

Programme Specification

MSc in Maritime Engineering Science (2020-21)

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

Awarding Institution	University of Southampton
Teaching Institution	University of Southampton
Mode of Study	Full-time
Duration in years	1
Accreditation details	
Final award	Master of Science (MSc)
Name of Award	MSc in Maritime Engineering Science/Advanced Computational Engineering MSc in Maritime Engineering Science/Marine Engineering and Autonomy MSc in Maritime Engineering Science/Naval Architecture MSc in Maritime Engineering Science/Ocean Energy and Offshore Engineering MSc in Maritime Engineering Science/Yacht and High Performance Craft
Interim Exit awards	Postgraduate Certificate Postgraduate Diploma
FHEQ level of final award	Level 7
Programme Code	3811
QAA Subject Benchmark or other external reference	Engineering 2015
Programme Lead	Gabriel Weymouth

Programme Overview

Brief outline of the programme

This programme covers the core subjects and in-depth knowledge of Maritime Engineering Science for both design and analysis of marine craft and structures within the marine environment. The programme is designed for graduates, or similarly qualified, with an engineering, scientific or mathematical background, who desire to pursue a career in maritime sector. The programme will prepare students well for careers in a variety of professions in maritime sector, as well as those that are perhaps thinking of pursuing a PhD in this field. The Pathways within Maritime Engineering Sciences are: Advanced Computational Engineering, Marine Engineering and Autonomy, Naval Architecture, Ocean Energy and Offshore Engineering and Yacht and High Performance Craft

In the two semesters, you will undertake a number of modules that are compulsory depending on the pathway chosen. You will also have the chance to broaden your maritime engineering education by selecting option modules. The summer months will focus on project work. You will have the opportunity to tap into our Southampton Marine and Maritime Institute research network and undertake a final research project using our world-class maritime engineering facilities. The project could involve both experimental and numerical study and the completion of a dissertation.

Your contact hours will vary depending on your module/option choices. Full information about contact hours is provided in individual module profiles

Research Project

Candidates wishing to obtain an MSc carry out a research project finishing with a dissertation. Research projects may concern any of the areas covered by the programme. The research project is intended to bring together the full range of skills in the programme and to provide you with an opportunity to build on all of the learning outcomes described above, while demonstrating in-depth knowledge and understanding of one or more of the areas covered by the programme. It involves information gathering and handling, critical analysis and evaluation, and presentation skills. The key requirement, however, is that the project must contain your own ideas and proposals: it should not simply be a technical design carried out to existing standards, but a problem with an element of novelty requiring the application of new information and concepts.

Please note: As a research-led University, we undertake a continuous review of our programmes to ensure quality enhancement and to manage our resources. As a result, this programme may be revised during a student's period of registration; however, any revision will be balanced against the requirement that the student should receive the educational service expected. Please read our Disclaimer to see why, when and how changes may be made to a student's programme.

Programmes and major changes to programmes are approved through the University's programme validation process that is described in the University's Quality handbook.

Your contact hours will vary depending on your module/option choices. Full information about contact hours is provided in individual module profiles.

Learning and teaching

The different subject matter of the modules lends itself to different teaching and learning techniques but these include lectures, tutorials, individual and group projects, assignments and practical exercises. You are encouraged throughout to contribute your own professional experiences and thoughts to the learning of the whole class through a free exchange of ideas.

Assessment

Testing of the knowledge base is through a combination of unseen written examinations and assessed coursework in the form of problem solving exercises, assignments, laboratory reports, and individual and group projects.

The assessment on the programme is undertaken through a variety of methods, enabling students to experience different ways to demonstrate their learning and understanding.

Many modules include assessed coursework assignments, which require you to carry out a substantial study of selected topics, either as individuals or in groups, leading to considerable depth of understanding and specialist knowledge. Assessment is designed to show that you can rationally use taught material and have a fundamental understanding of the subject matter. Feedback on progress is given to students on all submitted work.

Special Features of the programme

The programme is designed for students with different backgrounds who desire specialisation in Maritime Engineering Science. In order to provide students with the initial fundamental knowledge of Ship Science necessary in their studies, there is a compulsory introductory module called Fundamentals of Ship Science. This module covers subject relevant material in Ship Design and Economics, Hydrostatics and stability, Fluid Mechanics, Ship Resistance and Propulsion, Seakeeping, Ship Structures, Marine Engineering and lectures of this module are delivered in teaching weeks 0 of the academic year. The module features a concept design, through which you can demonstrate your understanding in these fundamental subjects.

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Educational Aims of the Programme

The Faculty of Engineering and Physical Sciences hosts a spectrum of exciting and challenging programmes at undergraduate and postgraduate levels. Within this particular programme of study, we aim to provide you with a thorough professional knowledge of Maritime Engineering Science, be that for design or fundamental analysis. It has been configured for graduates, or similarly qualified individuals, with an engineering, scientific or mathematical background, who desire specialisation in Maritime Engineering Science.

There are five specialist pathways within the MSc programme:

- Advanced Computational Engineering
- Marine Engineering and Autonomy
- Naval Architecture
- Ocean Energy and Offshore Engineering
- Yacht and High Performance Craft

Each pathway covers a broad context together with an in-depth specialisation. These pathways aim to provide students with a wide range of specialist areas within the broad field of maritime engineering science. This programme also consistently develops new pathways to ensure that the programme meets the perceived future requirements of the international maritime industry.

The MSc programme aims to:

- Provide you with an advanced knowledge and a sound understanding of the fundamental principles, methods, analysis, synthesis and engineering applications appropriate to Maritime Engineering Science.
- Encourage you with the capability to formulate, analyse and make decisions based on engineering and scientific judgements and to solve engineering problems in a logical and well-argued manner, taking account of technical, social, environmental and economic constraints.
- Expose you to an intellectually stimulating environment that encourages an attitude of independent self-learning and enquiry and fosters an ethos of lifetime learning and continuing professional development.
- Develop a range of transferable skills, including the ability to communicate engineering concepts and solutions precisely by oral, visual or written means.
- Present specialist knowledge, technical expertise and research skills that will equip you for a professional career in your chosen specialist pathway in the Maritime Engineering Science sector.
- Offer you a range of courses and research projects, integrated within a structured taught programme, that is relevant to industry and the research base, and which remains responsive to changes in technology and the needs of society.

The MSc programme provides opportunities for you to achieve and demonstrate the learning outcomes described below. The Postgraduate (PG) Diploma and PG Certificate programmes do not include the research training element.

Programme Learning Outcomes

Science and Mathematics

Engineering is underpinned by science and mathematics, and other associated disciplines, as defined by the relevant professional engineering institution(s). On graduation you will have achieved:

- SM7. A comprehensive understanding of the relevant scientific principles of the specialisation
- SM8. A critical awareness of current problems and/or new insights most of which is at, or informed by, the forefront of the specialisation
- SM9. Understanding of concepts relevant to the discipline, some from outside engineering, and the ability to evaluate them critically and to apply them effectively, including in engineering projects

Engineering analysis

Engineering analysis involves the application of engineering concepts and tools to the solution of Acoustical Engineering problems. On graduation you will have achieved:

- EA5. Ability to use fundamental knowledge to investigate new and emerging technologies
- EA6. Ability both to apply appropriate engineering analysis methods for solving complex problems in engineering and to assess their limitations
- EA7. Ability to collect and analyse research data and to use appropriate engineering analysis tools in tackling unfamiliar problems, such as those with uncertain or incomplete data or specifications, by the appropriate innovation, use or adaptation of engineering analytical methods

Design

Design at this level is the creation and development of an economically viable product, process or system to meet a defined need. It involves significant technical and intellectual challenges and can be used to integrate all engineering understanding, knowledge and skills to the solution of real and complex problems. On graduation you will have the knowledge, understanding and skills to:

- D9. Knowledge, understanding and skills to work with information that may be incomplete or uncertain, quantify the effect of this on the design and, where appropriate, use theory or experimental research to mitigate deficiencies
- D10. Knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations
- D11. Ability to generate an innovative design for products, systems, components or processes to fulfil new needs

Economic, legal, social, ethical and environmental context

Engineering activity can have impacts on the environment, on commerce, on society and on individuals. Graduates therefore need the skills to manage their activities and to be aware of the various legal and ethical constraints under which they are expected to operate, including:

- EL8. Awareness of the need for a high level of professional and ethical conduct in engineering
- EL9. Awareness that engineers need to take account of the commercial and social contexts in which they operate
- EL10. Knowledge and understanding of management and business practices, their limitations, and how these may be applied in the context of the particular specialisation
- EL11. Awareness that engineering activities should promote sustainable development and ability to apply quantitative techniques where appropriate
- EL12. Awareness of relevant regulatory requirements governing engineering activities in the context of the particular specialisation
- EL13. Awareness of and ability to make general evaluations of risk issues in the context of the particular specialisation, including health & safety, environmental and commercial risk

Engineering practice

This is the practical application of engineering skills, combining theory and experience, and use of other relevant knowledge and skills. On graduation you will have achieved:

- P9. A thorough understanding of current practice and its limitations, and some appreciation of likely new developments
- P10. Ability to apply engineering techniques taking account of a range of commercial and industrial constraints
- P11. Understanding of different roles within an engineering team and the ability to exercise initiative and personal responsibility, which may be as a team member or leader

P12. Advanced level knowledge and understanding of a wide range of engineering materials and components

Additional general skills

On graduation you will have developed transferable skills, additional to those set out in the other learning outcomes, that will be of value in a wide range of situations, including the ability to:

- G1. Apply their skills in problem solving, communication, working with others, information retrieval, and the effective use of general IT facilities
- G2. Plan self-learning and improve performance, as the foundation for lifelong learning/CPD
- G3. Monitor and adjust a personal programme of work on an on-going basis
- G4. Exercise initiative and personal responsibility, which may be as a team member or leader

Programme Structure

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Advanced Computational Engineering Pathway

Part I

The programme structure is defined by the specialist pathway that is taken. The Structure of each of the pathways is described below.

- MSc Maritime Engineering Science with Advanced Computational Engineering

This pathway concentrates on the theoretical and computational aspects of fluid behaviour and its interaction with structure, core to the fundamentals of engineering in the maritime environment.

The MSc Research Project (FEEG6012) is a core module. Compulsory modules account for 75 ECTS (150 CATS) and an additional 15 ECTS (30 CATS) must be selected from the optional modules list for that theme.

Part I Compulsory modules

Code	Module Title	ECTS	Type
SESS6063	Advances in Ship Resistance and Propulsion	7.5	Compulsory
FEEG3001	Finite Element Analysis in Solid Mechanics	7.5	Compulsory
SESS6065	Fundamentals of Ship Science	7.5	Compulsory
SESS3023	Marine Hydrodynamics	7.5	Compulsory
SESS6074	Maritime Safety: Risk, Environment and Law	7.5	Compulsory
FEEG6005	Applications of CFD	7.5	Optional

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

Code	Module Title	ECTS	Type
FEEG6010	Advanced Finite Element Analysis	7.5	Optional
FEEG6009	Design Search and Optimisation (DSO) - Principles, Methods, Parameterizations and Case Studies	7.5	Optional
SESS6071	Marine Structures in Fluids	7.5	Optional
SESS6070	Offshore Engineering & Analysis	7.5	Optional
SESS6067	Renewable Energy from Environmental Flows: Wind, Wave and Tide	7.5	Optional

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Marine Engineering and Autonomy Pathway

Part I

The programme structure is defined by the specialist pathway that is taken. The Structure of each of the pathways is described below.

- MSc Maritime Engineering Science with Marine Engineering and Autonomy

This pathway enables students to understand component and systems engineering on board ships and fixed and offshore structures that facilitate their functional capability.

The MSc Research Project (FEEG6012) is a core module. Compulsory modules account for 75 ECTS (150 CATS) and an additional 15 ECTS (30 CATS) must be selected from the optional modules list for this theme.

Part I Compulsory modules

Code	Module Title	ECTS	Type
SESM6034	Advanced Electrical Systems	7.5	Compulsory
SESG6035	Advanced Sensors and Condition Monitoring	7.5	Compulsory
SESS6065	Fundamentals of Ship Science	7.5	Compulsory
SESS3025	Marine Engineering	7.5	Compulsory
SESS6072	Maritime Robotics	7.5	Compulsory
SESS6074	Maritime Safety: Risk, Environment and Law	7.5	Compulsory

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

Code	Module Title	ECTS	Type
SESG6040	Failure of Materials and Components	7.5	Optional

SESS6071	Marine Structures in Fluids	7.5	Optional
SESS6070	Offshore Engineering & Analysis	7.5	Optional
SESS6067	Renewable Energy from Environmental Flows: Wind, Wave and Tide	7.5	Optional

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Naval Architecture Pathway

Part I

The programme structure is defined by the specialist pathway that is taken. The Structure of each of the pathways is described below.

· MSc Maritime Engineering Science with Naval Architecture

This pathway provides a detailed insight into core naval architecture subject areas, such as resistance and propulsion, maritime structures, manoeuvring, hydrodynamics and materials.

The MSc Research Project (FEEG6012) is a core module. Compulsory modules account for 67.5 ECTS (135 CATS) and an additional 22.5 ECTS (45 CATS) must be selected from the optional modules list for this theme, with a maximum of 7.5 ECTS (15 CATS) at level 6.

Part I Compulsory modules

Code	Module Title	ECTS	Type
SESS6063	Advances in Ship Resistance and Propulsion	7.5	Compulsory
SESS6065	Fundamentals of Ship Science	7.5	Compulsory
SESS3023	Marine Hydrodynamics	7.5	Compulsory
SESS6071	Marine Structures in Fluids	7.5	Compulsory
SESS6074	Maritime Safety: Risk, Environment and Law	7.5	Compulsory

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

Code	Module Title	ECTS	Type
FEEG6005	Applications of CFD	7.5	Optional
FEEG6009	Design Search and Optimisation (DSO) - Principles, Methods, Parameterizations and Case Studies	7.5	Optional
SESG6040	Failure of Materials and Components	7.5	Optional
FEEG3001	Finite Element Analysis in Solid Mechanics	7.5	Optional
SESS3026	Marine Structures	7.5	Optional
SESS6070	Offshore Engineering & Analysis	7.5	Optional

SESS6067	Renewable Energy from Environmental Flows: Wind, Wave and Tide	7.5	Optional
SESS3022	Ship Manoeuvring and Control	7.5	Optional
SESS3027	Yacht and High Performance Craft	7.5	Optional

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Ocean Energy and Offshore Engineering Pathway

Part I

The programme structure is defined by the specialist pathway that is taken. The Structure of each of the pathways is described below.

- MSc Maritime Engineering Science with Ocean Energy and Offshore Engineering

This pathway allows students to design and undertake the structural and hydrodynamic analyses for offshore engineering of fixed and floating structures. In particular their studies incorporate feasibility analysis of designs and probabilistic theory of the operating climate.

The MSc Research Project (FEEG6012) is a core module. Compulsory modules account for 82.5 ECTS (165 CATS) and an additional 7.5 ECTS (15 CATS) must be selected from the optional modules list for this theme.

Part I Compulsory modules

Code	Module Title	ECTS	Type
FEEG3001	Finite Element Analysis in Solid Mechanics	7.5	Compulsory
SESS6065	Fundamentals of Ship Science	7.5	Compulsory
SESS6071	Marine Structures in Fluids	7.5	Compulsory
SESS6072	Maritime Robotics	7.5	Compulsory
SESS6074	Maritime Safety: Risk, Environment and Law	7.5	Compulsory
SESS6070	Offshore Engineering & Analysis	7.5	Compulsory
SESS6067	Renewable Energy from Environmental Flows: Wind, Wave and Tide	7.5	Compulsory

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

Code	Module Title	ECTS	Type
FEEG6005	Applications of CFD	7.5	Optional
SESS3023	Marine Hydrodynamics	7.5	Optional
SESS3026	Marine Structures	7.5	Optional
SESS3022	Ship Manoeuvring and Control	7.5	Optional
SESM6032	Sustainable energy systems, resources and usage	7.5	Optional

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Yacht and High Performance Craft Pathway

Part I

The programme structure is defined by the specialist pathway that is taken. The Structure of each of the pathways is described below.

- MSc Maritime Engineering Science with Yacht and High Performance Craft

This pathway provides an opportunity to specialise in the analysis, design and performance of yachts, small craft and other high-performance vessels.

The MSc Research Project (FEEG6012) is a core module. Compulsory modules account for 67.5 ECTS (135 CATS) and an additional 22.5 ECTS (45 CATS) must be selected from the optional modules list for this theme, with a maximum of 7.5 ECTS (15 CATS) at level 6.

Part I Compulsory modules

Code	Module Title	ECTS	Type
SESG6039	Composites Engineering Design and Mechanics	7.5	Compulsory
SESS6065	Fundamentals of Ship Science	7.5	Compulsory
SESS6074	Maritime Safety: Risk, Environment and Law	7.5	Compulsory
SESS6066	Sailing Yacht and Powercraft Design	7.5	Compulsory
SESS3027	Yacht and High Performance Craft	7.5	Compulsory

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

Code	Module Title	ECTS	Type
SESS6063	Advances in Ship Resistance and Propulsion	7.5	Optional
FEEG6005	Applications of CFD	7.5	Optional
FEEG6009	Design Search and Optimisation (DSO) - Principles, Methods, Parameterizations and Case Studies	7.5	Optional
SESG6040	Failure of Materials and Components	7.5	Optional
FEEG3001	Finite Element Analysis in Solid Mechanics	7.5	Optional
SESS3023	Marine Hydrodynamics	7.5	Optional
SESS3026	Marine Structures	7.5	Optional

Progression Requirements

The programme follows the University's regulations for [Progression, Determination and Classification of Results : Undergraduate and Integrated Masters Programmes](#) or [Progression, Determination and Classification of Results: Postgraduate Master's Programmes](#). Any exemptions or variations to the University regulations, approved by AQSC are located in [section VI of the University Calendar](#).

Support for student learning

There are facilities and services to support your learning some of which are accessible to students across the University and some of which will be geared more particularly to students in your particular Faculty or discipline area.

The University provides:

- library resources, including e-books, on-line journals and databases, which are comprehensive and up-to-date; together with assistance from Library staff to enable you to make the best use of these resources
- high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations.
- computer accounts which will connect you to a number of learning technologies for example, the Blackboard virtual learning environment (which facilitates online learning and access to specific learning resources)
- standard ICT tools such as Email, secure filestore and calendars.
- access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move.
- IT support through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Hartley Library.
- Enabling Services offering support services and resources via a triage model to access crisis management, mental health support and counselling. Support includes daily Drop In at Highfield campus at 13.00 – 15.00 (Monday, Wednesday and Friday out of term-time) or via on-line chat on weekdays from 14.00 – 16.00. Arrangements can also be made for meetings via Skype.
- assessment and support (including specialist IT support) facilities if you have a disability, long term health problem or Specific Learning Difficulty (e.g. dyslexia)
- the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
- Career and Employability services, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV.
- Other support that includes health services (GPs), chaplaincy (for all faiths) and 'out of hours' support for students in Halls and in the local community (18.00-08.00).
- A Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.

The Students' Union provides

- an academic student representation system, consisting of Course Representatives, Academic Presidents, Faculty Officers and the Vice-President Education; SUSU provides training and support for all these representatives, whose role is to represent students' views to the University.
- opportunities for extracurricular activities and volunteering
- an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
- Support for student peer-to-peer groups, such as Nightline.

There are facilities and services to support your learning some of which are accessible to students across the University and some of which will be geared more particularly to students in your particular Faculty or discipline area.

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- high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations.
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- standard ICT tools such as Email, secure filestore and calendars.
- access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move.
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- assessment and support (including specialist IT support) facilities if you have a disability, long term health problem or Specific Learning Difficulty (e.g. dyslexia)
- the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
- Career Destinations, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV
- Other support that includes health services (GPs), chaplaincy (for all faiths) and 'out of hours' support for students in Halls (18.00-08.00) a Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.

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- opportunities for extracurricular activities and volunteering
- an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
- Support for student peer-to-peer groups, such as Nightline.

Associated with your programme you will be able to access:

- Induction programme for orientation, introduction of the programme and staff, and dissemination of materials.
- Student Coursebook, including guidance on selection of study programmes.
- Administrative and academic material on the Faculty, Programme and individual module web sites and/or Blackboard.
- A personal tutor to assist with organisational and personal matters. This role is taken over by the project supervisor when the research project starts.
- Careers advice and dissemination of available job advertisements.
- Personal email account and email access to staff via University system.
- Relevant specialist software on University clusters of computers.
- Formal progress monitoring during research project.
- Support for international students.

Methods for evaluating the quality of teaching and learning

You will have the opportunity to have your say on the quality of the programme in the following ways:

- Completing student evaluation questionnaires for each module of the programme.
- Acting as a student representative on various committees, e.g. Staff/Student Liaison Committees, School Programmes Committee OR providing comments to your student representative to feedback on your behalf.
- Serving as a student representative on Faculty Scrutiny Groups for programme validation.
- Taking part in programme validation meetings by joining a panel of students to meet with the Faculty Scrutiny Group.

Further details on the University's quality assurance processes are given in the [*Quality handbook*](#).

Career Opportunities

Worldwide the maritime sector is buoyant with many and varied career opportunities in engineering and project management related roles. Ship Science and Maritime Engineering Science graduates are in strong demand which results in high starting salaries and excellent career progression opportunities. Typically these are much higher than other mechanical engineering disciplines. Such strong performance is reflected in our consistently high employment statistics.

In the UK our graduates work across many different organisations. The Solent region around Southampton is the main UK hub for the maritime sector with organisations such as Lloyd's Register, Carnival, BMT Nigel Gee, Maritime and Coastguard agency and many others based nearby.

Organisations such as BAE Systems, QinetiQ and Babcock support primarily the defence sector and employ a good number of our graduates. The offshore and marine renewable developments are offering excellent prospects both to work in the UK (locally, London or Aberdeen) or worldwide in places such as Singapore, Houston or Perth, WA. For many years we have excelled in the development of high calibre individuals to work in the yacht and high performance craft sector. Southampton graduates work throughout the ocean racing, America's cup and luxury yacht world. This expertise has also supported other sports with our graduates working with UKSport on projects such as the skeleton 'Arthur' which Amy Williams rode to Gold in the Vancouver Olympic games.

Our high entry standards and rigorous course results in a graduating class with excellent analytical skills as well as significant project management and leadership skills. Throughout their time at Southampton students are supported by the University's Careers service, the Ship Science Employability coordinator and their academic tutor in preparing for their future career.

External Examiner(s) for the programme

Name: Dr Alan Murphy - University of Newcastle

Students must not contact External Examiner(s) directly, and external examiners have been advised to refer any such communications back to the University. Students should raise any general queries about the assessment and examination process for the programme with their Course Representative, for consideration through Staff: Student Liaison Committee in the first instance, and Student representatives on Staff: Student Liaison Committees will have the opportunity to consider external examiners' reports as part of the University's quality assurance process.

External examiners do not have a direct role in determining results for individual students, and students wishing to discuss their own performance in assessment should contact their Personal Academic Tutor in the first instance.

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if they take full advantage of the learning opportunities that are provided. More detailed information can be found in the programme handbook.

Appendix 1:

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. In addition to this, students registered for this programme also have to pay for:

Additional Costs

Type	Details
Anything else not covered elsewhere	Travel and subsistence: For visits organised by Ship Science, transport to and from the visit site will be provided. Where required, a safety hat and Hi-Vis vest will be provided.
Approved Calculators	Students may use calculators in the examination room only as specified by the University and as permitted by the rubric of individual examination papers. The University specifies permissible models from time to time and these may be purchased from any source. https://www.southampton.ac.uk/blog/wp-content/uploads/sites/19/2019/02/APPROVED-CALCULATORS_Feb-19.pdf
Equipment and Materials	We provide a wide range of resources to support project based modules and activities and these will allow you to complete your assessed exercises to the highest standard. However, you may wish to customise your project by purchasing additional resource e.g. alternative manufacturing materials, electronic components, etc. You may also incur additional costs for printing e.g. large format drawings.
Optional Visits (e.g. museums, galleries)	Some modules may include additional optional visits. You will normally be expected to cover the cost of travel and admission, unless otherwise specified in the module profile. For costs related to study abroad please see the relevant module profile.
Printing and Photocopying Costs	In some cases, coursework and/or projects may be submitted electronically. Where it is not possible to submit electronically students will be liable for printing costs. Students are expected to cover the costs associated with the printing of drawings and graphic presentations. These are typically expected to be of the order of £20 - 50 per student. The third year module FEEG6012 MSc Research Project requires you to print an AI portrait poster on paper at a typical cost of £20.
Stationery	You will be expected to provide your own day-to-day stationary items, e.g. pens, pencils, notebooks, etc). The third year module FEEG6012 MSc Research Project requires you to print an AI portrait poster on paper. The typical cost for this is in the range £5 to £20.
Textbooks	Where a module specifies core texts these should generally be available on the reserve list in the library. However due to demand, students may prefer to buy their own copies. These can be purchased from any source. Some modules suggest reading texts as optional background reading. The library may hold copies of such texts, or alternatively you may wish to purchase your own copies. Although not essential reading, you may benefit from the additional reading materials for the module.

In some cases you'll be able to choose modules (which may have different costs associated with that module) which will change the overall cost of a programme to you. Details of such costs will be listed in the Module Profile. Please also ensure you read the section on additional costs in the University's Fees, Charges and Expenses Regulations in the University Calendar available at www.calendar.soton.ac.uk.