

Title	Navigate in an ocean environment		
Level	5	Credits	12

Purpose	<p>People credited with this unit standard are able to: plan and amend an ocean passage plan; obtain position fix; and monitor the status of navigational equipment.</p> <p>People completing this unit standard will be able to navigate for extended periods out of sight of land.</p>
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Classification	Maritime > Sea Survival and Sea Safety
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Available grade	Achieved
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Guidance Information

- 1 *Electronic means* includes radar, Global Positioning System (GPS), Transit, Loran, echo sounder, and International Marine Satellite (INMARSAT) system.
- 2 Compasses used within the context of this unit standard include flux gate and magnetic.
- 3 Publications include: Maritime Transport Act 1994; Maritime Rules; International Code of Signals; General Harbour Regulations; Charts, Admiralty Sailing Directions, Local Cruising Guides, Ocean Passages of the World, Mariners Handbook, Tide Tables, Nautical Almanac, Light Lists, Routeing Charts, Notices to Mariners, Navigational Warnings, Current [National Association Yacht Federation (NAYF)] Yacht Racing Rules, Buoyage [International Association of Lighthouse Authorities (IALA) System A and B], International Telecommunications Union (ITU) publications, Admiralty List of Radio Signals.

Outcomes and performance criteria

Outcome 1

Plan and amend an ocean passage plan.

Performance criteria

- 1.1 Plan enables boat and people to arrive at planned destination in safety.
- 1.2 Plan takes cognisance of possible weather, ocean currents, and navigational dangers encountered on passage.
- 1.3 Planned passage is within the capabilities of the craft and the crew.

- 1.4 Amendments to passage are timely in order to maintain the safety of the craft and its occupants.
- Range weather, status of craft and crew, capability of crew, status of navigational equipment.
- 1.5 Intentions of the voyage and alterations made during the voyage are communicated to a third party for future reference.
- Range future reference situations are required to meet any search and rescue situation;
communication – formal (customs and/or search and rescue), or informal (any third party on shore and/or other boat).
- 1.6 Landfall positions and techniques are selected, and are applied to maintain the safety of boat and occupants.

Outcome 2

Obtain position fix.

Performance criteria

- 2.1 Celestial fixes utilise two or more position lines, are in or out of meridian, and are taken with or without a run between them.
- Range celestial observations include sun and/or star sights.
- 2.2 Fixes are consistent with historical fixes, rogue results are identified, calculated, and checked, and additional sights are taken where rogue fixes are confirmed.
- 2.3 Morning and evening star sights are planned, and the stars used are selected, identified, located, and utilised to produce an accurate fix.
- 2.4 Obtained fixes, gained from elected means, are plotted in accordance with current practices.
- 2.5 Cognisance of limitations of selected system and allowances for these are incorporated into the use of the fix.
- Range selected system could be celestial or electronic.
- 2.6 Information obtained from compass readings takes cognisance of compass error and influences.
- Range influences – variation and deviation, particularly heeling error; effects of hard and soft iron; position; magnetic dip.
- 2.7 An estimated position is determined both prior to obtaining a celestial fix and where a fix by non-celestial means cannot be obtained.

Outcome 3

Monitor the status of navigational equipment.

Performance criteria

3.1 Time pieces are checked against time signals, and are confirmed as being consistent.

Range in order to check and confirm time piece, errors in the piece must be known; time pieces include chronometer, radio receiver, GPS or Transit.

3.2 Sextant equipment errors are compensated for, and any residual error is measured and recorded for reference when calculating the sight.

3.3 Status of transit and GPS systems is assessed, and accuracy and reliability of systems are confirmed prior to use.

3.4 Compass error is obtained through azimuth or amplitude methods, and is calculated in accordance with current practices.

Range yacht at least daily, commercial vessel by watch.

3.5 Radar information is assessed for reliability and accuracy through the interpretation of observed picture.

3.6 Radar set up is confirmed as correct, and is adjusted for changing conditions.

Range changing conditions – sea and atmospheric.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 April 1996	31 December 2021
Revision	2	10 August 1998	31 December 2021
Revision	3	10 September 2004	31 December 2021
Review	4	24 September 2020	31 December 2021

Consent and Moderation Requirements (CMR) reference

0054

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.