

Liverpool John Moores University

Title: SHIPBOARD OPERATIONS
Status: Definitive
Code: **4216NAU** (126764)
Version Start Date: 01-08-2022

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

Team	Leader
Barbara Kelly	Y
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Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 82.5
Total Learning Hours: 200 **Private Study:** 117.5

Delivery Options

Course typically offered: S2, Summer NS2 (S2 for Jan)

Component	Contact Hours
Lecture	70
Practical	10

Grading Basis: Pass/Not Pass

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam 1	Stability	60	1.5
Exam	Exam 2	Ship Handling	40	1

Aims

To develop student knowledge of maintaining stability of vessels and the handling of ships.

Learning Outcomes

After completing the module the student should be able to:

- 1 Explain and apply principles of ship stability at small angles of heel.
- 2 Demonstrate an understanding of the handling and steering of ships

Learning Outcomes of Assessments

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

Exam 1	1
Exam 2	2

Outline Syllabus

The principles of Hydrostatics.

Waterline length, breadth, draught, LBP, AW, CW, CB, and freeboard. Loadline Calculations.

Use of Hydrometer

Use of Displacement, Deadweight and TPC Tables Interpret Load Line and draught mark

Statical Stability. Interpret GZ curves Angle of Loll Transverse Stability

Changes in stability during voyage Free Surface.

Introduction to Longitudinal Stability

Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment

Manoeuvre the ship

Ship manoeuvring and handling

Knowledge of:

the effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances

the effects of wind and current on ship handling

manoeuvres and procedures for the rescue of person overboard

squat, shallow-water and similar effects

proper procedures for anchoring and mooring

Steering control system

Knowledge of steering control systems, operational procedures and change-over from manual to automatic control and vice versa. Adjustment of controls for optimum performance

Learning Activities

Lectures and tutorials integrated with ship handling simulator sessions.

Notes

This module will contribute to the underpinning knowledge required for progression to an Officer of the Watch professional qualification.

This is a Pass/Not pass module - a mark of at least 60% in the stability component and a mark of at least 50% must be obtained in the manoeuvring component.