

<b>PROGRAMME SPECIFICATION</b>	
--------------------------------	--

<b>1</b>	<b>Awarding Institution</b>	Newcastle University
<b>2</b>	<b>Teaching Institution</b>	Newcastle University
<b>3</b>	<b>Final Award</b>	MSc
<b>4, 5</b>	<b>Programme Title and Codes</b>	MSc Maritime Engineering 5497F MSc Maritime Engineering Science 5520F MSc Maritime Engineering with Preliminary Year 5498F MSc Maritime Engineering Science with Preliminary Year 5503F
<b>6</b>	<b>Programme Accreditation</b>	
<b>7</b>	<b>QAA Subject Benchmark(s)</b>	Engineering
<b>8</b>	<b>FHEQ Level</b>	7
<b>9</b>	<b>Last updated</b>	November 2024

<b>10</b>	<b>Programme Aims</b>
<p>The overall aims of the programme are for graduates to gain knowledge, skills and understanding of a specific subject area within maritime engineering. The programme combines technical knowledge of maritime engineering subjects with practical industrial applications so that graduates gain the ability to complex engineering problems. The programme also focuses on engineers professional responsibilities to health and safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards specific to the maritime sector.</p> <p>Specifically, the programme aims:</p> <ul style="list-style-type: none"> <li>• To equip students having diverse backgrounds with knowledge skills and understanding in their chosen programme.</li> <li>• To equip students with appropriate transferable practical skills in computing and information technology, data collection and analysis, problem formulation and solving and communication skills, both oral and written.</li> <li>• To enable students to enhance their learning experience, particularly with respect to the project, by benefiting from the School's exceptional research led teaching.</li> <li>• To encourage students to develop awareness and responsible attitudes towards the needs of society and the environment in the application of their engineering knowledge, including a regard for safety appropriate to their profession.</li> <li>• To produce graduates who are recognised by the maritime industry worldwide as fully equipped to contribute at a professional engineering level, especially where a Masters degree is required.</li> <li>• To instil in students an awareness of their professional responsibilities and the need for their own continuing professional development.</li> <li>• To contribute to the working environment within the School, such that students enjoy the University learning experience and wish to maintain contact with the School in its future activities, professionally as well as socially.</li> <li>• To provide a programme which meets the FHEQ at Masters level and which takes appropriate account of the subject benchmark statements appropriate to the course title.</li> </ul>	

<b>11</b>	<b>Learning Outcomes</b>
<p>The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have references to the benchmark statements for engineering.</p>	

<b>Knowledge and Understanding</b>
<p>On completing the programme students will have gained and be able to demonstrate:</p> <p>A1. Comprehensive knowledge of mathematics and physics that are relevant to Maritime Engineering.</p> <p>A2. Detailed knowledge and comprehensive understanding of essential concepts, principles and theories in mathematics, physics and engineering relevant to Maritime Engineering.</p> <p>A3. Detailed understanding and critical awareness of technical literature to address complex problems.</p>
<b>Teaching and Learning Methods</b>
<ul style="list-style-type: none"> <li>Acquisition of A1 and A2 is through a combination of lectures, tutorials, example classes, laboratory experiments and coursework and projects.</li> <li>Acquisition of A3 is through a combination of lectures, supervisions, coursework and projects.</li> </ul> <p>Throughout the student is encouraged to undertake independent reading both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject.</p>
<b>Assessment Strategy</b>
<p>Formative assessment of knowledge occurs in all taught modules through tutorial examples, class tests and feedback sessions.</p> <p>Summative assessment differs between modules using examination or coursework which involve both written and oral presentations. In depth individual learning is assessed by a dissertation. Team based learning is assessed by extensive project work within taught modules and a dedicated group project module.</p>
<b>Intellectual Skills</b>
<p>A successful student will be able to:</p> <p>B1. Formulate and analyse complex engineering problems, using first principles of mathematics and physics, to reach substantiated conclusions.</p> <p>B2. Select and apply appropriate analytical techniques to model complex engineering problems in Maritime Engineering, understanding the limitations of the methods.</p> <p>B3. Select and critically evaluate technical literature and other information in addressing complex engineering problems in Maritime Engineering.</p> <p>B4. Be creative in the solution of problems and in the development of designs which address societal, business and user needs. Taking a holistic approach to solving problems and designing systems, applying professional judgments to balance risks, costs, benefits, safety, reliability, aesthetics and environmental impact.</p> <p>B5. Evaluate the environmental and societal impact of solutions to problems in Naval Architecture and Marine Engineering and minimise the adverse impacts.</p>
<b>Teaching and Learning Methods</b>
<p>Skills B1 and B2 are developed during laboratory experiments, coursework and projects as well as through lectures, tutorials, example classes, laboratory experiments, coursework and projects</p> <p>Skills B3 and B4 are developed through engineering applications and engineering design as well as research projects</p>

Skill B6 is developed through design and project work
<b>Assessment Strategy</b>
Analysis and problem solving skills are assessed through unseen written examinations and coursework. Experimental, research and design skills are assessed through laboratory experiment write-ups, coursework reports and project reports, presentations and unseen written examinations. Creative and design skills are assessed through coursework, design and project work and unseen written examinations.
<b>Practical Skills</b>
On completing the programme students should be able to:  C1. Use laboratory equipment to safely execute experiments to investigate complex problems in Maritime Engineering –  C2. Select and apply appropriate equipment, materials and engineering processes and recognise their limitations in the solution of complex problems in Maritime Engineering  C3. Work individually and as a member of a team or team leader and evaluate the effectiveness of own and team performance in addressing complex problems of Maritime Engineering (M16)
<b>Teaching and Learning Methods</b>
<ul style="list-style-type: none"> <li>• Practical skills are developed through the teaching and learning programme outlined above.</li> <li>• Practical experimental skills (C1 and C2) are developed through laboratory experiments, coursework exercises and project work.</li> <li>• Skill C3 is developed through group projects and coursework.</li> </ul>
<b>Assessment Strategy</b>
Practical skills are assessed through laboratory experiment write-ups, coursework reports, project reports and presentations.
<b>Transferable/Key Skills</b>
On completing the programme, a successful student will be able to:  D1. Evaluate the environmental and societal issues that affect Maritime Engineering and the issues associated with sustainable engineering solutions.  D2. Work individually and as a member of a team or the team leader in addressing complex problems of Naval Architecture and Marine Engineering, and evaluating the effectiveness of own and team performance.  D3. Communicate effectively through different media on complex engineering subjects, with both technical and non-technical audiences, and evaluating the effectiveness of methods used.
<b>Teaching and Learning Methods</b>
<p>Transferable skills are developed through the teaching and learning programme outlined above.</p> <ul style="list-style-type: none"> <li>• Skill D1 is taught through lectures and the design projects and then developed through the design and research project assessed work.</li> <li>• Skill D2 is developed through group project work</li> </ul>

- Skill D3 is taught through lectures and the design project and then developed through feedback on reports written and presentations made as part of coursework assignments.

#### **Assessment Strategy**

Skills D1 is assessed through examination as well as application in design or project work.  
Skill D2 is assessed through group project and peer feedback  
Skill D3 is assessed through feedback on written coursework and project work as well as feedback on oral presentations.

### **12 Programme Curriculum, Structure and Features**

#### **Basic structure of the programme**

Each MSc comprises a 12 month programme taught over two semesters with examinations at the end of each semester. 180 credit modules (dissertation totals 60 credits).  
A preliminary year is also available to enable candidates with non-standard qualifications to take final year undergraduate modules of their particular programme of study.

#### **Key features of the programme (including what makes the programme distinctive)**

These MSc programmes provide students with a solid foundation in their chosen discipline and upon graduating students are 'industry ready' for the workplace. Students benefit from use of our extensive facilities (including our school research vessel) and from interacting with both lecturers with wide ranging experience (including lecturers from industry) and also with peers from a wide range of countries and backgrounds. The marine industries are truly globalised and these programmes equip students for an exciting and rewarding career.

#### **Programme regulations (link to on-line version)**

[-R5497F-5502F](#) [-R5498 – 5503F](#)

### **13 Support for Student Learning**

Generic information regarding University provision is available at the following link.  
[Generic Information](#)

### **14 Methods for evaluating and improving the quality and standards of teaching and learning**

Generic information regarding University provision is available at the following link.  
[Generic Information](#)

*Accreditation reports*

### **15 Regulation of assessment**

Generic information regarding University provision is available at the following link.  
[Generic Information](#)

In addition, information relating to the programme is provided in:

The University Prospectus: <http://www.ncl.ac.uk/postgraduate/courses/>

Degree Programme and University Regulations: <http://www.ncl.ac.uk/regulations/docs/>

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided.