

Liverpool John Moores University

Title: STRUCTURES AND MAINTENANCE
Status: Definitive
Code: **5024MAR** (105596)
Version Start Date: 01-08-2016

Owning School/Faculty: Maritime and Mechanical Engineering
Teaching School/Faculty: Maritime and Mechanical Engineering

Team	Leader
Farhan Saeed	Y

Academic Level: FHEQ5 **Credit Value:** 12 **Total Delivered Hours:** 44
Total Learning Hours: 120 **Private Study:** 76

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	30
Tutorial	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	60	2
Essay	AS2	Coursework	40	

Aims

To develop a sound knowledge of the structural requirements of vessels with respect to the handling and carriage of cargo, damage limitation, maintenance and preparations for surveys.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate an understanding of structural requirements and features
- 2 Explain maintenance methods and procedures.
- 3 Explain preparation for survey of vessel and its equipment.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

EXAM	1	2	3
CW	1	3	

Outline Syllabus

Loadline: Condition of assignment, summer freeboard, timber freeboard, all seasons loadline.

International codes for the construction of ships.

Damage limitation features: Watertight bulkheads, fire division, bilge and fire fighting systems.

Strengthening for ice.

Materials: Steel, non-ferrous alloys, GRP, plastics, ceramics, cement and timber.

Processes: Annealing, normalizing, welding, galvanizing and bonding.

Failure: Brittle fracture, fatigue, creep, corrosion, chemical and electrolytic action, degradation of plastics.

Prevention: Planned maintenance, barrier coatings, cathodic protection, destructive and non destructive tests.

Maintenance: Materials and equipment, storage and disposal of materials.

Maintenance of FFA and LSA.

Drydocking: Preparation of specification and of vessel, planning and management.

Preparation for survey: Hull, machinery, lifting appliances, loadline, safety.

Learning Activities

Lectures and tutorials.

Notes

This module provides an overview of the construction and maintenance of ships.