

Liverpool John Moores University

Title: SHIP STABILITY
Status: Definitive
Code: **4014NAU** (119099)
Version Start Date: 01-08-2016

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

| Team | Leader |
|---------------|--------|
| Keith Millar | Y |
| Barbara Kelly | |

Academic Level: FHEQ4 **Credit Value:** 12 **Total Delivered Hours:** 43
Total Learning Hours: 120 **Private Study:** 77

Delivery Options

Course typically offered: Runs Twice - S1 & S2

| Component | Contact Hours |
|-----------|---------------|
| Lecture | 30 |
| Tutorial | 10 |

Grading Basis: 40 %

Assessment Details

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|----------|-------------------|-----------------------|---------------|---------------|
| Exam | AS1 | Stability Examination | 100 | 3 |

Aims

To provide detailed knowledge in ship stability as required by an Officer of the Watch

Learning Outcomes

After completing the module the student should be able to:

- 1 Apply the basic principles of hydrostatics to loadline calculations.
- 2 Apply the principles of statical stability to interpret GZ curves.
- 3 Apply the principles of transverse stability to list calculations.
- 4 Apply the principles of longitudinal stability to draught calculations.

Learning Outcomes of Assessments

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

| | | | | |
|------|---|---|---|---|
| Exam | 1 | 2 | 3 | 4 |
|------|---|---|---|---|

Outline Syllabus

The principles of Hydrostatics.

Waterline length, breadth, draught, LBP, AW, CW, CB, and freeboard.

Loadline Calculations.

Use of Hydrometer

Use of Displacement, Deadweight and TPC Tables

Interpret Load Line and draught mark

Statical Stability.

Interpret GZ curves

Angle of Loll

Transverse Stability

Changes in stability during voyage

Free Surface.

Introduction to Longitudinal Stability.

Learning Activities

Lectures and specific software packages to facilitate learning

Notes

Provides an appreciation of ship stability at Officer of the Watch level.