Course Summary: March 28, 2026

Mechanical Engineering MEng Honours

- UCAS code: **H301**
- Full time
- 4 years

This accredited four-year Mechanical Engineering degree focusses on real-world challenges. The course will prepare you to lead and innovate in the engineering sector.

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: **AAB**
- IB: **34 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

This accredited four-year Mechanical Engineering MEng Honours develops your skills and advanced knowledge across key areas of the subject. With strong industry links, your studies reflect real-world engineering challenges. You'll graduate equipped with the multidisciplinary skills needed to succeed anywhere in engineering. Our degree also provides a direct route to Chartered Engineer status.

In Stage 4 you'll deepen your knowledge in more advanced topics, and specialise in a field that interests you. This enables you to graduate in your chosen specialism tailored to your career of choice. Specialisms include:

- mechanical engineering
- biomedical engineering
- mechatronics

In Stage 4 you will carry out an advanced team project. You'll develop skills towards being a professional chartered engineer.

We work with industry, so your studies reflect the challenges engineers face in the real world. You'll enhance your professional and academic abilities through:

- guest lectures
- placement opportunities
- advanced team projects
- site visits

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.

Specialist areas you may wish to explore as part of the course include:

Mechanical Engineering

Develop the knowledge and skills for a career in Mechanical Engineering. You'll learn how to create products that are functional, innovative and user-friendly. You'll also learn how to manufacture them appropriately and profitably. You'll explore:

- materials degradation
- advanced manufacturing technology
- mechanical power transmission

Biomedical Engineering

Focus on a range of techniques and graduate ready for a career leading in this critical field. You'll explore:

- engineering and medical techniques
- design exploration for artificial joints
- materials investigation to repair soft tissues
- rehabilitation treatment effectiveness

Mechatronics

Focussing on electrical, software and mechanical engineering. You'll explore:

- mechatronic design
- robotics and industrial automation

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 the principles of engineering. You'll get hands-on experience from the very beginning of your degree, working in a team on a design and build project.

Modules

Compulsory Modules	Credits
Engineering Mathematics I	20
Electrical and Magnetic Systems	15
Electronics and Sensors	10
Thermofluid Mechanics	15
Properties & Behaviour of Engineering Materials	15
Mechanics I	15
Introduction to Programming Languages (C, Matlab and Python)	15
Sustainable Design, Creativity and Professionalism	15

Stage 2 covers mechanical, thermo-fluid, electrical and materials engineering sciences, engineering design and manufacturing, engineering mathematics, management, professional and enterprise skills.

Modules

Compulsory Modules	Credits
Engineering Mathematics II	10
Materials Science II	10
Thermal Engineering	10
Applications of Engineering Fluid Mechanics II	10

AC Electrical Power and Conversion	10
Mathematical Modelling & Statistical Methods For Engineering	10
Business and Law for Engineers	10
Engineering Mechanics: Statics	10
Engineering Mechanics: Dynamics	10
Design and Manufacturing II	20
Mechanical Engineering Professional Skills II	10

In Stage 3, your studies continue to cover a broad range of mechanical engineering topics. You'll develop a broad set of skills and knowledge ready to take into the workplace.

You'll also work on an engineering project selected from a wide range of topics. This project is designed to develop your ability to tackle complex engineering problems while strengthening essential skills such as project planning, time management, critical thinking, and data analysis.

Modules

Compulsory Modules	**Credits**
Computational Heat and Fluid Flow	10
Advanced Mechanics and Structural Optimisation	20
Digital Manufacturing Processes and Systems	20
Introduction to Biomedical Engineering	10
Advanced Thermofluid Dynamics	10
Introduction to Mechatronics Design	20
Mechanical Engineering Project	30

In Stage 4 you will study advanced specialist topics and complete a major project. You'll also complete a team project designed to develop your project management, design and analysis skills, relevant to your career as an engineer.

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Modules

You take the following compulsory module:

Mechanical Engineering Team Project (40 credits)

You follow **one** of the specialisms

Mechanical Engineering

Compulsory modules	Credits
Lifetime Prediction & Design for Reliability	20
Design of Mechanical Power Transmissions	20
Vehicle Dynamics	20
Turbulent Fluid Flow and Modelling	20

Biomedical engineering

Compulsory modules	Credits
Biomaterials	20
Orthopaedic Engineering	20
Medical Devices Regulatory Requirements	20
Tissue Engineering	20

Mechatronics

Compulsory modules	Credits
Design of Mechanical Power Transmissions	20
Advanced Control Systems	20
Vehicle Dynamics	20
Mechatronics and Mobile Robotics	20

Teaching and assessment

Teaching methods

In Stages 1 and 2 of this degree, your learning experience will typically include lectures, seminars and practical classes. There are also industrial visits, mock interviews, professional skills development, management, and a variety of projects.

In Stages 3 and 4 your timetable will allow more time for your major project work.

Assessment methods

You'll be assessed through a combination of:

- Assessments
- Case studies
- Coursework
- Dissertation or research project
- Examinations – practical or online
- Group work
- Interviews
- Portfolio submission
- Practical sessions
- Presentations
- Projects
- Reflective report/journal
- Reports

Skills and experience

Practical skills

You'll study in the new Stephenson Building, a world-class engineering facility in the heart of Newcastle. Featuring a state-of-the-art Makerspace, digital learning environments, and specialised labs. This facility offers hands-on experience, preparing you for a successful career in the industry.

You'll also work on an engineering project selected from a wide range of topics and learn from guest lectures, ensuring you're well prepared for the challenges of modern engineering.

Business skills

You'll build critical teamwork and leadership skills through small team projects and individual engineering investigations. These skills are highly valued by employers.

You'll receive training in business and professional skills, and have the opportunity to undertake a professional placement or internship.

Research skills

Your degree is informed by the research of our expert staff based in our research institutes, which specialise in manufacture and materials, fluid dynamics and thermal systems, and bioengineering.

These research groups allow you to draw on the expertise of staff and their connections with industry as well as providing access to specialist facilities.

Opportunities

Work placement

Get career ready with a work placement and leave as a confident professional in your field. You can apply to spend 9 to 12 months working in any organisation in the world, and receive University support from our dedicated team to secure your dream placement. Work placements take place between stages 3 and 4.

You'll gain first-hand experience of working in the sector, putting your learning into practice and developing your professional expertise.

If you choose to take a work placement, it will extend your degree by a year. Placements are subject to availability.

Find out more about work placements

Facilities and environment

Facilities

As a mechanical engineering student you'll be based in the School of Engineering in the heart of our city-centre campus.

You'll have access to a wide range of industry-standard facilities and laboratories such as:

- labs for design-make-test projects: making and testing machines and structures
- strengths (testing) labs with machines up to 500kN and access to machines up to 8MN
- mechatronics/electronics labs for programming robots and automated devices
- bio-engineering lab for bio-materials manufacture and testing of components
- manufacturing lab with good selection of modern CNC machine tools
- composite materials lab with fire test facilities

We also provide high-quality, specialist facilities to support your studies:

- state-of-the-art CAD and CAE 3D design facilities
- HE-Ion and other microscopes with resolutions down to 0.3nm
- wide range of rapid prototyping facilities for projects and research
- engine test cells, wind-tunnel and water flow channels with laser flow management
- Formula Student car design, build and test facilities
- gear and drive system testing machines up to 8MW capacity
- our own 1750hp main-line diesel-electric locomotive

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 have the support of an academic member of staff as a personal tutor throughout your degree to help with academic and personal issues.

Peer mentors will help you in your first year. They are fellow students who can help you settle in and answer any questions you have when starting university.

Your future

Graduates from our Mechanical Engineering course have gone on to work for a range of high-profile companies and organisations, such as:

- EDF Energy
- Jaguar Land Rover
- Doosan Babcock
- Network Rail
- Nissan
- Mott MacDonald
- Survitec Group

Prepare for diverse career paths

Your degree will prepare you for a role in a wide range of sectors, including:

- transport
- logistics
- health
- defence
- manufacturing
- automobile
- renewable energy

The excellent analytical and problem-solving skills you'll gain through studying mechanical engineering will make you an attractive proposition to employers in finance, business consultancy and public services.

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.

Additional information

Advice on maths and science requirements

If you don't think you will have the exact mathematics and science qualifications referred to in our entry requirements by the time you need them, you may not be sure what to do.

- If you have a maths qualification but will not have it at A Level (or equivalent) when you start your degree, you should apply for the relevant

degree with Foundation Year. We may give you the opportunity to take the Newcastle University Pre-Entry Maths Course* and the option to start in Year 1 if we think that this will be the best route for you.

- If you have A Level Maths (or equivalent) already but not at the required grade, you should contact us for advice. We may decide that you could be considered for Foundation Year entry, or it may be that this course is not the best option for you.
- If you will not have the equivalent of an A Level in the science subject (if any) required, you should apply for the relevant degree with Foundation Year.

If you are still not sure, don't worry. Whatever you apply for, our Admissions Tutors will help you decide which is the best route for you. They may, therefore, make you an offer for a different course from the one you apply for (eg Foundation Year entry instead of Year 1 entry).

*The Newcastle University Pre-Entry Maths Course aims to provide the requisite mathematical skills and concepts needed on our engineering, maths and physics degree courses and to prepare students for the modes of learning they will encounter. The materials for the course are delivered electronically and include opportunities to practise your skills. You study the materials in your own time and, when you are ready, you book your exam with the Engineering School to which you have applied. A fee of £150 is payable at the time of booking the exam or shortly before the date set for examination.

Find out more...

- Go online for information about our full range of degrees: **www.ncl.ac.uk/undergraduate**
- Watch videos about student life in Newcastle by visiting our YouTube channel at **www.youtube.com/@newcastleuni**
- Watch a virtual tour of our campus at **https://youtu.be/vJUfHcqB7l8?si=8IUrf7kTxXbgdfr1**
- Book for an Open Day to come and see us in person **www.ncl.ac.uk/openday**
- Contact us online at **www.ncl.ac.uk/enquiries** or phone +44 (0)191 208 3333

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