Liverpool John Moores University

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Title:	SHIP CONSTRUCTION & MATHEMATICS
Status:	Definitive
Code:	**4015NAU** (119100)
Version Start Date:	01-08-2016
Owning School/Faculty:	Maritime and Mechanical Engineering
Teaching School/Faculty:	Maritime and Mechanical Engineering

Team	Leader
Ramin Riahi	Y
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Academic Level:	FHEQ4	**Credit Value:**	12	**Total Delivered Hours:**	42
Total Learning Hours:	120	**Private Study:**	78		

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

Component	Contact Hours
Lecture	20
Tutorial	20

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Construction and Stress coursework	70	
Exam	AS2	Mathematics examination	30	2

Aims

To provide underpinning knowledge of mathematics and a detailed knowledge of ship construction as required by an Officer of the Watch.

Learning Outcomes

After completing the module the student should be able to:

1	Identify the significant features of the structure of a ship
2	Recognise the salient features of a range of ship types
3	Describe ship stresses and ship stress calculating equipment
4	Manipulate algebraic expressions and solve equations
5	Apply the principles of basic trigonometry

Learning Outcomes of Assessments

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

Essay	1	2	3
Exam	4	5	

Outline Syllabus

Significant features of the structure of a ship.
Ship terminology. Structural heavy weather damage.
Framing systems.
Structural arrangements; Bulkheads, Hatches,
Water and weather tightness.
The function and structure of tanks; double bottoms, sides, wings and peaks.
Air and sounding pipes, bilge and ballast piping systems.
Salient features of a range of ship types.
Ship stresses and ship stress calculating equipment.
Arrangements to resist for pounding and panting
The cause and regions affected by forces exerted on a ship.
Variation in the sheer and bending stress.
Basic Algebraic Functions and Trigonometry.

Learning Activities

Lectures and tutorials. Extensive use of on-line Mathematics Tutorial Software.

Notes

Provides an appreciation of ship construction at Officer of the Watch level and provides the underpinning Mathematics for other modules,