PROGRAMME SPECIFICATION	

1	**Awarding Institution**	Newcastle University
2	**Teaching Institution**	Newcastle University
3	**Final Award**	BEng (Hons)
4	**Programme Title**	Marine Technology with Honours in:
5	**UCAS/Programme Code**	H504 Marine Engineering H506 Marine Engineering 1165U Marine Engineering with Placement Year 1649U Marine Engineering Science (exit award) 1681U Marine Engineering Science (exit award) 1673U Marine Engineering with Placement Year 1833U – Marine Engineering Science with Placement year (exit award) H502 Naval Architecture H508 Naval Architecture 1163U Naval Architecture with Placement Year 1675U Naval Architecture with Placement Year 1834U Naval Architecture Science with Placement Year (exit award) 1637U Naval Architecture with specialisms in Offshore Engineering 1677U Naval Architecture with specialisms in Offshore Engineering 1836U Naval Architecture Science with specialism in Offshore Engineering with placement year (exit award) 1683U Naval Architecture with specialism in Offshore Engineering Science (exit award) 1835U – Naval Architecture with specialism in Offshore Engineering with Placement Year Code TBC – Naval Architecture Science with specialism in Offshore Engineering with Placement Year (exit award) 1837U – Naval Architecture with specialism in Small Craft Technology with Placement Year 1838U – Naval Architecture Science with specialism in Small Craft Technology with Placement Year (exit award) 1639U Naval Architecture with specialisms in Small Craft Technology 1684U Naval Architecture Science with specialisms in Small Craft Technology Code TBC – Naval Architecture Science with specialisms in Small Craft Technology (exit award) 1650U Naval Architecture Science (exit award) 1682U Naval Architecture Science (exit award)
6	**Programme Accreditation**	RINA, IMarEST

7	**QAA Subject Benchmark(s)**	Engineering
8	**FHEQ Level**	6
9	**Last updated**	May 2023

10 Programme Aims

1. To produce graduates who have developed well founded knowledge skills and understanding within one or more specific subject areas of Marine Technology, namely Naval Architecture, Marine Engineering, Offshore Engineering or Small Craft Technology appropriate to their degree title.
2. To couple a sound theoretical grasp of the subject with practical application, awareness of responsibilities to society and the environment, the requirement for flexibility and the ability to assemble information from a variety of sources; the ability to prioritise work and meet deadlines; the ability to work alone and also within teams.
3. To prepare a student for one of four well recognised sectors of the marine industries worldwide, namely Marine Engineering, Naval Architecture, Offshore Engineering and Small Craft Technology.
4. To provide a programme which meets the FHEQ at Honours level and which takes appropriate account of the subject benchmark statements in Engineering (E) document as referenced in (http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/Subject-benchmark-statement-Engineering-.aspx)

   For Students on the Placement Year Programme:

5. Provide students with the experience of seeking and securing a position with an employer
6. Facilitate independent self-management and proactive interaction in a non-university setting
7. Provide a period of practical work experience that will benefit current academic study and longer term career plans
8. Enable students to ethically apply their knowledge and skills in the work place, reflect upon their development and effectively evidence and articulate their learning in relevant future settings.

11 Learning Outcomes

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.

1. To equip students having diverse backgrounds with knowledge skills and understanding in their chosen programme.
2. To ensure students receive the core material recommended by the accrediting professional institutions (The Institute of Marine Engineering, Science and Technology and the Royal Institution of Naval Architects).
3. To enable students to enhance their projects by facilitating the School's exceptional research base to inform teaching and lecturing activities.
4. 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.
5. 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.
6. To have a repertoire of skills to enable the acquisition, evaluation and interpretation of information.
7. To have the ability to communicate effectively, make presentations, work as a member of a team, manage their time, prioritise and manage their work effectively.

8. To instil in students an awareness of their professional responsibilities and the need for their own continuing professional development.
9. 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.

Knowledge and Understanding

On completing the programme students will have gained and be able to demonstrate:

A1. Mathematics and Physics that are relevant to Marine Technology (E)
A2. The fundamental concepts that are relevant to Marine Technology (E)
A3. Business and management techniques that are relevant to marine technologists (E).
A4. Detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to the student's chosen area of specialisation within Marine Technology (E).
A5. The role of marine technologists in society and the constraints within which their engineering judgment will be exercised (E).
A6. The professional and ethical responsibilities of marine technologists (E).
A7. The environmental issues that affect Marine Technology and the issues associated with sustainable engineering solutions.
A8. Conceptual and detailed design appropriate to their area of specialisation.
A9. Production practise including codes of practise, standards, design, the assessment of safety risks and the legislative framework for safety.

For students on the Careers Placement Year programme:

A10. Apply personal and professional development strategies to prioritise, plan and manage their own skills, development and learning.
A11. Research, select and apply relevant knowledge aimed at enhancing their own skills and effectiveness in specific duties at their placement.
A12. Demonstrate and understanding of a work environment, how it functions and their contribution to it.
A13. Relate their work based learning to other areas of personal development, including academic performance.

Teaching and Learning Methods

- Acquisition of 1 and 2 is through a combination of lectures, tutorials, example classes, laboratory experiments, coursework and projects in Stages 1 and 2.

- Acquisition of 3 is through a combination of lectures, supervisions, coursework and projects in Stage 3.

- Acquisition of 4 is through a combination of lectures, laboratory experiments, coursework and projects in Stage 3.

- Acquisition of 5 and 6 is through lectures throughout the programme and coursework in Stage 3.

- Acquisition of 7 is through a combination of lectures, seminars, coursework and projects especially in Stages 3.

- Acquisition of 8 is through the design project in Stage 3 and lectures and coursework in Stages 2 and 3.

- Acquisition of 9 is addressed in lectures associated with Stage 2 and 3 modules

Assessment Strategy

Testing the knowledge base is through a combination of unseen written examinations (1-4, 9) and assessed coursework (1-9) in the form of laboratory experiment write-ups (1, 2, 4), examinations (8), coursework reports (3-9) and project reports and presentations (2, 3, 4, 7,8).

Intellectual Skills

On completing the programme students should be able to:

B1. Plan, conduct and report a programme of investigate work
B2. Analyse and solve engineering problems (E).
B3. Design a structure or component to meet a need (E).
B4. Be creative in the solution of problems and in the development of designs (E).
B5. Evaluate designs and make improvements (E).
B6. Integrate and evaluate information and data from a variety of sources (E).
B7. Take a holistic approach to solving problems and designing systems, applying professional judgements to balance risks, costs, benefits, safety, reliability, aesthetics and environmental impact (E).

Teaching and Learning Methods

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 associated with Stage 2 and Stage 3 modules.

Skills B3, B4 and B5 are developed through engineering applications and engineering design as well as research project and dissertation modules which students study during Stage 2 and Stage 3.
Skill B6 are developed through coursework activities, laboratory experiments, and research and design projects as well as through tutorials, example classes, and projects associated with Stage 2 and Stage 3 modules.
Skill B7 are developed through design and project work carried out during Stage 3.

Assessment Strategy

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 and unseen written examinations.

Practical Skills

On completing the programme students should be able to:

C1. Execute safely a series of experiments (E).
C2. Use laboratory equipment to generate date (E).
C3. Analyse experimental or computational results and determine their strength and validity (E)
C4. Prepare technical drawings
C5. Prepare technical reports
C6. Give technical presentations
C7. Use scientific literature effectively
C8. Take notes effectively
C9. Use computational tools and package (E)
C10. Produce a conceptual or elemental design to a specification

C11. Search for information to develop concepts

Teaching and Learning Methods

Practical skills are developed through the teaching and learning programme outlined above.
Practical experimental skills (1-3) are developed through laboratory experiments and project work.
Skill 4 is taught through lectures and developed through drawing coursework exercises.
Skills 5 and 6 are taught through classes in Stage 1 and then developed through feedback on reports written and presentations made as part of coursework assignments.
Skill 7 is developed through research project work.
Skill 8 is taught in Stage 1 and practised throughout the programme.
Skill 9 is taught and developed through coursework exercises and project work.
Skill 10 is taught and developed through the design project in Stage 3 and lectures and coursework in Stages 2 and 3.
Skill 11 is practised through the design project.

Assessment Strategy

Practical skills are assessed through laboratory experiment write-ups, coursework reports, project reports and presentations.

Transferable/Key Skills

On completing the programme students should be able to:

D1. Communicate effectively (in writing, verbally and through drawings) (E);
D2. Apply mathematical skills (algebra, geometry, modelling, analysis);
D3. Work as a member of a team (E);
D4. Use Information and Communications Technology (E);
D5. Manage resources and time (E);
D6. Learn independently in familiar and unfamiliar situations with open-mindedness and in the spirit of critical enquiry (E);
D7. Learn effectively for the purpose of continuing professional development and in a wider context throughout their career (E).

For students on the Careers Placement Year programme:

D8. Reflect on and manage own learning and development within the workplace
D9. Use existing and new knowledge to enhance personal performance in a workplace environment
D10. Use graduate skills in a professional manner in a workplace environment, evaluate the impact and communicate the personal development that has taken place.

Teaching and Learning Methods

Transferable skills are developed through the teaching and learning programme outlined above.
Skill 1 is taught through classes and the design project in Stage 3 and then developed through feedback on reports written and presentations made as part of coursework assignments.
Skill 2 is taught through lectures and tutorials and developed throughout the course.
Skill 3 is developed through group project work.
Skill 4 is developed in many modules and is a skill developed as an essential part of project work and report writing.
Skill 5 is developed through laboratory experiments, projects and other coursework activities and individual learning.
Skill 6 is introduced in Stage 1 and developed throughout the course with particular emphasis in Stage 3 on the investigative project.
Skill 7 is developed through lectures and tutorials and developed throughout the course.

Assessment Strategy

Skill 1 is assessed through coursework reports, presentations and oral examinations.

Skill 2 is assessed primarily through examinations.
Skill 4 is assessed through examinations and through research project work.
The other skills are not formally assessed.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

The normal Undergraduate year is approximately 31 weeks, arranged in three terms and currently divided into two Semesters. The course normally lasts three years (four years if doing foundation year), although it is possible to take a gap year or spend time abroad at an approved university.

Every Honours student studies 120 credits in each Stage (or year), resulting in BEng. Candidates completing 360 credits. A University credit is equivalent of 10 student study notional hours. Each module is a self-contained part of the programme of study and carries a credit rating. After successful completion of three years full-time study, students will receive a degree of Bachelor of Engineering (BEng). Candidates must complete one Stage before proceeding to the next; the only part-time study is limited provision for the repetition of failed modules.

All students follow the same programmes in Stages 1 and 2. In the third year, students elect to follow a specialisation within Marine Technology. It may be possible for a student to continue the programme for 4 years to obtain an MEng. Honours degree by transferring to this programme at the end of Stage 3. There is a Faculty Foundation Year for candidates not adequately qualified to embark on Stage 1 of Degree Programmes.

There are also the following exit points:

- Certificate of Higher education, following successful completion of Stage 1;
- Diploma of Higher education, following successful completion of Stage 2.

Students on the Placement Year programme will take their placement in the penultimate year of studies.

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

The degree programmes at Newcastle University have many special features centring on the design and practical elements of the course and also around industrial links which benefit the students in providing them with up-to-date information and exposure to contemporary issues. All of the degree programmes include an emphasis on design and encourage students to produce innovative solutions to problems. In completing the programme students will have demonstrated their ability to deal with complex issues, both systematically and creatively and will have developed the qualities needed for employment in circumstances requiring sound judgement, personal responsibility and initiative, in complex and unpredictable professional environments.

Programme regulations (link to on-line version)

H502-1650U:Marine BEng Regs 23-24 - Continuing students.pdf (ncl.ac.uk)
H506-1838U: NEW Entry Marine BEng Regs 23-24.pdf (ncl.ac.uk)

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
The programmes are accredited by:
Institute of Marine Engineering, Science and Technology (IMarEST)
Royal Institution of Naval Architects (RINA)

Additional mechanisms
The School receives input from the School Industrial Advisory Board, whose members are from a wide range of industries, government bodies, classification societies, etc.

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/undergraduate/degrees/#subject
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.