Degree programmes in Aerospace Engineering

Aerospace Engineering BEng
Aerospace Engineering MEng
Welcome

Aerospace Engineering at Brunel is all about helping you become a highly qualified aerospace engineer, ready for a career in one of the most exciting and fast-moving industries in the world today.

Our teaching staff are also researchers, collaborating outside the university with commercial organisations including aircraft manufacturers, and feeding their cutting edge findings back into the course. You will be challenged by real-world engineering issues facing the modern aerospace industry - finding solutions will help you develop into a capable and confident engineer.

During your time with us you’ll benefit from excellent facilities, including a full-motion aircraft flight simulator, plus access to industry-standard specialist software for engineering design 24 hours a day in our dedicated computer clusters.

We look forward to meeting you.

Professor Hamid Bahai
Head of Department

Aerospace Engineering BEng
H402 3 years (FT)
H401 4 years (FT) thick-sandwich

Aerospace Engineering MEng
H400 4 years (FT)
H403 5 years (FT) thick-sandwich

Brunel University London code
B84 BRUNL
Apply online at www.ucas.com

The qualifications you need

You will need one of the following:
For the BEng
GCE A-level AAB, including Maths and Physics (General Studies and Critical Thinking not accepted).
IB Diploma 33 points, including 6 and 5 in Higher Level Mathematics and Higher Level Physics.
BTEC Level 3 Extended Diploma D*D*D, including Distinctions in Further Mathematics and Further or Advanced Mechanical Principles and Applications.
For BTEC Level 3 and A-level combinations please check the Aerospace Engineering page on our website.
Access to HE Diploma courses are not accepted for MEng entry. Access students should apply for the BEng in this subject. Once you have achieved the progression requirements on the BEng programme you can transfer to MEng at the end of Year 2.
You will also need GCSE Maths and English at grade C or above.

For the MEng
GCE A-level AAA including Maths and Physics (General Studies and Critical Thinking not accepted).
IB Diploma 34 points, including 6 in Higher Level Mathematics and 6 in Higher Level Physics.
BTEC Level 3 Extended Diploma D*D*D*, including Distinctions in Further Mathematics and Further or Advanced Mechanical Principles and Applications.
For BTEC Level 3 and A-level combinations please check the Aerospace Engineering page on our website.
Access to HE Diploma courses are not accepted for MEng entry. Access students should apply for the BEng in this subject. Once you have achieved the progression requirements on the BEng programme you can transfer to MEng at the end of Year 2.
You will also need GCSE Maths and English at grade C or above.

This information was correct as we went to print but it’s always a good idea to check the website www.brunel.ac.uk/courses for updates and specific entry criteria.
Muntasir Hashim,
(Aerospace Engineering BEng)

“During the first year of my studies, I had been actively looking for a summer placement and had registered my interest with Brunel’s Placement and Careers Centre (PCC). I had no previous technical experience but the PCC helped me immensely to bring out the best I could on my CV. With their support and a stroke of luck, I obtained a summer placement at Nikon Metrology.

Nikon Metrology deals with manufacturing of industry based X-ray and Computed Tomography (CT) Inspection systems, from Research and Development through to mainline production. Our technology provides an ‘insight into the inside’ and is used in wide areas of research, inspection of complex industrial parts, non-destructive testing and metrology.

The placement has provided me with lots of technical skills, has introduced me to high intellectuals in my engineering domain, helped build a strong and reliable network and has given over a year’s worth of valuable experience. It has also helped me develop some ‘soft-skills’ like problem-solving and good communication skills, building up self-esteem and confidence, and an ability to work with others and developing a positive and a ‘can do’ attitude.”

Why choose Aerospace Engineering? 

Aerospace is a high-tech, high profile and highly competitive global industry. Aerospace enterprises are at the forefront of science and engineering progress, and companies use state-of-the-art techniques, tools, materials, designs and processes to stay at the top.

Prompted by the ever-increasing need for more advanced aircraft with higher degrees of safety, reliability and performance, and thanks to constant changes in technology, the aerospace industry has produced some of the finest engineering solutions achieved by mankind.

The UK is a world leader in aerospace technology, and the international engineering and business community looks to the UK for leadership in design, manufacture and consultancy in aerospace. No matter what the economic climate, skilled personnel are always in demand.

Why choose Aerospace Engineering at Brunel?

Our specialist degree provides a rigorous and traditional academic education coupled with a well-developed appreciation of the highly technical nature of the aerospace industry. We are professionally accredited by the Royal Aeronautical Society (RAeS) and the Institution of Mechanical Engineers (IMechE).

The aerospace world needs graduates with the skills to take on leadership and managerial positions early in their careers and we nurture these skills through our problem-solving learning philosophy with great results. The A380 chief engineer at Airbus in the UK is a Brunel alumnus.

We construct our programmes to give a good balance between the fundamental mechanical engineering subjects (such as maths and engineering science) with the focus always on the application of knowledge in the aerospace field.

You will be taught by world-renowned academic staff using excellent facilities including our supersonic and subsonic wind tunnels and engineering flight simulator. We are committed to helping you become one of the most capable Aerospace Engineering graduates, ready for a high-flying career.
Brunel University London is a world top 100 engineering university ‘Times Higher Education (THE) World University Rankings 2014/5’
On-campus supersonic and subsonic wind tunnels, and engineering flight simulator
What we teach

Here’s a taste of what you can look forward to:

All BEng and MEng courses have a common first two years

Aerospace Engineering BEng

Level one (year one)
- Fundamentals of Solid Body Mechanics
- Fundamentals of Thermofluids
- Analytical Methods and Skills
- Engineering Materials, Manufacturing and Electrical Machines
- Introduction to Engineering Design
- Aerospace Laboratories, technical drawing and workshop experience

Level two (year two)
- Solid Body Mechanics
- Thermofluids
- Computing, Analytical Methods, Control and Instrumentation
- Professional Engineering Applications and Practice
- Principles of Aircraft Design

Level three (year three)
- Major Individual Project
- Propulsion Systems, Aircraft Structures and Materials
- FEA, CFD and Design of Engineering Systems
- Professional Engineering Practice
- Flight Testing and Analysis

Level five (year four)
- Major Group Project
- Strategic Management, Innovation and Enterprise
- Current Topics in Aerospace
- Advanced Aerodynamics, Propulsion Systems and Space Mechanics
- Design and Analysis of Aircraft and Spacecraft Systems

Options
Choose one from:
- Advanced Thermofluids
- Advanced Solid Body Mechanics

Aerospace Engineering MEng

Level one (year one)
- Fundamentals of Solid Body Mechanics
- Fundamentals of Thermofluids
- Analytical Methods and Skills
- Engineering Materials, Manufacturing and Electrical Machines
- Introduction to Engineering Design
- Aerospace Laboratories, technical drawing and workshop experience

Level two (year two)
- Solid Body Mechanics
- Thermofluids
- Computing, Analytical Methods, Control and Instrumentation
- Professional Engineering Applications and Practice
- Principles of Aircraft Design

Level three (year three)
- Major Individual Project
- Propulsion Systems, Aircraft Structures and Materials
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Level five (year four)
- Major Group Project
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- Current Topics in Aerospace
- Advanced Aerodynamics, Propulsion Systems and Space Mechanics
- Design and Analysis of Aircraft and Spacecraft Systems

Options
Choose one from:
- Advanced Thermofluids
- Advanced Solid Body Mechanics

Every effort has been made to ensure the accuracy of the information in this brochure and the University will take all reasonable action to deliver courses and services in accordance with the descriptions set out in it.
Raj Arondekar, (Aerospace Engineering BEng)

“I chose to study at Brunel because I thought that this was the most suitable university for me. I was looking for a well-accredited and reputable aerospace degree with a placement, top class campus facilities and a nearby town Centre. Brunel had all of these things to offer as a package. I also liked that central London is just a 40-minute tube ride away, and Heathrow airport is just 15 minutes away by car. The University has strong links with major oil companies, aircraft manufacturers and other significant industrial firms in the UK, which could provide valuable work experience and thus add value to my degree. My course is very well structured and has a mixture of teaching methods that include not only lectures and seminars, but drawing sessions, workshops and lab work.”

How we teach

You will be taught in many different ways as we bring different aspects of aerospace engineering to life. These include lectures, laboratory sessions, design studio work and one-to-one supervision. You will be assessed via assignments, project work, reports on laboratory practicals, oral presentations, tests and written examinations.

Getting ready for work

When you leave us you will be equipped with transferable skills for a range of demanding careers in the aerospace, aeronautical and related industries. Aerospace engineering graduates take up employment in fields such as aircraft and components design and manufacture, maintenance and testing, flight simulation, aviation, avionics, patent engineering and many more.

We have a reputation for producing graduates of the highest calibre, equipped with transferable skills designed to meet the challenges of employment within the engineering sector. Our MEng students usually have a number of job offers before they graduate.

Recent Aerospace Engineering graduates have gone on to work for Rolls-Royce, British Airways, Airbus, BAE Systems, GE Energy, Thales, Bombardier, Lockheed Martin and the Ministry of Defence.
Come and visit

The best way to get a real feel for Brunel’s buzzing atmosphere is to come visit us, explore campus and meet our staff and students.

Open days

We run regular Open Days where you can chat with students and lecturers and explore the campus. Check our website for dates www.brunel.ac.uk/openday

Campus tours

We run Campus Tours where our student ambassadors will show you around campus and answer your questions about student life at Brunel. Check our website for dates.

Individual visits

If you can’t make an Open Day, feel free to contact us on openday.booking@brunel.ac.uk and we’ll happily arrange for you to come in and chat with a member of staff.

Getting here

Details on how to find us are online at www.brunel.ac.uk/directions

Useful information

Accommodation

As a first year undergraduate you’re guaranteed a room on campus. We accommodate over 4500 students in five different complexes which creates a fantastic live/study atmosphere.

Flats come in different sizes accommodating from 4 to 16, and 30 of our 33 halls have en-suite facilities. The Isambard complex incorporates studio flats for co-habiting couples. Adapted and disabled rooms are available in the Isambard Complex, Mill Hall and Fleming Hall.

All rooms are fully furnished with bed and bedding, a desk, chest of drawers, wardrobe and free wifi. Accommodation costs vary between £104.00 to £132.50 a week (based on 2014-15 costs).

Find out more at www.brunel.ac.uk/accommodation or take a look at our Flickr account www.flickr.com/photos/accom

Fees and funding

For information about fees and scholarships, go to www.brunel.ac.uk/ugfees

Disability and dyslexia support

We want you to make the most of life at Brunel and fulfil your potential.

Please get in touch www.brunel.ac.uk/disability
Every effort has been made to ensure the accuracy of the information in this brochure and the University will take all reasonable action to deliver courses and services in accordance with the descriptions set out in it. A contract is made at the point when an applicant accepts an offer from Brunel, meeting any conditions, and the acceptance is communicated to Brunel or the clearing system acting for Brunel, and this contract is confirmed. All students are required, as a condition of registration, to abide by and submit to the University’s statutes, ordinances, regulations and rules, which are published on the University’s website (a hard copy is available from the Registry at the Uxbridge address). Note: the information contained within this course brochure is correct at the time of going to print (June 2015).