Liverpool John Moores University

Title:	MANAGEMENT OF NAVIGATION
Status:	Definitive
Code:	**5015MAR** (105587)
Version Start Date:	01-08-2016
Owning School/Faculty:	Maritime and Mechanical Engineering
Teaching School/Faculty:	Maritime and Mechanical Engineering

Team	Leader
Ewan Kirkbride	Y

Academic Level:	FHEQ5	**Credit Value:**	24	**Total Delivered Hours:**	80
Total Learning Hours:	240	**Private Study:**	160		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	50
Practical	20
Tutorial	10

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Time Constrained	40	
Essay	AS2	Coursework	30	
Essay	AS3	Coursework	30	

Aims

The module will enable the student to develop the techniques of passage planning and demonstrate competency in appraising and planning a passage, including ocean passages. To find the vessel's position using celestial navigation techniques.

Learning Outcomes

After completing the module the student should be able to:

1	Appraise, plan and evaluate a passage for both coastal and ocean navigation
2	Understand and apply spherical trigonometry to nautical problems
3	Demonstrate an understanding of the principles and practice of celestial navigation.
4	Demonstrate an understanding of theory and application of compasses and steering systems

Learning Outcomes of Assessments

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

CW	1	2	4
CW	2	3	
CW	4		

Outline Syllabus

Passage selection. Information sources. Recommended and alternative routes. Data preparation. Tidal information. Navigational risks and hazards. Documentation. Validation. Contingencies. Presentation and justification.
Spherical Trigonometry: Napiers Rules, Spherical Formula, Great Circle Sailings
Sextant use and errors. Chronometer. Celestial sphere. Use of the Almanac. Latitude by Meridional Altitude. Position lines. Compass error. Star selection. Position fixing methods.
Magnetic compass: Earth's magnetic field and its changes with position and time; variation, deviation, construction.
Gyro compass: Principles of the gyro compass: properties of a free gyro; errors, control and damping, repeaters. Ring Laser Gyros.
Steering systems: manual steering system components; emergency steering systems, auto-pilot.

Learning Activities

Lecture, tutorial, laboratory

Notes

This module includes the STCW Deck Officer requirements for Passage Planning and Navigation at a management Level. Students will be expected to apply knowledge and skills acquired on Level 1 modules in their assessments in addition to the new topics of this module.