



Maritime &
Coastguard
Agency

MCA update on modernising Training and Assessment BTA Conference -2024

Ajit Jacob – Chief Examiner, MCA

01 May 2024

Driver for Change

Results from STCW survey

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/986519/STCW_Review_Survey_Summary_Report_-_Navigation_Engineering_ETO.pdf

Maritime 2050

MSC Recommendations [Cadet Training & Modernisation \(CT&M\) Programme | Maritime UK](#)

MCA's Big Picture Objectives

Points from BTA conference in 2022

What we want to achieve?

Transferability across sectors

Routes for progression

Flexible ways of delivering training

Standardised MCA assessments to ensure consistency

Digital/Blended assessments

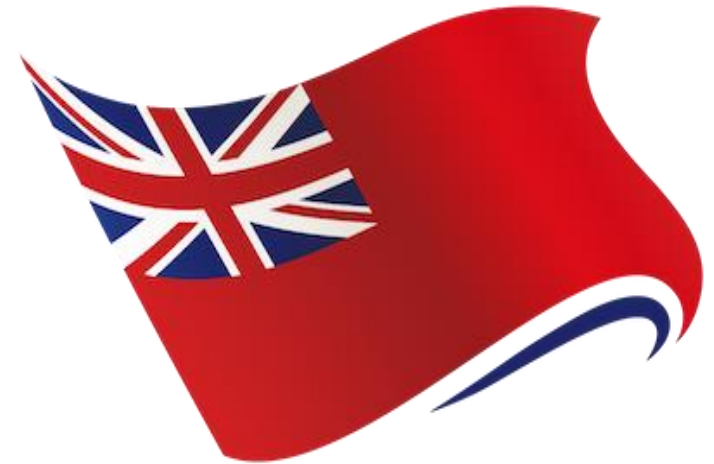
Use of Electronic TRb's

Flexibility in Sea service to ensure that we attract the best talent

All existing routes will stay. Intention is to give seafarers more choice.

Maritime Skills commission and Recommendations from Cadet Review report

- Modernisation of Seafarer training.
- Progression opportunities, and transferability to other maritime professions.
- Review of Governments funding to enhance Support for Maritime Training (SMarT).



Modernisation Programme



- The Training and Modernisation Programme has been a collaborative effort between MCA as the regulator, Shipping company representatives, MNTB, College representatives, Unions and seafarers themselves.
- 41 personal from across 24 organisations contributed to the consultation groups and continue to do so.

Flexibility

Modernisation of training

Restricted CoC

Transferability

Progression

Modernisation of syllabus - Key Changes

Technological
changes on
board, including
Digitalisation

Decarbonisation-
Shift to green
fuels

Availability of
improved
immersive
training tools

Industry Consultation Template

Proposal to modernise the Methodology of Teaching, Assessment/ Examination

Nautical - STCW II/1 CoC			
Competency/ Module: Chartwork and Tides	<i>Plan and conduct a passage and determine position</i>		
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.	<ol style="list-style-type: none"> 1. This entire module should be renamed. 2. A greater emphasis should be placed on electronic resources. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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.	<p>Electronic resources must be covered earlier in Cadet training and in more depth.</p> <p>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.</p>	<p>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).</p> <p>Include more simulator time to give cadets experience of taking a fix after learning the theory on paper charts.</p> <p>Include a variety of chart projections</p>



Post Industry Consultation

Nautical - STCW II/1 CoC	Other related modules: <ul style="list-style-type: none">- Navigational Mathematics and Science (STCW II/1)- Celestial Navigation (STCW II/1)- Marine Meteorology (STCW II/1)- Marine Law and Management: An Introduction (STCW II/1 & III/1)- Management of Bridge Operations (STCW II/2)- Shipmaster's Law and Business (STCW II/2)- Passage Planning (STCW II/2)- Applied Marine Meteorology (STCW II/2)	
Module: Electronic Chartwork & Tides		
Knowledge, understanding and proficiency that are to be achieved by meeting the following outcomes:	Guidance on teaching and learning approaches. (Lectures, small group work, online learning, self-study, practical, etc...)	Equipment and facilities required. (Loading software, workshops, simulation suites)
<p>Outcome 1: Demonstrate the use of recommended procedures to ensure that all charts and publications are maintained and corrected.</p> <p>By the end of this module the learner will be able to:</p> <p>N.B. "Storage and handling of charts" and "Procedures for ordering charts and publications" have been removed from this outcome.</p>	<p>Tutors should develop a learning, teaching and assessment plan for each unit within the course and provide activities that students should undertake.</p> <p>The teaching plan should:</p> <ul style="list-style-type: none">- Include the requirements of the SQA Group Award Specification for HNC Nautical Science (Group Award Code: GM7P 15) and HND Nautical Science (Group Award Code: GM7N 16) sections 6 to 6.4, or the equivalent in subsequent publications.- Ensure the course is delivered with the primary focus being on electronic charts and navigational resources. Paper charts and publications should be covered for use in emergency situations. This should be representative of how work is carried out on board modern vessels.	<p>The teaching materials should:</p> <ul style="list-style-type: none">- Include the requirements of the SQA Group Award Specification for HNC Nautical Science (Group Award Code: GM7P 15) and HND Nautical Science (Group Award Code: GM7N 16) section 6.5, or the equivalent in subsequent publications.- Include electronic charts, publications and logs.

Post Industry Consultation

Marine Engineering - STCW III/2 CoC	Other related modules: <ul style="list-style-type: none">- Marine Engineering: Thermodynamics- Marine Engineering: Mechanical Principles- Marine Engineering: Pneumatics and Hydraulic Systems- Marine Engineering: Auxiliary Systems- Marine Engineering: Propulsion- Fundamentals of Controls and Transducers- Marine Engineering: Applied Mechanics- Marine Engineering: Applied Thermodynamics- Marine Engineering: Heat Engine Principles- Marine Engineering: Electrical Distribution Systems- Marine Engineering: Mechanics- Marine Engineering: Electrical Machines	
Module: Heat Engine Principles		
Knowledge, understanding and proficiency that are to be achieved by meeting the following outcomes:	Guidance on teaching and learning approaches. (Lectures, small group work, online learning, self-study, practical, etc...)	Equipment and facilities required. (Loading software, workshops, simulation suites)
<p>Outcome 1: Apply the fundamental properties of thermodynamics to a process.</p> <p>By the end of this module the learner will be able to:</p>	<p>Tutors should develop a learning, teaching and assessment plan for each unit within the course and provide activities that students should undertake.</p> <p>The teaching plan should:</p> <ul style="list-style-type: none">- Include the requirements of the SQA Group Award Specification for HNC Marine Engineering at SCQF level 7 (Group Award Code: GM1K 15) and HND Marine Engineering at SCQF level 8 (Group Award Code: GM1J 16)	<p>The teaching materials should:</p> <ul style="list-style-type: none">- Include the requirements of the SQA Group Award Specification for HNC Marine Engineering at SCQF level 7 (Group Award Code: GM1K 15) and HND Marine Engineering at SCQF level 8 (Group Award Code: GM1J 16) section 6.5, or the equivalent in subsequent publications.



Post Industry Consultation

<p>Outcome 4: Calculate the properties of constituent parts during combustion of marine fuels</p> <p>By the end of this module the learner will be able to:</p>	<p>Tutors should develop a learning, teaching and assessment plan for each unit within the course and provide activities that students should undertake.</p> <p>The teaching plan should:</p> <ul style="list-style-type: none"> - Include the requirements of the SQA Group Award Specification for HNC Marine Engineering at SCQF level 7 (Group Award Code: GM1K 15) and HND Marine Engineering at SCQF level 8 (Group Award Code: GM1J 16) 	<p>The teaching materials should:</p> <ul style="list-style-type: none"> - Include the requirements of the SQA Group Award Specification for HNC Marine Engineering at SCQF level 7 (Group Award Code: GM1K 15) and HND Marine Engineering at SCQF level 8 (Group Award Code: GM1J 16) section 6.5, or the equivalent in subsequent publications.
--	---	--

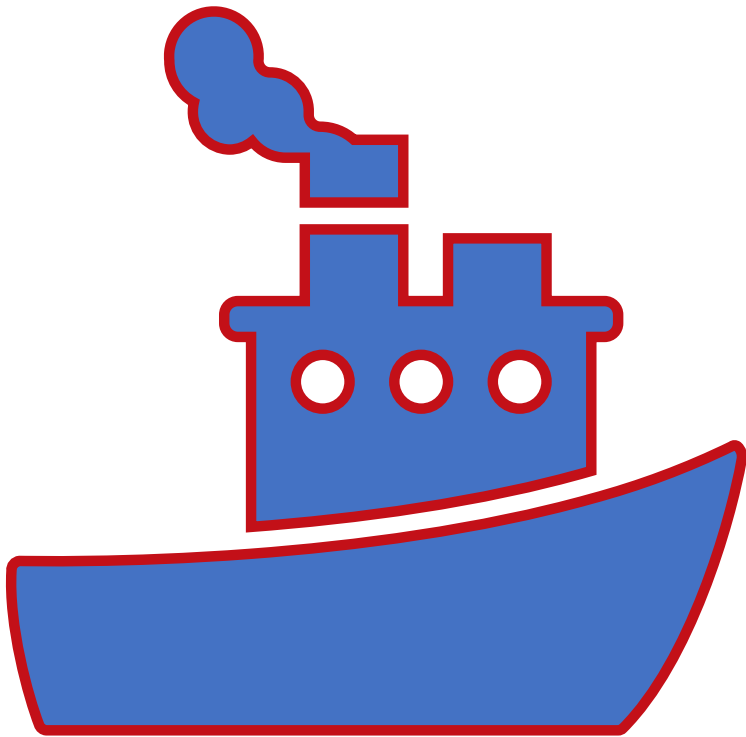
	level 8 (Group Award Code: GM1J 16) sections 6 to 6.4, or the equivalent in subsequent publications.	
<p>4.1 Calculate combustion of fuel, including alternative fuels by mass and volume</p>	<p>This sub-outcome must include the same teaching plan points as the main outcome but should, in addition:</p> <ul style="list-style-type: none"> - Include relevant alternative fuels such as, but not limited to: HVO, Methanol, Hydrogen, Ammonia and LNG. These alternative fuels should be representative of market trends. 	Same as main outcome.
<p>4.2 Calculate stoichiometric, insufficient, and actual air supply and the proportional gravimetric constituents of a fuel, including alternative fuels from flue gas analysis</p>	<p>This sub-outcome must include the same teaching plan points as the main outcome but should, in addition:</p> <ul style="list-style-type: none"> - Include relevant alternative fuels such as, but not limited to: HVO, Methanol, Hydrogen, Ammonia and LNG. These alternative fuels should be representative of market trends. 	Same as main outcome.
<p>4.3 Calculate Higher and Lower Calorific Values of fuels, including alternative fuels, and the heat energy released by the various constituents</p>	<p>This sub-outcome must include the same teaching plan points as the main outcome but should, in addition:</p> <ul style="list-style-type: none"> - Include relevant alternative fuels such as, but not limited to: HVO, Methanol, Hydrogen, Ammonia and LNG. These alternative fuels should be representative of market trends. 	Same as main outcome.



Next Steps



- Modernised Syllabus - implement from September 2025
- Contribute for Comprehensive Review of STCW (2 papers submitted for HTW 10).
- Provided new Syllabus for STCW training to maritime colleges - to be delivered from September 2025.



Restricted CoC

Different routes that exist

Master Code vessel, OOW 500 Yachts

OOW (Tug)<500

Master Workboat

Fishing Class 1(STCW – F)

OOW NC as per MSN 1856 Amendment 1

RN qualifications

Restricted CoC (Ⅱ/3 less than 500 GT STCW CoC)

Core training – modules (Aligned to STCW)

Navigation &
Chartwork

Stability and ship
operations

Meteorology (modular)

Area of operation – sea service

(Reduced Sea service- approved
Training record book)

Use of Simulators

Vessel Specific Endorsements



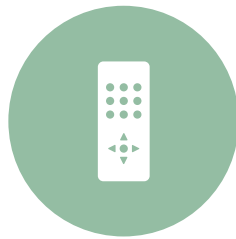
Different ways of delivery



APPRENTICESHIP



CLASSROOM



REMOTE



DIGITAL



BLENDED

Funding

Apprenticeship funding – England

SMarT Funding



Increased funding to 50% for cadet education and for management level COC.



Amended eligibility to enable funding for UK Junior Officers who are working towards their Management level (unlimited) CoC without the financial support from their employer.



Next Steps - awaiting confirmation regarding wider review of funding.



Bridge Watchkeeping Simulator Project



- Ratio of 1:3 for simulator time in lieu of actual sea service to actual seagoing service, up to 30 days actual seagoing service.
- Pilot project – data being compiled based on feedback from cadets.
- Report to be shared with IMO as part of the Comprehensive Review of STCW.

Training for Vessels using Green fuels



- Basic training for Future Fuels to be included in new curriculum from September 2025.
- AEPC 3 for domestic vessels with Batteries and Electric Drive.
- Training for vessels using Hydrogen in gaseous, Liquid Hydrogen.
- Planned date for delivery of 1st course by Orkney college – July 2024.

Small Vessel Chief Engineer (MSN 1904) STCW III/3, III/2)

Flexible approach to exams:

- Modular exams minimising the time spent in the classroom or,
- Apprenticeships that allow a structured approach to training with additional face to face teaching to prepare candidates for exams.
- Exam modules cover all SV vessel types/classifications as defined in MSN 1904, giving more choice over which training provider to use.

Chief Engineer Coc has two tiers allowing candidates to sail in a management position onboard whilst progressing to the next level:

- SV C/E Less than 500gt, less than 3000kw
- SV C/E Less than 3000gt, less than 9000kw

Transferability within the marine industry:

- Certification structure encompasses 8 different small vessel types/classifications.
- MIN 642 allows Unlimited Engineer CoC holders to transfer into the structure.

MCA Oral Exams

Split oral exams:

- OOW Unlimited - Deck (since mid 2023).
- 800 Part A Complete.
- Pass rate 45-55%. 550 more exam slots for face-to-face exams.
- Next phase: Master 200 from 1st May 2024.
- UKLAP exam (pilot) from end of this year.

Booking App for oral exams.

Recording of oral exams in place since March 2023.

Seafarer Survey – Launched March 24



- Survey to systematically collect and analyse feedback on the quality of education, short courses and seagoing service.
- Survey link provided to seafarer when they complete their oral examination.
- Feedback gathered in the updated survey will directly feed into MCA audit process.
- Will also help MCA to make improvements based on evidence.

Thank You
Questions?

