

Course Summary: March 29, 2026

## Aerospace Engineering BEng Honours

- UCAS code: **H400**
- Full time
- 3 years

This three-year degree will equip you with essential skills to design, develop, and test aerospace systems such as aircraft, spacecraft, and satellite technology. You will develop the expertise to create innovative, sustainable solutions to global transportation challenges.

You are currently viewing course information for entry year: **2026**

Next start date:

- September 2026

### Tuition fees (Year 1)

- Home: **£9,790**
- International: **£30,700**

### Entry requirements and offers

- A-Level: **ABB**
- IB: **32 points**

**UCAS Institution name and code:**

- NEWC / N21

## Undergraduate Open Day

Start your university journey. Find where you belong. Friday, June 26 (9:00-16:00)  
Saturday, June 27 (9:00-16:00)

[Book your place now](#)

## Course overview

**Are you interested in finding solutions to global challenges like sustainably transporting people and goods? Or developing new forms of aerospace technology, such as electrified aircraft, satellites for communication and navigation systems?**

This Aerospace Engineering BEng will focus on developing your knowledge in a range of engineering disciplines. You will build a variety of skills, including:

- teamwork
- communication
- project management

You will develop a deep understanding of aerospace engineering principles and a solid foundation for a diverse and exciting career.

This programme offers comprehensive training in the theory and mechanics of aerospace technologies. You'll enter industry with the ability to design, develop and test aerospace systems to find ways of improving their performance and sustainability.

This course consolidates our research expertise in several areas including:

- renewable fuels
- electrification of flight
- space, data and digitalisation
- sustainability in engineering and manufacture
- entrepreneurship

You'll be based in the [School of Engineering](#) in the heart of our city-centre campus. You'll benefit from our multidisciplinary approach and our region's rich engineering heritage. You'll also be supported by leading research and have access to state-of-the-art facilities such as the new Stephenson Building and Maker Space, preparing you for a dynamic career in various industries.

### **BEng or MEng?**

Both our BEng degree and specialist MEng degrees provide a pathway to becoming a Chartered Engineer. This is one of the most recognisable international engineering qualifications.

Our MEng degrees are a direct route to becoming a Chartered Engineer (CEng). You don't need to study any more qualifications after your degree to work towards chartered status.

Our three-year BEng degree can also lead to Chartered Engineer status. However, you'll need to complete further study, such as an approved master's degree.

### **Your course and study experience - disclaimers and terms and conditions**

Please rest assured we make all reasonable efforts to provide you with the programmes, services and facilities described. However, it may be necessary to make changes due to significant disruption, for example in response to Covid-19.

View our [Academic experience page](#), which gives information about your Newcastle University study experience for the academic year 2025-26.

See our [terms and conditions and student complaints information](#), which gives details of circumstances that may lead to changes to programmes, modules or University services.

## Additional information

This degree allows you to explore several engineering disciplines in year one. This flexible route is taught across Civil, Electrical & Electronic and Mechanical Engineering.

You'll gain an understanding of engineering in a multidisciplinary context. You'll develop diverse skills relevant to the needs of industry and today's global challenges.

After successfully completing Stage 1, you'll have the option of transferring on to one of the accredited Civil, Electrical & Electronic or Mechanical Engineering degrees. This is subject to the degree programme regulations and capacity of the degree you are transferring to.

## Quality and ranking

### Professional accreditation and recognition

All professional accreditations are reviewed regularly by their professional body.

## Modules and learning

### Modules

**The information below is intended to provide an example of what you will study.**

Most degrees are divided into stages. Each stage lasts for one academic year, and you'll complete modules totalling 120 credits by the end of each stage.

Our teaching is informed by research. Course content may change periodically to reflect developments in the discipline, the requirements of external bodies and partners, and student feedback.

### **Optional module availability**

Student demand for optional modules may affect availability.

Full details of the modules on offer will be published through the [Programme Regulations and Specifications](#) ahead of each academic year. This usually happens in May.

To find out more please [see our terms and conditions](#)

Stage 1 will provide a broad introduction to fundamental engineering principles. You'll get involved in practical work from day one, working in an interdisciplinary team to complete an aerospace engineering design project bringing together all aspects of engineering.

<b>Compulsory modules</b>	<b>Credits</b>
<a href="#">Engineering Mathematics I</a>	20
<a href="#">Electrical and Magnetic Systems</a>	15
<a href="#">Electronics &amp; Sensors</a>	10
<a href="#">Thermofluid Mechanics</a>	15
<a href="#">Properties and Behaviour of Engineering Materials</a>	15
<a href="#">Mechanics I</a>	15
<a href="#">Introduction to Programming Languages</a>	15

<b>Compulsory modules</b>	<b>Credits</b>
Sustainable Design, Creativity and Professionalism	15

You'll build on your knowledge of mechanics, materials, electronics, fluids and aerodynamics in this stage. You will explore topics such as thermal engineering and electrical power and conversion. You'll also develop your teamwork, presentation and communication skills through a more advanced aerospace design project.

<b>Compulsory modules</b>	<b>Credits</b>
Engineering Mathematics II	10
Mechanics II: Statics and Dynamics	20
Materials Science II	10
Thermal Engineering	10
Fluid Mechanics II	10
AC Electrical Power & Conversion	10
Mathematical Modelling & Statistical Methods for Engineers	10
Business & Law for Engineers	10
Advanced Aerospace Design	20
Mechanical Engineering Professional Skills II	10

In Stage 3 you'll deepen your knowledge in areas such as avionics systems, propulsion technologies, and advanced aerospace manufacturing.

An individual aerospace design project, such as developing an optimised wing structure, or designing a high-performance glider will allow you to put theory into practise, and further build on your project management, research and presentation skills. You will also have the opportunity to gather in-flight data

during a pilot instructed flight, and apply this in our flight simulators.

<b>Compulsory modules</b>	<b>Credits</b>
Electrical Machines	10
Introduction to Instrumentation & Drive Systems	20
Computational Heat and Fluid Flow	10
Advanced Mechanics & Structural Optimisation	20
Digital Manufacturing Processes & Systems	20
Advanced Thermofluid Dynamics	10
Aerospace Engineering Project	30

## Teaching and assessment

### Teaching methods

During this degree, you will typically learn through:

- lectures
- practical work
- tutorials
- individual study
- group work
- coursework
- field trips
- industry guest speakers

### Assessment methods

You'll be assessed through a combination of:

- Case studies

- Coursework
- Examinations – practical or online
- Group work
- Practical sessions
- Presentations
- Projects

## **Skills and experience**

### **Practical skills**

You'll gain hands-on experience in our Aerospace Teaching Laboratory. This state-of-the-art facility includes wind tunnels, flight simulators, jet engines and a drone flight zone. You'll also have access to our student led Makerspace. Projects run through your degree, and you'll learn with a range of engineering tools and rapid prototype equipment such as 3D printers and laser cutters.

Your Stage 1 modules will allow you to put your classroom theory into practice as you'll spend a considerable amount of time in laboratories.

### **Real business skills**

In Stage 2, you'll complete an Aerospace Engineering Professional Skills module, developing your enterprise, innovation, presentation, and interview techniques. With guidance from our Careers Service, you'll shape your skills to appeal to employers and explore the business side of engineering.

### **Research skills**

You'll be taught by academics who are leaders in their field, whose teaching is inspired by ground-breaking research in:

- electrification
- advanced manufacturing and materials
- fluid dynamics and thermal systems
- electronic and communication for extreme environments

In Stage 3 you'll complete an individual research project where you'll design, develop and test a system or device.

## Opportunities

### Work placement

Apply your practical skills, increase your confidence and gain real-life work experience to accelerate your career. Take a 9-12-month industrial placement in the UK or abroad. Work placements usually take place in stage 3 of your studies and extend your degree by one year.

[Find out more about work placements.](#)

## Facilities and environment

### Facilities

Our Engineering courses are taught at our city-centre campus, within [the School of Engineering](#) based in Merz Court.

You'll benefit from world-class facilities and living labs, ranging from microbiology laboratories through to at-scale engineering equipment.

Each engineering discipline has its own specialist facilities, including:

- the Millennium Laboratory – home to a wide range of facilities and experimental rigs
- Merz Court Pilot Plant Laboratory – a pilot plant with 28 experimental rigs
- BE:WISE – Europe's largest wastewater treatment research facility
- the Urban Observatory – with sensors gathering over 50 types of data across the city
- Electronics Teaching Lab – home to state-of-the-art Agilent/Keysight digital test equipment

- Clean-Room Microfabrication Lab – home to two class 100-10000 clean rooms

## Support

To support you in your studies, all new students entering year 1 or year 2 will receive a start-up pack containing essential personal protective equipment.

You'll receive comprehensive support from the moment you arrive at the University. You'll be supported by personal tutors, stage tutors, and degree tutors. You'll also benefit from the School's student buddies scheme.

## Your future

Graduates from this degree could go on to secure roles such as:

- aerospace engineer
- satellite engineer
- aircraft design engineer
- propulsion engineer
- systems engineer

You'll develop the necessary skills and knowledge for a career in a variety of industries and companies, for example:

- aerospace and aviation, such as Boeing, Airbus and Rolls Royce
- space exploration and satellites, such as NASA and ESA
- engineering and technology, such as Siemens and Honeywell Aerospace
- automotive and transportation, such as Formula 1 teams and Tesla
- renewable energy and environmental, such as Ørsted and Vestas

The analytical, communication and problem-solving skills developed on this programme mean you'll be highly employable in more diverse industries, including banking, finance, and business management.

## Further study

The BEng and MEng programmes both provide good grounding in engineering should you wish to continue your studies at Master's level. You may wish to explore further study in Mechanical, Electrical and Electronic Engineering, Robotics, or Sustainable Design.

## Make a difference

### Careers support

Our Careers Service is one of the largest and best in the country, and we have strong links with employers. We provide an extensive range of opportunities to all students through our ncl+ initiative.

[Visit our Careers Service website](#)

### Recognition of professional qualifications outside of the UK

If you're studying an **accredited degree** and thinking about working in Europe after you graduate, the best place to find current information is the [UK Government's guidance on recognition of UK professional qualifications in EU member states](#). This official resource explains whether your profession is regulated in another country, what steps you need to take, and which organisation you should contact.

## Find out more...

- Go online for information about our full range of degrees:  
**[www.ncl.ac.uk/undergraduate](http://www.ncl.ac.uk/undergraduate)**
- Watch videos about student life in Newcastle by visiting our YouTube channel at **[www.youtube.com/@newcastleuni](http://www.youtube.com/@newcastleuni)**
- Watch a virtual tour of our campus at  
**<https://youtu.be/vJUfHcqB7l8?si=8lUrf7kTxXbgdfr1>**
- Book for an Open Day to come and see us in person  
**[www.ncl.ac.uk/openday](http://www.ncl.ac.uk/openday)**
- Contact us online at **[www.ncl.ac.uk/enquiries](http://www.ncl.ac.uk/enquiries)** or phone +44 (0)191 208 3333

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**<https://www.ncl.ac.uk/student-welcome/student-contract/>**

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