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 at the end of the first year.
†Entry by transfer subject to eligibility criteria.

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.

Companies such as Airbus UK, BAE Systems, Rolls-Royce, AgustaWestland Helicopters, GE Aviation and GKN Aerospace are on our doorstep, while further manufacturers and engineering consultancies such as DNVGL (Garrad Hassan), GE and Atkins have centres nearby. The vibrant nature of the department is reflected in our connections with industry partners. We have a leading role within the UK National Composites Centre, are founding members of the UK Applied Aerodynamics Consortium, and 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 research found to be internationally excellent and world-leading in the 2014 Research Excellence Framework (REF).

Our department is ranked 4th among the world’s top 100 universities (Complete University Guide 2018). This, coupled with the huge investment we are making in our facilities, means we offer an exceptional student experience.

The Engineering Growth Project is a £14 million investment that will equip the Faculty of Engineering well into the 21st century. From autumn 2017 this major expansion of our facilities will include state-of-the-art equipment and large, flexible teaching, design, study and workshops spaces, enabling interactive teaching and learning for our students. Our new atrium will act as a social learning and meeting place and there are future plans for a new cafe and bookable project and study rooms.

‘These new facilities will be transformative for students, academic colleagues, research students and staff. They will increase our capability to teach, collaborate and develop for the coming years.’
Professor Andrew Nix
Dean of the Faculty of Engineering

92 per cent of students are satisfied overall with the quality of the course.

National Students Survey 2016
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, more advanced study develops these skills leading to an understanding of the complexity of modern engineering. Alongside teaching of 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 law.

In the third and fourth years, greater flexibility is available for you to pursue areas of interest. Some options relate to specific applications, such as helicopter aerodynamics, space systems, or wind and marine power. Others study particular technologies, such as advanced composites analysis, experimental or computational aerodynamics or multidisciplinary design. You can also 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.

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.

For the fourth-year group design project, senior design staff at Airbus Defence and Space and AgustaWestland help lead the teaching. Groups of students work competitively to the same design specification, considering the full spectrum of factors contributing to the design. For students with an interest in fixed-wing aircraft we run a project in close collaboration with Airbus. For rotary-wing aircraft, our helicopter design project is supported by Leonardo, and Airbus Defence and Space supports our space project. 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 by undertaking your own original piece of work. 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, wind tunnels and structural testing equipment, through to our supersonic wind tunnel and tethered miniature helicopters. You will also 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, ranging from the composites lab to the wind tunnels or the dynamics lab. Whatever your interest, we offer world-class facilities to enhance your learning experience.

bristol.ac.uk/ug-study
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 you develop excellent 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, the renewables, oil and gas, automotive and managerial and finance sectors also employ many of our graduates.

With a high percentage of our students in a managerial or professional job after graduation and an average starting salary of £28,000*, our graduates are highly sought after. The department’s strong relationships with the major aerospace companies further enhance career prospects.

Careers and graduate destinations

Industrial Liaison Office
The Industrial Liaison Office (ILO) manage the Faculty of Engineering’s links with a diverse set of world-class engineering and technology companies and work 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 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.

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?

Selection
UCAS or Common Application.

Deferred entry
Welcomed.

Making your application

Typical offer for BEng/MEng Aerospace Engineering*
Visit bristol.ac.uk/ug18-aero for other qualifications.

A-levels A*AA (contextual AAB†) including A*A in Mathematics and Physics (contextual AA†) in any order.

IB Diploma 38 overall (contextual 34†) with 18 at Higher Level (contextual 17†), including 6, 6 at Higher Level in Mathematics and Physics.

English Language profile E††

GCSEs Mathematics and English at grade C or above.

†For information on contextual offers, visit bristol.ac.uk/ug-apply/#typical-contextual-offers.

††For details of English language profiles, visit bristol.ac.uk/ug-language-requirements.

Selection
UCAS or Common Application.

Deferred entry
Welcomed.

*Destinations of Leavers from Higher Education survey 2016, BEng Aerospace Engineering.

*Working at Airbus, I am putting the theoretical and practical knowledge I acquired at Bristol into practice. It also taught me soft skills in leadership, teamworking, problem solving and a work ethic. The aerospace course has high academic standards, with a mix of individual and group projects that allow you to develop into a highly employable individual*

Emma England (MEng Aerospace Engineering, 2013)
Loads and Aeroelastics Engineer, Airbus

*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 2017); however, we recommend you check the University’s website for the most up-to-date information: bristol.ac.uk/ug-study.

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Further information
Find out more about the Department of Aerospace Engineering: bristol.ac.uk/aerospace.

Visit our aerospace engineering admissions blog: http://bristolaeroadmissions.blogspot.co.uk.

bristol.ac.uk/ug-study
Contact us

**Enquiries Team**
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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.

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University guide to the city of Bristol  
bristol.ac.uk/citybristol

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