

# Aerospace Engineering



**Undergraduate study**

## Courses

### Single Honours

#### **BEng Aerospace Engineering**

three years H405

#### **MEng Aerospace Engineering**

four years H410

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

four years H401

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

four years

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

five years

\*Entry by transfer from H410 or H401 at the end of the first year subject to eligibility criteria.

†Entry by transfer subject to eligibility criteria.

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 aerospace engineering at Bristol?

If you enjoy problem solving, excel in maths and physics and have a strong interest in areas such as aircraft, spacecraft, Formula 1 or wind power, then aerospace engineering is for you. Our degrees focus on the technical material that interests you from the start, ensuring theoretical ideas are set clearly in a practical aerospace context.

The vibrant nature of the department is reflected in our connections with industrial partners such as Airbus UK, BAE Systems, Rolls-Royce, Leonardo, GE Aviation and GKN Aerospace, which are all located on our doorstep. Further manufacturers and engineering consultancies such as DNV GL (Garrad Hassan), GE and Atkins also have centres near the University. We have a leading role within the UK National Composites Centre, and we are partners in the Centre for Fluid Mechanics Simulation (CFMS).

The department's research is at the forefront of the aerospace sector, reflected in the high proportion of highly rated research in the 2014 Research Excellence Framework (REF); ninety-three per cent of engineering research (including aerospace) was found to be 'internationally excellent' or 'world-leading'.

Our department is ranked third in the UK (Complete University Guide 2019). Coupled with the huge investment we are making in our facilities, this means we offer an exceptional student experience.

The Engineering Growth Project has recently invested £14 million to equip the Faculty of Engineering well into the 21st century. This major expansion of our facilities includes state-of-the-art equipment and large, flexible teaching, design, study and workshop spaces, which enable interactive teaching and learning. Our new atrium acts as a social learning and meeting place, with a new café and bookable project and study rooms.

**“The University of Bristol has an outstanding reputation and excellent links to the aerospace industry, which makes it the perfect choice for engineering. Located at the heart of the city, the University naturally has a vibrant atmosphere. I am grateful to be studying here, in a truly inspiring environment.”**

Balazs (MEng Aerospace Engineering)

# What will you study?

Teaching in a research environment is the philosophy at the heart of our undergraduate courses, spanning all our teaching units and ensuring you benefit from knowledge of the latest developments and discoveries. Every part of our course is tailored to provide you with the skills needed to design an aircraft or spacecraft. Lectures cover fundamental material and are supported by practical experience through coursework and laboratory exercises.

The early part of the degree lays a broad foundation in basic engineering, taught in the context of aerospace. As you progress, you will develop your skills through more advanced study, leading to an understanding of the complexity of modern engineering. As well as teaching core theoretical knowledge, we run design, build and test tasks in the first and second years. In these you will construct balsa, foam and finally aluminium wings in a series of projects involving structural and wind tunnel testing.

Teaching is organised into three streams:

- aerodynamics
- dynamics and control
- structures and materials.

You will study the basic engineering that underpins all these streams, such as computing, systems engineering and design. The second and third years also teach professional studies, covering topics such as business, management and ethics.

Greater flexibility in the third and fourth years allows you to pursue your areas of interest. Some options relate to specific applications, such as helicopter aerodynamics, space systems, or wind and marine power. Others allow you to study particular technologies, such as advanced composites analysis, experimental or computational aerodynamics, or multidisciplinary design. You may also be able to take university-wide options such as sustainable development.

Those on the Study in Continental Europe and Study Abroad courses will spend their third year at a partner university overseas. These partners have been carefully selected to ensure courses provided are aligned with those in Bristol.

We actively support year-long industrial placements, usually between the third and fourth years of study. Department staff and the faculty's

Industrial Liaison Office will support you through the process of applying for placements and working in industry.

The fourth-year group design project is currently run in close collaboration with Airbus and Leonardo. Senior design staff will help to lead teaching related to the design of fixed-wing aircraft, space systems or helicopters. Groups of students work competitively to the same design specification, considering the full spectrum of factors contributing to the design. These projects provide a major opportunity for the application of systems engineering principles.

The final piece of coursework in the fourth year is an individual research project. This follows on from the individual exploratory project in the third year and is an opportunity for you to become involved in our department's research activities by undertaking your own original piece of research. This work often sits alongside current staff links to industrial partners, helping to build beneficial contacts for our students and creating an active, vibrant research community.

## Facilities

The department houses a variety of research and teaching facilities, ranging from flight simulators, miniature gas turbines and structural testing equipment through to our subsonic and supersonic wind tunnels and tethered miniature helicopters. You will have the opportunity to operate state-of-the-art optical laser-based measurement equipment for wind tunnels or build wind tunnel test models in the designated student workshop. In your final year, use of facilities will depend on your choice of research project, but may include the composites lab, wind tunnels, dynamics lab or robotics lab. Whatever your interest, we offer world-class facilities to enhance your learning experience.



**'My favourite part of the course has been the final-year research project. The Aerospace department allows students to choose from a diverse range of research proposals for their individual projects covering structures, aerodynamics, UAVs and space-related projects.'**

Shivam (MEng Aerospace Engineering)



## Careers and graduate destinations

Our graduate employment record is excellent, and our aerospace engineering degrees open up numerous career opportunities, both within aerospace engineering and further afield. Our courses help develop excellent problem-solving, numeracy and creative skills, providing you with a broad technological basis and the ability to work creatively in a team. This means that, while aerospace engineering is a popular destination, many of our graduates are also employed in the renewables, oil and gas, automotive, managerial and finance sectors.

Our graduates are highly sought after, with a high percentage of those employed after graduation in professional or managerial jobs, and an average starting salary of £28,000\*. The department's strong relationships with the major aerospace companies further enhance career prospects.

\*Destinations of Leavers from Higher Education survey 2016/17, MEng Aerospace Engineering.

### Industrial networking

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 aerospace engineering student at Bristol, you will benefit from an outstanding range of activities designed to enhance your employability. These include the Inside Track lecture series, where business insiders offer first-hand insight into the engineering industry. Industrial mentoring and internship schemes provide opportunities to gain valuable experience and make important connections, and regular newsletters highlight further opportunities and industry events. More information is available on the ILO website: [bristol.ac.uk/engineering/ilo](http://bristol.ac.uk/engineering/ilo).

The University of Bristol has one of the best employment records in the UK. We are rated sixth in the UK in the QS Graduate Employability Rankings 2018 and are the fourth most targeted university by top UK graduate employers (High Fliers Research 2018).



## Making your application

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

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

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

**IB Diploma** 38 points overall (contextual 34<sup>†</sup>) with 18 at Higher Level (contextual 17<sup>†</sup>), 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).

We assess all applications for academic potential and motivation. We will use your predicted grades, references and past results to assess your academic ability, checking particularly that you have the mathematical strength to tackle this demanding degree course.

We will assess your motivation through your personal statement, looking especially for your commitment to studying aerospace engineering. It is a very broad subject area and there are lots of good reasons to study it; just tell us yours, frankly and clearly. We want to know what excites you about this subject and why. Back it up as far as you can with evidence: what have you done to learn more about aerospace engineering?

### Further information

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

Visit our aerospace engineering admissions blog: [bristolaeroadmissions.blogspot.co.uk](http://bristolaeroadmissions.blogspot.co.uk).

# Contact us

## Enquiries Team

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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

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## Disability Services

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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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