

## Liverpool John Moores University

Title: Navigation and Meteorology  
Status: Definitive  
Code: **4501BFC** (116845)  
Version Start Date: 01-08-2016

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

Team	Leader
Barbara Kelly	Y

**Academic Level:** FHEQ4      **Credit Value:** 24      **Total Delivered Hours:** 120  
**Total Learning Hours:** 240      **Private Study:** 120

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	96
Tutorial	16

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Ass 1	Navigation theory including Tides, Compasses & Sailings	40	3
Exam	Ass 2	Navigation practice including Chartwork	30	3
Exam	Ass 3	Meteorology theory and practice test	30	2

### Aims

*To develop the students knowledge and understanding of navigational principles, incorporating meteorological theory.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate an understanding of terrestrial and coastal navigation including tides.
- 2 Explain the operation of magnetic and gyro compasses, including correcting for error.
- 3 Describe meteorological processes effecting the operation of ships.
- 4 Assess weather information including charts, reporting and forecasts

## Learning Outcomes of Assessments

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

In class test	1	2
In class test	1	2
In class test	3	4

## Outline Syllabus

*Charts and Publications including ECDIS*  
*Navigational terms and calculation of DR and EP*  
*Visual position fixing and compass error by transit*  
*Theory of tides and calculations on times and heights*  
*Chartwork and making adjustments to a vessel's course*  
*Magnetic and gyro compasses and their errors*  
*Meteorological observations and use of WMO codes*  
*Forces producing wind*  
*Formation of cloud and precipitation and the causes of reduced visibility*  
*Structure and methods of heating of the troposphere*  
*General circulation and climactic zones over the oceans and ocean currents*  
*Surface charts and synoptic patterns and surface pressure systems*  
*Weather services available to shipping, weather information available to shipping and its application to a voyage including TRS, Monsoon and Ice*

## Learning Activities

Classroom based lectures and tutorials including the use of appropriate weather equipment and navigation facilities where possible.

## Notes

This module contributes to the knowledge required to gain a degree in Nautical Science and professional qualification for the Merchant Navy.