineering projects involve teams of engineers and this degree is aimed at developing engineering leaders; you will learn teamworking skills, how to deliver effective presentations and how to understand the impact of socioeconomic, environmental and legal constraints on engineering projects.

Our continuing investment in facilities forms part of the exceptional student experience at Bristol. The Engineering Growth Project is a recent £14 million investment that has expanded our facilities with state-of-the-art equipment and large, flexible teaching, design, study and workshop spaces, enabling interactive teaching and learning for our students.

**'I selected engineering design because I saw that the course flexibility would allow me to tailor my engineering knowledge to suit my career path. As an 18-year-old just having completed my A-levels, I did not know what type of engineering I wanted to study, only that I wanted to be an engineer. Engineering design allows you to structure your degree to your strengths and interests; I ended up specialising in aerospace engineering and advanced composite structures, which I would not have been able to choose in advance of coming to university.'**

Andrew (MEng Engineering Design), Graduate Trainee, Rolls-Royce

## What will you study?

The multidisciplinary MEng Engineering Design with Study in Industry provides a common core of engineering units in materials, structures, dynamics, fluids, electronics, mathematics and computing, taken alongside other engineering undergraduates.

In the first year there is also dedicated teaching in design concepts and using computer-aided design software. During your second year, these skills are enhanced through detailed group design projects, and you will choose one of three pathways aligned with aerospace, civil and mechanical engineering.

The third year is a paid placement in industry, which also forms an assessed part of the course and is closely monitored by both an industrial supervisor and university staff. This ensures that the placement is effective in developing your skills and allows you to take the first steps towards becoming a chartered engineer. You will work alongside graduates, doing the same type of work as them and being given similar levels of responsibility. Returning to the University for years four and five, you will have a clearer idea about what type of engineer you want to become, and will be able to tailor your studies by selecting from a wide range of optional units.

This allows you to benefit from some of the faculty's outstanding research strengths and develop expertise in areas such as:

- advanced composite materials
- fluids and aerodynamics
- earthquake and geotechnical engineering
- robotics and control systems
- smart cities and urban infrastructure
- renewable energy
- water and environmental engineering
- engineering systems and design.

To develop teamwork skills, you will be involved in group design projects working on real engineering problems, starting in year two. After working within professional engineering teams during your third-year industrial placement, you will conduct major group research and design projects during years four and five. These address genuine business interests provided by our industrial partners and are conducted in collaboration with engineers from these companies. Recent examples have included an electric vehicle system for Bristol, a long-range airship for transporting freight, an automated assembly facility for aircraft components, and a tidal lagoon energy system for the Severn Estuary.

For the last two years the Engineering Design course has achieved 100 per cent satisfaction in the National Student Survey (2016, 2017) and was ranked as the UK's top General Engineering course in the 2019 Complete University Guide.

### Teaching and assessment

You will be assigned a personal tutor throughout your degree. Tutor groups meet together every week during your first year. Each year group also has a year tutor to monitor and assist the group's progress.

You will also have a 'parent' or mentor (a student further along on the course), who will help you with study skills and getting the most out of university life. While on industrial placements, your industrial supervisor and university staff will make sure you have a valuable set of experiences. As this is a course for leaders, you will be expected to manage and develop your own studies and frequently make presentations to other students and staff. Much of your work will be done in teams, working on design projects and case studies. The relatively small cohort on each year of the course (typically around 30 students) promotes a strong support network among the students and with staff.

As well as the usual range of assessments, such as technical reports, in-class tests, computer-based tests and examination papers, we will assess your skills in multidisciplinary design processes and project management. Group design projects are assessed through presentations, written reports and practical work.



Students from the course have had outstanding success in launching their own start-up companies and winning a range of national awards. In the last three years, the course has had the highest success rate of students gaining prestigious Royal Academy of Engineering Leaders Scholarships of any UK degree programme.



## Careers and graduate destinations

Approximately two thirds of our graduates progress directly into engineering roles. Some go on to further study or set up their own business; others join management consultancies or companies in a variety of sectors.

This course will provide you with the wide range of engineering, management and entrepreneurial skills, and the knowledge that you will need to be successful in the world of engineering. Many employers want the skill set developed in this degree, which includes: numeracy and mathematical modelling, spoken and written communication skills, and a broad understanding of how the engineered world works.

The combination of your placements and your work on projects supported by companies means that you will develop, through first-hand insight, a good understanding of the sort of job you want and the skills that your ideal employer seeks. Many of our students are offered jobs as a result of successful third-year placements, with some receiving company sponsorship for the final years of their degree.

### 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 regular careers seminars, 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).

**'The links with industry are what really set this course apart. Partnerships with industry-leading companies give you a skill set that enhances your employability.'**

Sinead (MEng Engineering Design),  
Water and Site Development Engineer, ARUP

## Making your application

### Typical offer for MEng Engineering Design with Study in Industry\*

Visit [bristol.ac.uk/ug19-engdesign](http://bristol.ac.uk/ug19-engdesign) for other qualifications.

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

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

**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).

This course develops engineering leaders who need to have strong technical skills and also be good at working with other people and managing projects. They have wide-ranging interests in the engineered world, how things work and the impact of financial, environmental and legal factors.

We select our students by looking at their application for information on their interests and achievements: things they have made, events they have organised, skills they have acquired. We recognise that students come from different backgrounds and have had different opportunities, so we are looking first and foremost for a genuine passion for engineering and problem solving.

Our partner companies often offer sponsorship to students after their placements.

### Further information

Find out more about engineering design at Bristol: [bristol.ac.uk/engineering-design](http://bristol.ac.uk/engineering-design).

To gain an insight into the wide range of opportunities that MEng Engineering Design with Study in Industry can open for you and what it is like to study on the course, please see our graduate profiles at: [bristol.ac.uk/engineering-design/graduate-profiles](http://bristol.ac.uk/engineering-design/graduate-profiles).



# 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

Dan Rowley

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