

MSc in Marine Technology (International)



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Awarded by Newcastle University

The MSc in Marine Technology (International) is a part-time Masters' Degree programme that caters for working engineers, executives and managers in the local marine and offshore industry, with minimum disruption to their challenging work commitment. This dynamic course responds to the challenges and demands of the global maritime sector.

The programme develops the skills of graduate engineers working in the marine and offshore industry in advanced technologies, design, engineering, management, safety, statutory rules and regulations, and business. The students will also develop transferable professional skills, such as technical writing, which are fostered through post-school assignments and then finally a dissertation.

Learning Outcomes

- To introduce students to advanced marine systems and the state of the art of ship design, marine engineering design and offshore engineering design, including design principles, methodology and tools.
- To give students an understanding of the theory and practice of identification, modelling and control.
- To introduce students to the role of regulations and their impact on vessel design, construction and operation: health and safety, and environment.
- To examine the role of the International Maritime Organisation and classification societies.
- To familiarise students with the work and responsibilities of the marine surveyor, and in particular the procedures employed in structural and machinery surveys of ships and offshore installations.
- To increase awareness of structural behaviour and to develop advanced structural and material concepts.
- To design plates and stiffened panels. Develop the knowledge and skills to undertake elastic and plastic response analysis of stiffened plate structures.
- To gain the knowledge and understanding of finite elements applied to marine and offshore structures.
- To address theoretical and practical aspects of structural response analysis in the marine and offshore field.
- To develop students' skills in designing and analysing mooring and riser systems. To gain the knowledge and understanding of elemental concepts of drilling engineering.
- To gain the knowledge and understanding of different configurations, components and equipment used in mooring and riser systems. To address the theoretical and practical aspects of mooring and riser systems.
- To develop the working knowledge and skills to undertake finite element analysis for marine and offshore structures.
- To gain knowledge of the main aspects of subsea engineering from the origins of oil and gas in deep water, including offshore design and production in subsea engineering, and the functions of subsea engineering components, their installation and operation. Overall design and installation of subsea pipelines and risers, corrosion control in subsea pipelines and structural analysis of subsea pipelines under various loading conditions.
- To equip students with engineering design, design philosophy, design tactics, design models, adaptive and variant design, the design environment, physical and regulatory influences, tug and multi-purpose workboat design, divergent design solutions, design of fishing vessels, fishing vessel stability and motion analysis, safety and sustainability, the ship design problem, measures of design efficiency, design relationships and initial point design methods, influence of design parameters on performance, mass estimation and contemporary influences on lightship, hull-form distortion, bow and stern refinement, cause and effect understanding through response surfaces, optimization of hull-form for resistance and seakeeping.
- To equip students with the knowledge to understand the interaction between the external loading and structural behaviour of the ocean.

Programme Structure and Delivery

The programme is available for study in part time mode via mixture of online and face-to-face learning (blended learning) (36 months).

You will study modules to a total value of 180 credits – taught modules worth 120 credits and dissertation worth 60 credits.

Face-to-face lessons are recorded (uploaded to Blackboard, a web-based Virtual Learning Environment) and will take place in classrooms equipped with audio visual equipment.



Modules

All modules of the MSc Marine Technology (International) programme are compulsory modules.

- MAR8201 Advanced Marine Engineering Design
- MAR8202 Marine and Offshore Project Management
- MAR8203 Marine Systems Identification Modelling and Control
- MAR8210 The Regulatory Framework for the Marine Industry
- MAR8222 Surveying Ships and Offshore Installations
- MAR8225 Advanced Subsea and Pipeline Engineering
- MAR8227 Advanced Marine Design
- MAR8228 Advanced Offshore Technology
- MAR8268 Advanced Hydrodynamics
- MAR8270 Mooring Riser and Drilling System
- MAR8274 Structural Analysis and Design of Ships and Offshore Structures
- MAR8275 Structural Dynamics of Ships and Offshore Structures
- MAR8298 Dissertation



“ The MSc in Marine Technology (International) is a unique programme blending both ship and offshore technologies. It serves as an excellent platform for the education and professional development of marine industry personnel ”

Dr Arun Dev

*Degree Programme Director
Master of Science in Marine Technology (International)*

Fees & Funding

Application Fee: SGD90 (non-refundable)

Tuition Fees: SGD15,000

All fees charged are subjected to prevailing taxes.

Entry Requirements

A 2:2 honours degree, or international equivalent, in a marine technology subject or relevant engineering subject. Relevant experience is desirable, although not essential.

English Language Requirements

IELTS overall 6.5 or equivalent.

Applicant Eligibility

This course is only available to Singaporeans and Permanent Residents of Singapore.



How to Apply

Interested applicants to our Postgraduate Programmes, kindly refer below for the steps on the application process.

1. Prospective candidates are required to visit Newcastle Research & Innovation Institute (NewRIIS) for a Pre-application Counselling session.
 - (i) Kindly email the **NewRIIS** team for an appointment at: **newriis.research@newcastle.ac.uk**
 - (ii) Please bring along the following original documents for verification when you visit NewRIIS
 - national registration identification card (pink/blue)
 - highest academic qualifications
 - testimonials
 - updated CV

2. Online application for the respective programme
 - (i) Before applying, please prepare the following documents/items
 - programme code (please check with PG Programme Administrator/Coordinator, if you are unsure)
 - scanned national registration card (pink/blue)
 - scanned verified educational documents
 - updated CV
 - personal statement: **www.ncl.ac.uk/postgraduate/apply/guide/#personalstatement**
 - (ii) Create account for online application: **<https://aspire.ncl.ac.uk/Register>**
 - (iii) Apply online: **www.ncl.ac.uk/postgraduate/apply**

3. Payment of application fee of SGD90 (non-refundable) by cheque or bank transfer. All fees charged are subjected to prevailing taxes.



Contact

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CPE Registration No: 201706759K

Period of Registration:

1 November 2017 - 31 October 2018

www.ncl.ac.uk/singapore/newriis