

## Liverpool John Moores University

Title: SHIPBOARD OPERATION AND SHIP CONSTRUCTION  
Status: Definitive  
Code: **4203NAU** (121930)  
Version Start Date: 01-08-2021

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.