

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**Hanover House
24 Douglas Street
GLASGOW G2 7NG**

NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number-	0068646	-Session-1986-87
-Superclass-	ZF	

-Title-	GENERAL SHIP KNOWLEDGE: STABILITY 2 (x 1/2)
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-DESCRIPTION-

Type and Purpose	A <u>specialist</u> module (1/2) which enables the student to extend his/her basic knowledge of transverse stability and to introduce him/her to longitudinal stability.
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Preferred Entry Level	08645 General Ship Knowledge: Stability 1
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Learning Outcomes	<p>The student should:</p> <ol style="list-style-type: none">1. know and illustrate the ways in which a ship's transverse stability is affected by alterations in the athwartships distribution of mass and carry out related calculations;2. know, illustrate, and make allowance for, the effect of a free surface of liquid at small angles of heel;3. know and illustrate the terms associated with a ship's longitudinal stability and carry out simple relevant calculations.
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Content/ Context	<p>Corresponding to the Learning Outcomes:</p> <ol style="list-style-type: none">1. The effect on TCG of loading, discharging and moving weights. $GG = \frac{wxd}{GM}$ Moments above the W centreline. $TAN O = \frac{GG}{GM}$ <p>The inclining experiment.</p> <ol style="list-style-type: none">2. Qualitative treatment of free surface; its dangers, the effect of tank subdivisions, a method of righting a vessel from an angle of loll. The introduction of a given free surface allowance into calculations of transverse stability and of list.
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3. The terms LCB, LCG, LCF, GM , trimming moment MCTC. Longitudinal equilibrium. Calculations involving the inter-relationship of draughts, trim, weights and their positions.
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Suggested
Learning and
Teaching
Approaches

Films, videos, diagrams and models should be used as extensively as possible.

Films and video should be used to stimulate discussion, not simply to convey information.

Students should work individually, in pairs and in groups.

Assessment
Procedures

Learning outcomes 1, 2 and 3 should be assessed by a series of short answer questions, including relevant calculations, satisfactory performance being 70% or better depending on the difficulty of the test set. Testing should take place no later than 2/3 of the way through the module to allow time for remediation and retesting.