

## Liverpool John Moores University

Title: NAVIGATION AND STABILITY OPERATIONS 2  
Status: Definitive  
Code: **5202NAU** (121938)  
Version Start Date: 01-08-2019

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

Team	Leader
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**Academic Level:** FHEQ5  
**Credit Value:** 20  
**Total Delivered Hours:** 93

**Total Learning Hours:** 200  
**Private Study:** 107

### Delivery Options

Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	84
Tutorial	6

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Essay - Bridge watchkeeping 1500 words	30	
Exam	AS2	Exam - Bridge watchkeeping	30	1.5
Exam	AS3	Exam - Stability	40	1.5

### Aims

*This module should enable students to demonstrate theory and application of how to manage the navigation of the ship.*

*To assess the operational practices required for the safe planning of stability on*

ships.

## Learning Outcomes

After completing the module the student should be able to:

- 1 Establish watchkeeping arrangements and safety procedures.
- 2 Demonstrate a knowledge of Search and Rescue methods.
- 3 Demonstrate knowledge of the theories and factors affecting stability and trim, at moderate and large angles of heel, as applicable to merchant ship management.

## Learning Outcomes of Assessments

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

Essay - Bridge watchkeeping	1	
Exam - Bridge watchkeeping	1	2
Exam - Stability	3	

## Outline Syllabus

### *Bridge watchkeeping*

*Identify all National and International legislation concerning safe navigation, navigation equipment, and qualifications for watchkeeping personnel.*

*Prepare standing and night orders.*

*Selection, use and knowledge of reliability of position fixing methods, paper and electronic chart and display systems. Use of the radar in collision avoidance.*

*Procedures to adopt: for leaving port, correct use of pilots, manning and communication between engine room and bridge, in heavy weather.*

*Principles of navigational watchkeeping under pilotage, at anchor and in port, use of bridge equipment, steering control systems, ICS Bridge Procedures Guide.*

*Preparations for sea, precautions to be taken before the onset of heavy weather, loadline items affecting seaworthiness, preparation for dry-docking and undocking, use and care of deck machinery.*

### *Stability*

*Theories and factors affecting stability and trim.*

*Factors affecting stability at moderate and large angles of heel.*

*The effect of damage and flooding on stability*

*Current national and IMO regulations concerning stability*

## Learning Activities

Lectures, tutorials and practical demonstrations.

## **Notes**

The module covers the requirements concerning the safe navigation, navigation systems and stability skills required to manage the passage and stability of a vessel during a voyage.

It is intended to be studied by students following an approved STCW95 training programme who have spent some time on the bridge of a ship.