Course Summary: March 29, 2025

Naval Architecture and Marine Engineering MEng Honours

- UCAS code: **H517**
- Full time
- 4 years

This four-year MEng Honours degree includes a year of advanced study at master's level, leading to Chartered Engineer status.

You are currently viewing course information for entry year: **2025**

Next start date:

- September 2025

Tuition fees (Year 1)

- Home: **£9,535**
- International: **£29850**

Entry requirements and offers

- A-Level: **AAB**
- IB: **34 points**

View contextual offers

UCAS Institution name and code:

- NEWC / N21

Course overview

Our degree in Naval Architecture and Marine Engineering focuses on the design and operation of marine vehicles and offshore infrastructure. You'll learn how to design specialist systems using the latest technologies.

We design our curriculum and projects with leading companies. You'll take part in our annual design pitch, where you can showcase your project work to industry partners.

You'll work on projects in multidisciplinary teams, gaining hands-on experience in areas such as:

- energy applications
- marine vehicles
- marine technologies
- ship design

Stage 4 focuses on master's-level study, which includes specialised modules and enhances your technical expertise.

We work with industry so your studies reflect the challenges engineers face in the real world. You'll have hands-on practical learning and optional industry placements. They give you the opportunity to put your theory into practice. You'll gain invaluable experience in the sector.

We ensure your practical, professional and academic skills develop through:

- guest lectures
- placement opportunities
- interactions with industry through projects and visits

You'll become a confident expert in naval architecture, able to work on a huge variety of different concepts, which meet the latest global challenges to ensure goods and people are transported safely around the world and with minimum impact on the environment.

A fourth year of master's-level study, comprises advanced specialist modules and develops your technical expertise. Your professional-standard skills will lead directly to Chartered Engineer status.

BEng or MEng?

Both our BEng and 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 degrees can also lead to Chartered Engineer status. However, you'll need to complete further study, such as an approved master's degree.

Transfer from a BEng to an MEng degree is possible up to the end of Stage 3 if you achieve the appropriate academic standard.

Read about our BEng course in Naval Architecture and Marine Engineering

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 2024-25.

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

Exploring a specialism

Specialising in an area of interest will develop your knowledge and expertise. In Stage 4, you can choose to study one of the following specialisms:

Naval Architecture

Focuses on the advanced structural and hydrodynamic analysis of ships and small craft.

Marine Engineering

Explores key aspects of power transmission, systems and digitalisation of ship machinery.

Subsea Engineering

Learn about offshore support systems for operation in harsh maritime environments

Offshore Renewables

Study the complex dynamics of offshore energy harvesting systems and infrastructure

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 study engineering in a marine context right from your very first year, through the

specialist module Marine Design and Professional Skills.

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
Marine Design and Professional Skills	30

You'll gain a firm foundation in engineering principles covering topics in core subjects, including thermodynamics, mathematics and engineering, which we relate to the broad scope of marine technology.

Modules

Compulsory Modules	Credits
Engineering Mathematics II	10
AC Electrical Power and Conversion	10
Business and Law for Engineers	10
Further Naval Architecture	20
Marine Engineering II	20
Ship Hydrodynamics	20
Applications of Engineering II	10
Marine Structures I	20

You'll study core modules to continue to develop your knowledge of the essentials of the subject. You'll study specialist modules including: ship and system design; and marine production management.

Modules

Compulsory modules

Marine Transport Business (10 credits)
Ship and Systems Design (30 credits)
Marine Engineering III (20 credits)
Further Ship Hydrodynamics (20 credits)
Marine Production Management (10 credits)
Dissertation in Maritime Engineering (30 credits)

This further year of study deepens your naval architecture skills & marine engineering skills to master's level. You take further specialist modules depending on your chosen stream.

You'll also work on a final group design project that equips you with professional-standard skills that lead directly to chartered engineer status.

Modules

Compulsory modules:

Commercial Awareness and Data Analytics (10 credits)
Team Project in Maritime Engineering (40 credits)

You also follow one of the specialism streams below:

Naval Architecture

Compulsory modules:

Energy and Environmental Performance of Ships at Sea (10 credits)
Structural Analysis of Ships and Offshore Energy Systems (20 credits)
Advanced Marine Propulsion Technology (20 credits)
Experimental and Computational Hydrodynamics (20 credits)

Marine Engineering

Compulsory Modules

Mechanical Power Transmissions (20 credits)
Energy and Environmental Performance of Ships at Sea (10 credits)
Marine Systems and Digitalisation (20 credits)
Advanced Marine Propulsion Technology (20 credits)

Subsea Engineering

Compulsory modules

Structural Analysis of Ships and Offshore Energy Systems (20 credits)
Experimental and Computational Hydrodynamics (20 credits)
Subsea Structural Systems (20 credits)
Dynamics of Offshore Fixed and Floating Foundations (10 credits)

Offshore Renewables

Compulsory modules

Structural Analysis of Ships and Offshore Energy Systems (20 credits)
Experimental and Computational Hydrodynamics (20 credits)

Dynamics of Offshore Fixed and Floating Foundations (10 credits)
Offshore Renewable Energy Systems (20 credits)

Information about these graphs

We base these figures and graphs on the most up-to-date information available to us. They are based on the modules chosen by our students in 2023-24.

Teaching time is made up of:

- scheduled learning and teaching activities. These are timetabled activities with a member of staff present.
- structured guided learning. These are activities developed by staff to support engagement with module learning. Students or groups of students undertake these activities without direct staff participation or supervision

Teaching and assessment

Teaching methods

Contact hours will be a combination of:

- lectures
- seminars from invited speakers in industry and academia
- practical work

Assessment methods

You'll be assessed through a combination of:

- Coursework
- Examinations – practical or online

Skills and experience

Practical skills

You'll gain hands-on experience with our experimental facilities, including a model-testing tank, extensive computing facilities and the largest commercial propeller test tunnel in the country.

You'll have access to state-of-the-art labs and fantastic facilities, many of which are unique to Newcastle University.

We recognise the importance of first-hand experience and organise a variety of visits during your studies. This ensures that you see the application of marine technology in a range of organisations, including local and national marine production facilities, offshore rigs and platform-building sites.

You'll work as part of an interdisciplinary team to complete an extensive group project in your final year.

Real business skills

We design our curriculum and projects with leading companies. You'll take part in our annual design pitch, where you can showcase your project work to industry partners. You'll learn invaluable career skills including delivering a pitch and negotiation.

Your practical and professional skills will develop through interactions with industry.

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

You'll be part of the School of Engineering and you'll learn in state-of-the-art labs and fantastic facilities, many of which are unique to Newcastle University. You'll have access to our:

- unique large-scale laboratories to help you learn and understand concepts taught in class
- Blythe Marine Station and our high-speed research vessel, The Princess Royal
- cavitation tunnel to test models of propellers, turbines, submarines and more
- towing tank to conduct ship and offshore model tests
- combined wind, wave and current tank to experience modelling of the full offshore environment
- hydrodynamics laboratory with wave-making and electronic recording equipment
- engine laboratories, which include facilities to test diesel engines
- dedicated computer cluster running specialist marine design software
- university, regional and national HPCs (High-Performance Computing)
- specialist marine technical library and historical archive

Support

At Newcastle, you'll join a vibrant, global community of staff and students in the School of Engineering.

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

Join a network of successful graduates

You'll benefit from our strong industrial links with:

- Lloyd's Register
- Babcock
- BP
- BAE Systems
- the Royal Navy

Recent graduates have taken up roles such as:

- graduate engineer
- naval architect
- development engineer
- project engineer

Be part of a thriving sector

The marine technology sector is currently thriving worldwide and in many areas there are acute shortages of skilled personnel.

UK-based and multinational companies have a demand for degree-qualified:

- marine engineers
- naval architects

- experts in computer-aided design
- engineering specialists
- production specialists and managers
- surveyors
- research and policy development

A large proportion of Marine Technology graduates find employment in:

- the ship and offshore construction industry
- shipping and offshore companies
- government departments
- classification societies
- regulatory agencies and consultancy firms
- offshore renewable energy generation

The development of deep-water oil and gas recovery has increased demand for specialists in the design and operation of offshore vessels and processing plants.

An increasing number of graduates enter careers in the design and manufacture of yachts, luxury cruisers and high-speed passenger craft.

A number of our students also go on to postgraduate study and research into new technologies.

Make a difference

Careers support

You'll be given networking opportunities through our close connections to industry and professional marine organisations.

We also organise a marine careers fair every year, attracting graduate recruiters such as:

- Lloyd's Register
- Babcock

- BP
- BAE Systems
- the Royal Navy

Our award-winning 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

From 1 January 2021 there is an update to the way professional qualifications are recognised by countries outside of the UK

Check the government's website for more information.

Additional information

Singapore study option (international students)

Working with the Singapore Institute of Technology, Newcastle University offers full-time BEng Honours degrees in Singapore, in:

- Marine Engineering
- Offshore Engineering
- Naval Architecture

These provide international students with the opportunity to study marine technology subjects from Newcastle University in Singapore.

Find out more...

- Go online for information about our full range of degrees: **www.ncl.ac.uk/undergraduate**
- To watch videos about student life in Newcastle, visit **www.ncl.ac.uk/lovenewcastle**
- Visit **www.ncl.ac.uk/tour** to take virtual tours of the campus and city
- 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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