Liverpool John Moores University

Title:	PRACTICAL NAVIGATION
Status:	Definitive
Code:	**4525SAM** (122540)
Version Start Date:	01-08-2021
Owning School/Faculty:	Engineering
Teaching School/Faculty:	Springdale Academy Of Maritime Education (SAMET)

Team	Leader
Barbara Kelly	Y
Ewan Kirkbride	

Academic Level:	FHEQ4	**Credit Value:**	10	**Total Delivered Hours:**	62
Total Learning Hours:	100	**Private Study:**	38		

Delivery Options
Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	40
Tutorial	20

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	100	2

Aims

To facilitate the calculation of a ships position by celestial observation using a sextant and chronometer and to calculate passages at a level appropriate to an OOW.

Learning Outcomes

After completing the module the student should be able to:

1 Perform navigational calculations related to course and distance on plane and spherical earth.
2 Determine the ships position by celestial observations.

Learning Outcomes of Assessments

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

Exam	1	2

Outline Syllabus

The celestial sphere and the use of the nautical Almanac Corrections to obtain Observed Altitude and UTC. Corrections to obtain true altitude
Latitude by Pole star observation and Mer. Alt.
The direction of a position line and a position through which it passes from celestial observations.
Compass Error from celestial observations Position by means of celestial observations. Select suitable stars for observation.
Sextant and Chronometer: The sextant, errors and their adjustment. Use and care of the chronometer.
Observational Calculations: Sextant observations of Sun, stars and planets. Sailings: Parallel sailing, plane sailing, Mercator sailing, Great Circle and Composite Great Circle Sailings.
Simple properties of Mercator and gnomonic charts: Latitude and longitude scales; measurement of distance. Rhumb lines. Great circles and composite great circle tracks.
Position Fixing: Principle of position fixing by measurement of difference of distance from two or more fixed points. The hyperbolic lattice on navigational charts.
Theoretical consideration of modern navigational systems such as GPS.

Learning Activities

Lectures, tutorials and laboratory demonstrations. Practical exercises using navigational instruments.

Notes

Provides the knowledge and skills needed to use complete navigational calculations.