Proposal to modernise the Methodology of Teaching, Assessment/ Examination

Nautical - STCW II/1 CoC	
Competency/ Module: Chartwork and Tides	*Plan and conduct a passage and determine position*

Knowledge, understanding and proficiency	Recommendation of working group regarding the outcome and objective.	Rationale	Action required
Outcome 1: Identify recommended procedures to ensure that all charts and publications are maintained and corrected.	1. This entire module should be renamed. 2. A greater emphasis should be placed on electronic resources.	1. "Chartwork and Tides" has connotations of rulers and dividers that conflict with the tools used in electronic navigation. 2. Current delivery of this module is structured as follows: Cadetship Phases 1 & 3 (College) - Paper Charts. Phases 2 & 4 (At Sea) - almost universal exposure to electronic resources, taught in an onboard setting. Phase 5 (College) is the first real intro to electronic resources and ECDIS in the college environment.	1. Rename to "Electronic Chartwork & Tides" 2. Restructure college delivery structure to provide more focus towards electronic resources. However, paper charts must continue to be covered for underlying knowledge and as a backup.
1.1 Type of charts	Modernisation is essential.	Electronic resources must be covered earlier in Cadet training and in more depth. Paper charts do still have a place within Cadet training. They are good for gaining an understanding of the use of charts and can be used as a contingency while at sea.	Most teaching, after covering the basics on paper, needs to be using electronic resources. Otherwise, a disconnect forms between college phases (paper) and sea phases (electronic). Include more simulator time to give cadets experience of taking a fix after learning the theory on paper charts.

1.2 Carriage of nautical publications	Modernise	This must reflect reality of electronic chart provision seen on board.	Most teaching, after covering the basics on paper, needs to be using electronic resources. Otherwise, a disconnect forms between college phases (paper) and sea phases (electronic).
1.3 Storage and handling of charts	Remove	Does not reflect on board practice.	Remove
1.4 Procedures for ordering charts and publications	Remove	Does not reflect on board practice.	Remove
1.5 Correction logs for charts and publications	Keep	Awareness of digital systems essential.	Cadets must also be made aware of electronic chart and publication corrections.
1.6 Contents and use of chart catalogue	Amend	Current provision inadequate for future.	Amend to reflect the primacy of electronic resources.
1.7 Weekly and cumulative lists of admiralty notices to mariner	Amend	Current provision inadequate for future.	Amend to reflect the primacy of electronic resources.
1.8 Commercial systems for maintaining charts and publications	Keep	Paper charts do still have a place within Cadet training. They are good for gaining an understanding of the use of charts and can be used as a contingency while at sea.	None

Outcome 2: Use Mercator charts for visual position fixing methods	Modernise	Electronic resources must be covered earlier in Cadet training and in more depth. Paper charts do still have a place within Cadet training. They are good for gaining an understanding of the use of charts and can be used as a contingency while at sea.	Move focus towards electronic resources. However, paper must continue to be covered but with a reduced focus.
2.1 Navigational properties of a Mercator chart	Modernise	This must reflect reality of electronic chart provision seen on board.	Theory, practice, learning and assessments should all supplemented by simulators. Include a variety of chart projections.
2.2 Plotting positions on a chart	Modernise	This must reflect reality of electronic chart provision seen on board.	Teach on electronic charts as well as paper charts. Different skills are required to achieve this – although the principles are the same. Include position verification during monitoring stage of passage plan
2.3 Chart symbols	Modernise	This must reflect reality of electronic chart provision seen on board.	Teach on electronic charts as with paper charts as backup.
2.4 True, gyro and compass courses	Keep	Essential	None
2.5 Chartwork techniques to determine position	Modernise	The principles of navigation remain unchanged – practicalities of applying the principles have changed	Place added emphasis on manual fix input into ECDIS.

2.6 Dead reckoning and estimated positions using water and ground tracks	Keep	Principles unchanged. Rudiments completed on paper initially.	None
2.7 Estimated Time of Arrival (ETA) to reach a given position	Keep	Essential	None
Outcome 3: Use chartwork techniques to amend and update the vessel's passage plan.	Keep	Remains relevant	See actions for sub-outcomes
3.1 Principles of passage planning	Modernise	Energy efficiency becoming a greater focus in a modern shipping environment.	Include an introduction to the Ship Energy Efficiency Management Plan (SEEMP).
3.2 Appropriate regulations and guidelines in passage planning	Keep	Essential	None
3.3 Adjustments to the vessel's course and speed to take account of passage plan requirements	Keep	Essential	None
Outcome 4: Use tidal terminology and calculate times and heights of tides worldwide	Modernise	The theory is all essential. The application needs to consider products in use at sea	More use of Admiralty Total Tide, or similar package, and simulators where students can practice as if on board.

4.1 Theory of tides and their causes	Keep	Essential	Place additional emphasis on, and contextualise, tidal software.
4.2 Tidal definitions and calculations	Keep	Essential	Place additional emphasis on, and contextualise, tidal software.
4.3 Admiralty tide tables and tidal software	Keep	Essential	Will underpin the rest of the outcome.
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:**		
	How would you deliver this outcome/ objective?	**How would you assess this outcome/ objective?**	**Action required**

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.
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.
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.