

Liverpool John Moores University

Title: SHIPBOARD OPERATION AND SHIP CONSTRUCTION
Status: Definitive
Code: **4203NAU** (121930)
Version Start Date: 01-08-2022

Owning School/Faculty: Engineering
Teaching School/Faculty: Engineering

Team	Leader
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Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 62

Total Learning Hours: 200 **Private Study:** 138

Delivery Options

Course typically offered: S1 & S2 & Summer

Component	Contact Hours
Lecture	50
Tutorial	10

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	60	2
Essay	AS2	Essay - 2000 words	40	

Aims

To provide a basic knowledge of different cargo types and port operations. To provide detailed knowledge of ship construction as required by an Officer of the Watch.

Learning Outcomes

After completing the module the student should be able to:

- 1 Understand the principles and safe working practices for the proper loading, stowage and carriage of dry cargoes.
- 2 Demonstrate safe methods of arranging for the proper loading, stowage and carriage of liquid cargoes.
- 3 Understand how to conduct a deck watch as the Cargo Watch Officer.
- 4 Explain the precautions and procedures to be taken to prevent pollution of the marine environment.
- 5 Identify the significant features of the structure of a ship.
- 6 Recognise the salient features of a range of ship types.
- 7 Describe ship stresses and ship stress calculating equipment.

Learning Outcomes of Assessments

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

Exam	1	2	3	4
Essay	5	6	7	

Outline Syllabus

Classification: Classification of cargo, ship types, properties of different cargoes.

Dry cargoes: the principles and safe working practices for the proper loading, stowage and carriage of Dry, Refrigerated, Unitised, Containerised, Ro-Ro and Bulk Cargoes.

Oil, gas and chemical cargoes: the principles and safe methods of arranging for the proper loading, stowage and carriage of Oil, Gas and Chemical Cargoes and related ballasting operations.

Cargo Watch: Deck watch alongside or at anchor. Cargo handling operations in port. Understanding of Cargo plans and cargo handling equipment. know the riggings and stresses.

Pollution: the MARPOL Convention and current legislation regarding the precautions and procedures to be taken to prevent pollution of the marine environment.

Significant features of the structure of a ship.

Ship terminology. Structural heavy weather damage. Framing systems.

Structural arrangements; Bulkheads, Hatches, Water and weather tightness.

The function and structure of tanks; double bottoms, sides, wings and peaks. Air and sounding pipes, bilge and ballast piping systems.

Salient features of a range of ship types.

Ship stresses and ship stress calculating equipment. Arrangements to resist for pounding and panting

The cause and regions affected by forces exerted on a ship. Variation in the sheer and bending stress.

Learning Activities

Formal lectures and videos.

Notes

This module contains the basic STCW requirements for cargo carriage. Provides an appreciation of ship construction at Officer of the Watch level.