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**	Marine Technology with Foundation Year - J615 Naval Architecture - H502 Marine Engineering - H504 Offshore Engineering – H355 Small Craft Technology – H520
6	**Programme Accreditation**	RINA, IMarEST
7	**QAA Subject Benchmark(s)**	Engineering
8	**FHEQ Level**	H
9	**Date written/revised**	September 2007

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.
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/crntwork/benchmark/engineering.pdf)

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 (subject) (X).

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, principles and theories of Marine Technology (E).
A3. Business and management techniques that are relevant to marine technology 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 judgement 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 of artefacts appropriate to their area of Specialisation.
A9. Production practice including codes of practice, design, the assessment of safety risks, and the legislative framework for safety.

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 Stages 3.
- Acquisition of 4 is through a combination of lectures, laboratory experiments, coursework and projects in Stages 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 Stages 3 and lectures and coursework in Stages 2 and 3.
- Acquisition of 9 is addressed in lectures associated with Stages 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 investigative 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 ddesigns (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 data (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 the scientific literature effectively;
C8. Take notes effectively;
C9. Use computational tools and packages (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 Stages 3 and lectures and coursework in Stages 2 and 3.
Skill 11 is practised the through 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).

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 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, 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 B.Eng. candidates completing 360 credits. 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 Stage 1. In the second year, students elect to follow a specialisation within Marine Technology. This is enhanced and extended in Stage 3.
It is possible for a student to continue the programme for 4 years to obtain an M.Eng. 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.
The programme is structured on a semester pattern. You study modules comprising 120 credits in each of Stage I, II and III . After successful completion of three years full-time study, students will receive a degree of Bachelor of Engineering (BEng).
In addition there are the following exit points:

- *Certificate of Higher education, following successful completion of Stage I ;*
- *Diploma of Higher education, following successful completion of Stage II ;*

The duration of all the courses may be extended by one year through enrolment on the Engineering Foundation Year.
A University credit is the equivalent of 10 student study notional hours. Each module is a self-contained part of the programme of study and carries a credit rating

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

Programme regulations (link to on-line version)

http://www.ncl.ac.uk/regulations/programme/2007-2008/programme/h504_j615_h502_j615_h355_j615_h520_j615.php

13 Criteria for admission

Entry qualifications
Admission offers normally conform to the UK Engineering Council "SARTOR" minimum requirements for M.Eng. and B.Eng with Chartered Engineer status (i.e. UK GCE A-level grades BBB and CCC respectively (both including Mathematics) for Stage 1 admission). In addition, the University recruits candidates with a wide range of equivalent qualifications based on its knowledge of SARTOR equivalents and other international qualifications. A limited number of international qualifications and HND holders with appropriate subjects and grades may be considered for direct entry to Stage 2.

Unlike many other Universities, the School is committed to retaining its B.Eng. programme, both in recognition of the number of international students who wish to graduate after three years and to avoid exclusion of potentially good applicants who have not yet been able to demonstrate M.Eng. academic standards. The first three years of B.Eng. and M.Eng. are essentially common and any candidate passing Stage 2 "with Merit" may enter Stage 3 M.Eng.

Admissions policy/selection tools
Engineering requires a wide range of attributes and abilities, so selection is not solely based on academic grades. Selectors seek evidence of motivation and commitment from the Personal Statement and Reference on UCAS forms and applicants are encouraged to attend for interview whenever possible.

Non-standard Entry Requirements
Notwithstanding adherence to SARTOR standards, the School is committed to widening access, particularly for "late developers". Links exist with the Engineering Access Course at Newcastle College and there is a Faculty Foundation Year (Stage 0) for those with insufficient science and mathematics to enter Stage 1 directly. Limited numbers of places may be available to Regional candidates through the University's "Partners Programme". All UCAS forms, including Late or Summer applications are considered, but the School does not normally take candidates through Clearing.

Additional Requirements

Level of English Language capability
Those students whose first language is not English, would be required to demonstrate achievement of IELTS 6.0 or equivalent certificate in English.

All new students whose first language is not English are required to take an English Language Proficiency Test. This is administered by INTO Newcastle University Centre on behalf of Newcastle University. Where appropriate, in-sessional language training can be provided. The INTO Newcastle University Centre houses a range of resources which may be particularly appropriate for those interested in an Erasmus exchange.

14 Support for Student Learning

Induction
During the first week of the first semester students attend an induction programme. New students will be given a general introduction to University life and the University's principle support services and general information about the School and their programme, as described in the Degree Programme Handbook. New and continuing students will be given detailed programme information and the timetable of lectures/practicals/labs/ tutorials/etc. The International Office offers an additional induction programme for overseas students.

Study skills support
Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.

Numeracy support is available through Maths Aid.

Help with academic writing is available from the Writing Centre.

Academic support
The initial point of contact for a student is with a lecturer or module leader, or their tutor (see below) for more generic issues. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Staff-Student Committee, and/or at the Board of Studies.

Pastoral support
All students are assigned a personal tutor whose responsibility is to monitor the academic performance and overall well-being of their tutees. In addition the University offers a range of support services, including one-to-one counselling and guidance or group sessions/workshops on a range of topics, such as emotional issues eg. Stress and anxiety, student finance and budgeting, disability matters etc. There is specialist support available for students with dyslexia and mental health issues. Furthermore, the Union Society operates a Student Advice Centre, which can provide advocacy and support to students on a range of

topics including housing, debt, legal issues etc.
Support for students with disabilities
The University's Disability Support Service provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements; a resources room with equipment and software to assist students in their studies.

Learning resources
The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and Information Systems and Services, which supports campus-wide computing facilities. The Kummerman Resource Centre is a School based dedicated Library/Information Centre.

15 Methods for evaluating and improving the quality and standards of teaching and learning

Module reviews
All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the School Teaching and Learning Committee and at the Board of Studies. Student opinion is sought at the Staff-Student Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Teaching and Learning Committee.

Programme reviews
The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to Faculty Teaching and Learning Committee.

External Examiner reports
External Examiner reports are considered by the Board of Studies. The Board responds to these reports through Faculty Teaching and Learning Committee. External Examiner reports are shared with institutional student representatives, through the Staff-Student Committee.

Student evaluations
All modules, and the degree programme, are subject to review by student questionnaires. Informal student evaluation is also obtained at the Staff-Student Committee, and the Board of Studies. The National Student Survey is sent out every year to final-year undergraduate students, and consists of a set of questions seeking the students' views on the quality of the learning and teaching in their HEIs. With reference to the outcomes of the NSS and institutional student satisfaction surveys actions are taken at all appropriate levels by the institution.

Mechanisms for gaining student feedback
Feedback is channelled via the Staff-Student Committee and the Board of Studies.

Faculty and University Review Mechanisms
The programme is subject to the University's Internal Subject Review process. Every five years degree programmes in each subject area are subject to periodic review. This involves both the detailed consideration of a range of documentation, and a two-day review visit by a review team which includes an external subject specialist in addition to University and Faculty representatives. Following the review a report is produced, which forms the basis for a decision by University Teaching and Learning Committee on whether the programmes reviewed should be re-approved for a further five year period.

Accreditation reports
The programme is 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.

16 Regulation of assessment

Pass mark
The pass mark is 40 (Undergraduate programmes)

Course requirements
Progression is subject to the NU's Undergraduate Progress Regulations (http://www.ncl.ac.uk/calendar/university.regs/ugcont.pdf) and Undergraduate Examination Conventions (http://www.ncl.ac.uk/calendar/university.regs/ugexamconv.pdf). In summary, students must pass, or be deemed to have passed, 120 credits at each Stage. Limited compensation up to 40 credits and down to a mark of 35 is possible at each Stage and there are resit opportunities, with certain restrictions.Progression is subject to the University's Masters Degree Progress Regulations, Taught and Research and Examination Conventions for Taught Masters Degrees. Limited compensation up to 40 credits of the taught element and down to a mark of 40 is possible and there are reassessment opportunities, with certain restrictions.

Weighting of stages
The marks from Stages 2 will contribute to the final classification of the degree
The weighting of marks contributing to the degree for Stages 3 is 1:2'

Common Marking Scheme
The University employs a common marking scheme, which is specified in the Undergraduate Examination Conventions, namely

	Modules used for degree classification (DC)	**Modules not used for degree classification**
<40	Fail	Failing
40-49	Third Class	Basic
50-59	Second Class, Second Division	Good
60-69	Second Class, First Division	Very Good
70+	First Class	Excellent

Role of the External Examiner
An External Examiner, a distinguished member of the subject community, is appointed by Faculty Teaching and Learning Committee, after recommendation from the Board of Studies. The External Examiner is expected to:

- See and approve examination papers
- Moderate examination and coursework marking
- Attend the Board of Examiners
- Report to the University on the standards of the programme

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

The University Prospectus (see http://www.ncl.ac.uk/undergraduate/ or http://www.ncl.ac.uk/postgraduate/

The School Brochure (contact enquiries@ncl.ac.uk)

The University Regulations (see http://www.ncl.ac.uk/calendar/university.regs/)

The Degree Programme Handbook

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. The accuracy of the information contained is reviewed by the University and may be checked by the Quality

Assurance Agency for Higher Education.

Annex

Mapping of Intended Learning Outcomes onto Curriculum/Modules

Either

Intended Learning Outcome	Module codes (Comp/Core in Bold)
A1	**MAR1001**-MAR1002-MAR1005-**MAR1006**-MAR1007-MAR1008-MAR2003-MAR2022- **ENG1001**-ENG1007-ENG2001-ENG2008-EEE2010
A2	**MAR1001-MAR1003**-MAR1005-**MAR1006**-MAR2001 MAR2002-MAR2003-MAR2006-MAR2007-MAR2008-MAR3016-MAR3017- MAR3022- MAR3008
A3	MAR1005-ENG2001- MAR3021-MAR3027-MAR2001-MAR2014-BUS3010
A4	MAR2001-MAR2002-MAR2003-MAR2007-MAR2008- -MAR2011-MAR3001-MAR3002-MAR3003-MAR3004-MAR3011-MAR3012-MAR3013-MAR3014-MAR3015-MAR3017MAR3019-MAR3020-MAR3022-MAR3023-MAR3024-MAR3098 – relevant electives
A5	MAR2012- MAR3001-MAR3002-MAR3003-MAR3004- -MAR3015-MAR3021
A6	**MAR1001-MAR1003**-**MAR1006**-MAR3001-MAR3002-MAR3003-MAR3004-MAR3007
A7	MAR2006-MAR2007-MAR2012-MAR3001-MAR3002-MAR3003-MAR3004 -MAR3019 -MAR3098
A8	MAR2006-MAR2007-MAR2012-MAR3001-MAR3002-MAR3003-MAR3004-MAR3007-MAR3019-MAR3098
A9	**MAR1001-MAR1003-MAR1006**-MAR1008-MAR2013-MAR3001-MAR3002-MAR3003-MAR3004-MAR3007
B1	MAR3098- MAR3001-MAR3002-MAR3003-MAR3004-MAR3025- MAR2014- MAR2012
B2	EEE1007-MEC1003-EEE2010-**MAR1001-MAR1003-**MAR2001-MAR2002-MAR2003-MAR2006-MAR2007-MAR2008-MAR2010-MAR2011-MAR2014-MAR3001-MAR3002-MAR3003-MAR3004-MAR3011-MAR3012-MAR3013-MAR3014-MAR3015-MAR3016-MAR3017-MAR3019-MAR3021-MAR3022-MAR3024-MAR3025-MAR3026-MAR3027-MAR3098
B3	MAR2012- MAR3001-MAR3002-MAR3003-MAR3004-MAR3019-MAR3098
B4	MAR2012-MAR3001-MAR3003-MAR3098
B5	MAR3012- MAR3001-MAR3002-MAR3003-MAR3004-MAR3098
B6	MAR3001-MAR3002-MAR3003-MAR3004-MAR3098
B7	MAR3001-MAR3002-MAR3003-MAR3004-MAR3098
C1	**MAR1001-MAR1003-MAR1006-**MAR2002-MAR2003-MAR2010-MAR2011-MAR2012-MAR3017
C2	MAR2006-EEE2010-MAR2003-MAR3013
C3	MAR2014
C4	MAR3098-MAR3001-MAR3002-MAR3003-MAR3004-MAR2007-MAR3019
C5	MAR3098-MAR3001-MAR3003
C6	MAR3098-MAR3001-MAR3002-MAR3003-MAR3004
C7	MAR3098-MAR3001-MAR3002-MAR3003-MAR3004
C8	All modules
C9	MAR2014
C10	MAR2007-MAR3019
C11	MAR3098-MAR3001-MAR3002-MAR3003-MAR3004

D1	MAR3001-MAR3002-MAR3003-MAR3004-MAR3098
D2	All modules
D3	MAR3098-MAR3001-MAR3002-MAR3003-MAR3004
D4	MAR2014
D5	MAR3098-MAR3001-MAR3002-MAR3003-MAR3004-BUS3010
D6	MAR3098-MAR3001-MAR3002-MAR3003-MAR3004
D7	MAR3027-MAR3098