

Module Information

2022.01, Approved

Summary Information

Module Code	7001MTS
Formal Module Title	Marine Maintenance and Asset Management
Owning School	Engineering
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Engineering

Learning Methods

Learning Method Type	Hours
Lecture	24
Tutorial	12

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	The aim of this module is to provide knowledge about how the maintenance and repair of an offshore installation, vessel or a fleet of vessels is managed. In particular, it is intended to consider the lifecycle of a vessel and how maintenance is planned, scheduled and executed.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Demonstrate a deep understanding of the lifecycle of a vessel and offshore structure from construction to scrapping.
MLO2	2	Evaluate and prioritise requirements for planned and unplanned maintenance and repair scenarios.
MLO3	3	Show a critical awareness of the records, certificates and stakeholder interactions, which are required to manage marine assets in compliance with local and international regulations.
MLO4	4	Create systematic maintenance plans for various vessel types and scenarios, including offshore installations.

Module Content

Outline Syllabus	Classes of engineering materials used in the construction/fabrication of marine and offshore structures and the role of materials engineering in this stage, including the analysis of material properties and how these properties impact on the life cycle of the asset. Knowledge of the basics of electro-chemical corrosion of metals and fracture mechanics approaches to defect assessment, and non-destructive testing. Condition monitoring and the inclusion of the fundamentals of failure-based or default maintenance, design-out maintenance, and preventive maintenance. Basics of Life Cycle Assessment (LCA) and the analysis of the assets' lifecycle (construction, operation, maintenance, and scrapping). Fundamentals of circular economy, Design for Remanufacturing (DfRem) and value-added End of Life (EoL).
Module Overview	
Additional Information	This module contributes to the development of specialist management skills required to operate in a management role such as that of a Marine Technical Superintendent.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Essay	Lifecycle and Maintenance	50	0	MLO1, MLO2
Report	Planning and Execution	50	0	MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Sean Loughney	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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