

Proposal to modernise the Methodology of Teaching, Assessment/ Examination

Nautical - STCW II/2 CoC			
Competency/ Module: Ship Stability: Theory and Practical Application	<i>Competency: Control trim, stability, and stress</i>		
Knowledge, understanding and proficiency	Recommendation of working group regarding the outcome and objective.	Rationale	Action required
Outcome 1: Apply the theories affecting ship's stability, trim and stability calculations.	Modernise	It is important to make sure Cadets clearly understand how the outcome relates to work at sea and it is essential to make sure that this context is given with reference to current and future seagoing technologies and practices.	Include the practical application of these theories when using ship stability software. Include contextualised data interpretation, analysis and presentation.
1.1 Stability information required to be carried on board ship	Modernise	See main outcome rationale	See main outcome action required
1.2 Loading, discharging, shifting weights, effect on a vessel's transverse stability	Modernise	See main outcome rationale	See main outcome action required
1.3 Loading, discharging, shifting weights, effect on a vessel's longitudinal stability	Modernise	See main outcome rationale	See main outcome action required
1.4 Stability and trim worksheets	Modernise	See main outcome rationale	See main outcome action required
Outcome 2: Analyse the factors and calculations concerning stability at large angles of heel.	Keep	Relevant	Include contextualised data interpretation, analysis and presentation.

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<p>2.1 Compliance with IMO (International Maritime Organisation) intact stability requirements 2008 as amended and load line rules</p>	<p>Modernise</p>	<p>It is important to make sure Cadets clearly understand how the outcome relates to work at sea and it is essential to make sure that this context is given with reference to current and future seagoing technologies and practices.</p> <p>Data Science Skills (Comprehension, Analysis, Presentation, etc...) are required to interpret stability information given to the vessel.</p>	<p>Remove the requirement to memorise the standard intact stability requirements of vessels. Ensure students understand the requirements, know where they can be found and how to practically apply the given information from ship stability booklets/ software.</p>
<p>2.2 Compliance with IMO (International Maritime Organisation) grain code requirements</p>	<p>Modernise</p>	<p>It is important to make sure Cadets clearly understand how the outcome relates to work at sea and it is essential to make sure that this context is given with reference to current and future seagoing technologies and practices.</p> <p>Data Science Skills (Comprehension, Analysis, Presentation, etc...) are required to interpret stability information given to the vessel.</p>	<p>Remove the requirement to memorise the standard grain code requirements of vessels. Ensure students understand the requirements, know where they can be found and how to practically apply the given information from ship stability booklets/ software.</p>
<p>2.3 Factors affecting GZ curves</p>	<p>Keep</p>	<p>Relevant</p>	<p>None</p>
<p>2.4 Changes in stability at large angles of heel</p>	<p>Keep</p>	<p>Relevant</p>	<p>None</p>
<p>2.5 Effect of damage and flooding on stability</p>	<p>Modernise</p>	<p>It is important to make sure Cadets clearly understand how the outcome relates to work at sea and it is essential to make sure that this context is given with reference to current and future seagoing technologies and practices.</p> <p>Data Science Skills (Comprehension, Analysis, Presentation, etc...) are required to interpret, analyse and present stability information when working with assistance services.</p>	<p>Suggestion from industry to incorporate classification society/ shoreside assistance services into damage stability/bilging lessons.</p> <p>Include the impact of the type of stability computer on its ability to calculate damage stability.</p> <p>Include Safe Return to Port.</p> <p>Include contextualised data interpretation, analysis and presentation.</p>

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2.6 Effect of turning on a vessel's stability	Keep	Relevant	None
2.7 Effect of rolling, parametric rolling and synchronous rolling on a vessel's stability	Keep	Relevant	None
Outcome 3: Analyse and use stability/stress diagrams and stress calculating equipment.	Keep	Relevant	Include contextualised data interpretation, analysis and presentation.
3.1 Types of shipboard stress	Keep	Relevant	None
3.2 Shear force and bending moments curves for box shaped vessels	Keep	Relevant	None
3.3 Stress calculating equipment	Keep	Relevant	None
Proposal submitted by:	Any other outcomes for this competency, above and beyond STCW which would be needed due to use of modern technology and impact of future fuels onboard:		
	Objective	Reason Why	Action required
Cadet Training & Modernisation Working Group	Include Human Element Factors throughout the syllabus	To provide seafarers with a contextualised understanding of the Human Element in the maritime industry, showing how they can put theory into practice in the work they carry out at sea.	Raise awareness throughout the Cadet's training of the areas in which human element factors will have an impact. Recommendations on where this can be included have been noted throughout the entire syllabus. Not every template has Human Element Factor recommendations but please do add any you feel may have been missed.

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<p>Cadet Training & Modernisation Working Group</p>	<p>Include Data Science skills throughout the syllabus</p>	<p>Data Science Skills (Comprehension, Analysis, Presentation, etc...) are already required within much of the syllabus. A further, specific focus on these skills needs to be taught where relevant.</p>	<p>A specific topic will need to be introduced to improve Cadets' Data Science skills. Practical application of data science skills should be highlighted throughout the syllabus. Not every template has Data Science recommendations but please do add any you feel may have been missed.</p>
<p>Cadet Training & Modernisation Working Group</p>	<p>Ensure all outcomes are contextualised to help Cadets understand what they are learning in relation to what they will experience at sea.</p>	<p>While some outcomes are intrinsically linked to work carried out at sea, some need to be contextualised to show how they apply to work on board. Where this is the case, it is important to make sure Cadets clearly understand how the outcome relates to work at sea and it is essential to make sure that this context is given with reference to current and future seagoing technologies and practices.</p>	<p>Where outcomes do not specifically cover a topic which relates to work carried out at sea, more must be done to contextualise the outcome and make it relevant to the maritime industry, giving specific shipping examples of how the outcome may be applied in a modern shipping context. Not every template has contextualisation recommendations but please do add any you feel may have been missed.</p>