

Proposal to modernise the Methodology of Teaching, Assessment/ Examination

Marine Engineering - STCW III/1 CoC			
Competency/ Module: Safety Engineering and the Environment			
Knowledge, understanding and proficiency	Recommendation of working group regarding the outcome and objective.	Rationale	Action required
Outcome1: Explain the current Health and Safety legislation covering employers and employees	Keep	Relevant	None
1.1 Health and Safety at Work Act	Contextualise	We must 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.	Ensure candidates understand the relationship between regulations, COSWP, other best practice guidance and internal policies/procedures/SMS
1.2 Provision and use of work equipment regulations	Contextualise	We must 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.	Ensure ergonomics are considered - how the design or equipment affects its use. Providing complicated or inappropriate equipment can lead to increased incidents as well as musculoskeletal disorders
1.3 Management of Health and Safety at Work Act	Keep	Relevant	None

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1.4 Personnel Protective Equipment regulations	Contextualise	We must 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.	Raise awareness of issues with improperly fitting PPE, and how PPE provision should consider diversity and inclusion. For example, smaller clothing for women, different requirements as not everyone is 'average' size and shape.
1.5 Enclosed space regulations, risk assessment and guidance (as per COSWP)	Keep	Relevant	None
1.6 Noise at work regulations	Keep	Relevant	None
Outcome 2: Explain the handling, storage and disposal of dangerous substances	Keep	Relevant	None
2.1 Manual handling regulations	Keep	Relevant	None
2.2 Control of substances hazardous to health regulations	Keep	Relevant	None
2.3 Chemical hazard identification and packaging regulations	Keep	Relevant	None
2.4 Environmental protection act	Keep	Relevant	None
2.5 Introduction to extreme temperatures, pressure, corrosivity and toxicity of fuels.	Add	This is relevant for modern and future fuels and will need to be considered by seafarers on board.	Add this outcome
Outcome 3: Explain work equipment safety requirements	Keep	Relevant	None
3.1 Provision and use of work equipment regulations	Keep	Relevant	None
3.2 Lifting Regulations (LOLER)	Add	This is required knowledge for onboard engine room operations.	Add this outcome.

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Outcome 4: Carry out a suitable risk assessment within a workplace environment	Keep	Relevant	None
4.1 Relevant health and safety legislation	Keep	Relevant	None
4.2 Risk assessment process	Contextualise	We must 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 following in this outcome: <ul style="list-style-type: none"> - Understand the theoretical process of decision making, the influence of perceptual bias on decision making, and can apply this knowledge in their own decision making - Dynamic Risk Assessment
4.3 Actions required following risk assessment	Contextualise	We must 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 following in this outcome: <ul style="list-style-type: none"> - Demonstrate the ability to evaluate and implement policies and procedures applicable to their role to understand how to develop operating procedures and policies that take the human element into consideration, ie the importance of consultation, communication and review, their impact on all crew members and the benefit of policies
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	Raise awareness throughout the Cadet's training of the areas in which human element factors will have an impact.

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		industry, showing how they can put theory into practice in the work they carry out at sea.	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.
Cadet Training & Modernisation Working Group	Include Data Science skills throughout the syllabus	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.	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.
Cadet Training & Modernisation Working Group	Ensure all outcomes are contextualised to help Cadets understand what they are learning in relation to what they will experience at sea.	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.	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.