

## Competency Framework for Mate Fishing Vessel - Unlimited



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## Function: Voyage and Position Determination

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Voyage Planning and Navigation.</b>	<b>1.</b> Interpretation of Charts and Their Data.	Approved training and service experience by way of written assessment and oral examination.	Identifies data on the chart relating to: <ul style="list-style-type: none"> <li>• surveys,</li> <li>• publication,</li> <li>• printing,</li> <li>• corrections,</li> <li>• depths and</li> <li>• topographical detail</li> <li>• to assess the reliability and suitability of the chart for an intended passage.</li> </ul>
			Demonstrates knowledge and understanding of the publications available and, in general terms, the information available for planning a safe passage.
			Draws a diagram to illustrate the data used on charts for measuring: <ul style="list-style-type: none"> <li>• Depths,</li> <li>• Drying heights,</li> <li>• Tide levels, and</li> <li>• Heights of shore objects.</li> </ul>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Voyage Planning and Navigation cont.</b>	<i>Interpretation of Charts and Their Data cont.</i>	Approved training and service experience by way of written assessment and oral examination.	Explains the meaning of the terms: <ul style="list-style-type: none"> <li>• chart datum,</li> <li>• drying height,</li> <li>• mean high water springs, and</li> <li>• soundings.</li> </ul>
			Identifies by reference to the chart, dangers in making a specified landfall by day or night, and appropriate means of checking a vessel's position in these circumstances.
			Describes the topography of the coastline, foreshore and seabed by reference to symbols and abbreviations on the chart.
			Describes the characteristics of the following: <ul style="list-style-type: none"> <li>• lights,</li> <li>• buoys,</li> <li>• beacons, and</li> <li>• other aids to navigation by reference to symbols and abbreviations on the chart.</li> </ul>
			Explains the meaning of the terms used to describe lights.
			Names an official publication which gives details of the sounds made by different types of fog signals.
			Identifies dangers to navigation, defined limits, prohibited areas, sector and leading lights in a specified area.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence	
<b>Voyage Planning and Navigation cont.</b>	<i>Interpretation of Charts and Their Data cont.</i>		Describes and explains the limitations and dangers of Electronic charting systems in current use. (E.g. ECDIS – vector and rasterscan)	
			Describes and demonstrates how to use radio listening watches to obtain weather forecasts, navigation warnings and other information.	
			Demonstrates how to make necessary adjustments to the passage plan on receipt of warnings received by radio broadcasts.	
	<b>2. Ocean Navigation</b>	Approved training and service experience by way of written assessment and oral examination.		Demonstrates general knowledge of the geometry of the earth, great circles and small circles.
				Determines the times of sunrise, sunset, twilight and meridian passage of the sun.
				Finds the compass error and the deviation by calculating the azimuth of the sun or a star from the nautical almanac, appropriate navigation tables and given navigational information.
				Finds the compass error by calculating the amplitude of the sun from the nautical almanac, appropriate navigation tables and given navigation information.
				Calculates the direction of the position line and a position through which it passes from an observation of the sun on or out of the meridian or a star out of the meridian.
				Identifies navigational stars of first magnitude, by means of pre computed

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Voyage Planning and Navigation cont.</b>	<i>Ocean Navigation cont.</i>		tables or other devices.
			Plots the ship's position on a given chart by a combination of any two celestial, terrestrial or radio aid position lines with or without a run between them, and assesses the accuracy of the position obtained.
			Uses nautical publications to assess the accuracy of a fix.
			Uses plane sailing formulae or traverse tables to find: <ul style="list-style-type: none"> <li>• the course and distance between two given positions,</li> <li>• the arrival position and ETA, given the courses and distances sailed from the last observed position, and</li> <li>• determines a dead reckoning position or estimated position.</li> </ul>
			Differentiates between rhumb line and great circle sailings.
			Demonstrates knowledge of Mercator charts and how to use them..
	<b>3. Correction of Charts.</b>	Approved training and service experience by way of written assessment and oral examination.	Demonstrates how to make a small correction by reference to Notices to Mariners.
			Demonstrates how to record the execution of a chart correction.
			Describes the action to be taken if previous small corrections have not been made.
			Describes the procedure for noting temporary and preliminary Notices to Mariners.

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<b>Voyage Planning and Navigation cont.</b>			Describes what navigation warnings may be promulgated initially on scheduled radio broadcasts and knows where those schedules are obtained.
	<b>4. Use of Latitude and Longitude Scales.</b>	Approved training and service experience by way of written assessment and oral examination.	Demonstrates how to plot position on a chart, given latitude and longitude.
			Demonstrates how to find the latitude and longitude of a position on the chart.
			Demonstrates how to plot vectors from tidal reference points to illustrate the direction and rate of the tidal streams for each hour of a specified period on a given date, by reference to the tidal stream tables on a chart and tide tables.
			Calculates the ground speed, given the rate of a tidal stream or current flowing in the same direction or in the opposite direction from the vessel's water track.
<b>5. Tides and Clearances.</b>		Demonstrates how to use Volume 3 of the Admiralty Tide Tables to determine the following: <ul style="list-style-type: none"> <li>• The times and heights of high and low water at any port.</li> <li>• The height of the tide at a specified time.</li> <li>• The time at which the tide will reach a specified height.</li> <li>• The vertical clearance under any overhead obstruction, given the height of the tide, the vertical clearance of the obstruction above MHWS, and the air draught of the vessel.</li> <li>• The clearance under the keel, given the height of the tide, the charted depth, and the draught of the vessel.</li> <li>• The days of the month when spring and neap tides occur at a specified standard port.</li> </ul>	

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Voyage Planning and Navigation cont.</b>			Uses the appropriate navigational publications to estimate the direction and rate of tidal streams.
	<b>6. Distance and Speed.</b>	Approved training and service experience by way of written assessment and oral examination.	Defines the following terms: <ul style="list-style-type: none"> <li>• log distance,</li> <li>• log speed,</li> <li>• water track speed,</li> <li>• ground distance,</li> <li>• ground track speed,</li> <li>• knot,</li> <li>• drift and</li> <li>• rate.</li> </ul>
			Demonstrates how to measures distance on charts.
			Describes the functions and limitations of mechanical and electrical logs.
	Demonstrates how to solves time, speed and distance problems		
<b>7. Direction.</b>	Explains the meaning of the following terms and demonstrates the procedure for obtaining: <ul style="list-style-type: none"> <li>• The course, course to steer, heading, water track and ground track of a vessel.</li> <li>• The bearing of one object from another.</li> <li>• The relative bearing of an object from a ship.</li> <li>• The set of a tidal stream or current.</li> <li>• The leeway angle.</li> </ul>		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Voyage Planning and Navigation cont.</b>			Demonstrates how to obtain true directions from the chart
			Demonstrates how to plot true directions on the chart.
			Explains the common symbol (R) and how it is used to denote a relative bearing.
			Demonstrates how to calculate true bearing, given relative bearing and the ship's head.
	8. Terrestrial Observation for position fixing and coastal.	Approved training and service experience by way of written assessment and oral examination.	Explains the meaning of the following terms :
			<ul style="list-style-type: none"> <li>• Geographical range,</li> <li>• Raising a light,</li> <li>• Luminous range, and</li> <li>• Nominal range.</li> </ul>
			Demonstrates how to determine the geographical range of a specified light, given the observer's height of eye, chart or list of lights, geographical range table or formula.
			Demonstrates how to determine the luminous range of a specified light given the meteorological visibility and a luminous range diagram.
			Demonstrates how to determine if a specified light will be visible given the height of the observer's eye, the meteorological visibility and the observer's position.
			Determines the time, range and the compass bearings at which lights will dip or be raised given the height of the observer's eye, the meteorological visibility and the observer's position, course and speed.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Voyage Planning and Navigation cont.</b>	<b>9.</b> Apply Celestial Body Observations.		Demonstrates how to use a Sextant.
			Demonstrates how to complete sight reductions.
			Demonstrates how to obtain and plot position lines.
	<b>10.</b> Plan and Track Voyage	Approved training and service experience by way of written assessment and oral examination.	Explains the principles of passage planning.
			Demonstrates how to plan and track for the following scenarios: <ul style="list-style-type: none"> <li>• Area affected by tides,</li> <li>• restricted waters,</li> <li>• restricted visibility,</li> <li>• traffic separation schemes, and</li> <li>• ice.</li> </ul>
			Demonstrates the ability to select, plot and justify safe tracks between two specified places, given characteristics of the vessel, approximate date and time of departure and appropriate charts and tide tables.
			Defines the meaning of the following terms: <ul style="list-style-type: none"> <li>• Dead reckoning position,</li> <li>• estimated position, and</li> <li>• track made good.</li> </ul>
Identifies the following symbols and uses the abbreviations for: <ul style="list-style-type: none"> <li>• dead reckoning position,</li> <li>• estimated position, and</li> </ul>			

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<b>Voyage Planning and Navigation cont.</b>	<i>Plan and Track Voyage cont.</i>		<ul style="list-style-type: none"> <li>• fix.</li> </ul> <p>Describe and explain all the factors, which affect the movement of a vessel over the ground, and the means by which they may be measured or estimated.</p> <p>Given the compass course steered, log speed or log distance, any alteration of speed or course, the departure position, the time and the direction and rate of the tidal stream and/or current and leeway;</p> <p>Demonstrates by plotting, the ability to find:</p> <ul style="list-style-type: none"> <li>• The dead reckoning or estimated position at a specified time.</li> <li>• The time at which a specified position will be reached.</li> <li>• The compass bearing and distance off a specified position at a specified time.</li> </ul> <p>Demonstrates the ability to determine by reference to a sequence of 2 or more timed fixes:</p> <p>The ground distance, ground speed and ground track made good.</p> <p>The EP at a specified time, by extending the ground track.</p> <p>The time at which a specified position will be reached.</p> <p>The distance the ground track passes off a specified position given that the course steered, log speed, wind direction and strength and set and drift of the tidal stream remain unchanged.</p> <p>The true rate and direction of a current or tidal stream.</p>
			<b>11. Vessel Positioning.</b>

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<b>Voyage Planning and Navigation cont.</b>	<i>Vessel Positioning cont.</i>	way of written assessment and oral examination.	intervals.
			Describes the practical procedure required to obtain the following: Compass, relative and transit bearings of terrestrial objects by visual and radar observations. Ranges by radar observations. The geographical range of a coastal light.
			Demonstrates how to fix position by plotting position lines given the data obtained by the methods listed above.
			Demonstrates how to obtain the position on the second position line given compass bearings of one or more objects with the water track between, allowing for tidal stream or current and/or leeway.
			Explain all the factors that determine the reliability and accuracy of position lines obtained by the methods above.
			Demonstrate how to assess and comment on the reliability of a fix obtained by a specific set of observations.
			<b>12. The Relationship Between Compass, Magnetic True and Relative</b>
	Demonstrates how to find and apply deviation and variation to compass courses to obtain the true courses to the nearest degree.		

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<b>Voyage Planning and Navigation cont.</b>	Directions.		Demonstrates how to find true bearings given compass or relative bearings and the ship's head.
			Demonstrates how to apply variation to convert true directions to magnetic and vice versa.
	<b>13.</b> Course to Steer and Distance Between Positions.	Approved training and service experience by way of written assessment and oral examination.	Demonstrates how to plot the ground track between 2 positions and finds the true, magnetic and compass courses and ground track distance between them.
			Demonstrates how to determine the time required completing a passage between 2 or more specified positions given the water track speed.
			Demonstrates how to find the compass course to steer between 2 positions and the time taken in order to make good the ground track between them allowing for tidal stream or current and/or leeway.
	<b>14.</b> Uses Notices to Mariner and other publications to assess accuracy of position.		Describe the uses and limitations of echo soundings as an aid to establishing the position of the vessel.
			Demonstrates understanding of the publications available and, in general terms, the information available for planning a safe passage.
			Demonstrates the ability to make necessary adjustments to the passage plan on receipt of warnings received by radio broadcasts.
			Demonstrates how to select charts for a passage
			Demonstrates understanding of the requirements of Maritime Rule Part 25 that are applicable to coastal ships and fishing vessels.

## Function: Magnetic and Gyro Compass

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Use of Magnetic and Gyro Compass.</b>	1. Use of the compass .	Approved training and service experience by way of written assessment and oral examination.	Demonstrates how to use the marine compass to take bearings and state the bearings relative to compass north and the ship's head.
			Demonstrate how to steer a compass course.
			Demonstrate how to maintain a compass course.
	2. Ferro-magnetic materials.		Explains the precautions required with regard to Ferro-magnetic materials when using a magnetic compass.
			Identifies materials and equipment commonly found on vessels, those, which may disturb a magnetic compass.
	3. Handheld Compass.		Identifies and explains the advantages and limitations of a hand held compass.
4. Gyro compass		Explains the precautions required when using a gyro compass with regard to comparison with the magnetic compass course.	
		Explains that there is a gyro compass error caused by course, latitude and speed of the ship, and knows how to make the necessary corrections.	
		Describes the gyro repeater, and discuss the initial setting and accuracy	

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Use of Magnetic and Gyro Compass cont.</b>	<i>Gyro compass cont. .</i>	Approved training and service experience by way of written assessment and oral examination.	checks.
			Explains that repeaters relay heading information to bridge instruments such as radar, automatic helmsmen, course recorders, etc.
			Describes how to take a bearing to check for gyro error, and how to name and apply the error.
			Determines the error of the gyro compass, using terrestrial observations.
	5. Reliance on automatic pilot.		Explains the consequences of relying on automatic pilot with regard to fatigue. Explains the consequences of relying on automatic pilot with regard to accuracy of course.
	6. Use of Automatic pilot.		Explains the circumstances under which an automatic pilot should not be used. Demonstrates understanding of the care, use and operation of an automatic pilot Describes the switching in of an automatic pilot and the setting of the weather and helm controls
	7. Identify the components of the magnetic compass and how to		Demonstrates a practical ability to safely and efficiently use and care for the magnetic compass
			Describes the issues that electrical equipment, magnets, iron and steel objects can cause with magnetic compasses and is demonstrates awareness

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Use of Magnetic and Gyro Compass cont.</b>	maintain them.		of the need to keep such instruments and materials away from the compass
			Identifies component parts of a typical liquid magnetic compass, binnacle, and associated equipment, carried by deep sea fishing vessels.
			Describes the causes, effects and symptoms of common faults.
			Describes the precautions and maintenance necessary to minimise the occurrence of faults.
			Explains what action to take when faults are detected.
			Describes how the magnetic compass is enabled to point constantly in a fixed direction and name this direction.
	<b>8. Compass Rule</b>	Approved training and service experience by way of written assessment and oral examination.	Demonstrates knowledge and understanding of the Rule that specify the statutory requirements for compasses on coastal vessels.
	<b>9. Variation, Deviation and Compass Error.</b>		Explains the conditions on board when the deviations in the Table of Deviations are correct.  Defines and explains the cause variation.  Explains the meaning of the term 'local magnetic anomaly'.
	<b>10. Variation, Deviation and Compass Error</b>		Demonstrates how to obtain the value of the variation to the nearest degree from the chart or from the diagram in the New Zealand Nautical Almanac given the vessel's position and the date.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Use of Magnetic and Gyro Compass cont.</b>	<i>Variation, Deviation and Compass Error cont.</i>		Determines the error of the magnetic compass using terrestrial observations.
		Approved training and service experience by way of written assessment and oral examination	Describes the principle and use of off course-alarms and one-man watch alarms.
			Understands the basic principles, describes the main features and appreciates the causes of error, in a flux gate compass.
			Identifies and explains the general causes, including heeling error, of change in a vessel's deviation.
			Identifies and explains the precautions to be taken when navigating in an area where local magnetic anomalies exist.
			Defines and describes the causes of deviation and explains why it changes
			Describes why it is necessary to check the compass error frequently.
			<p>Demonstrates the practical procedures for obtaining bearings to find the compass error and deviation.</p> <p>Demonstrates how to Find the error of the compass and deviation for the vessel's heading given:</p> <ul style="list-style-type: none"> <li>• The compass bearing of 2 points in transit.</li> <li>• The compass bearing of a distant object from a known position.</li> <li>• The compass bearing of the Sun when rising or setting.</li> <li>• The latitude of the observer, the date and the amplitude tables.</li> </ul>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Use of Magnetic and Gyro Compass cont.</b>	<i>Variation, Deviation and Compass Error cont.</i>	Approved training and service experience by way of written assessment and oral examination..	Demonstrate how to construct a table of deviations given a series of compass bearings of a distant object on equidistant headings.
			Demonstrate how to construct a curve of deviations from a table of deviations.

## Function: Electronic Navigation Equipment

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p><b>Use of electronic navigational equipment for positioning.</b></p>	<p>1. Operate electronic navigational equipment</p>	<p>Approved training and service experience by way of written assessment and oral examination.</p>	<p>Demonstrates the use of the electronic navigational aids. This may include but is not limited to:</p> <ul style="list-style-type: none"> <li>• Track Plotters, and</li> <li>• Electronic Chart Digital Information Systems (ECDIS) and Electronic Chart Systems (ECS) as provided in fishing vessels</li> </ul> <p>Describes specific reference to operating principles, limitations, sources of error, detection of misrepresentation of information, and methods of correction to obtain accurate position fixes.</p>
			<p>Demonstrates the ability to make datum adjustments to satellite derived positions using charted information.</p>
			<p>Explains the dangers of relying on GPS position fixing alone when secondary methods such as visual observations, radar, and echo sounder are available to verify the vessel's position.</p>
			<p>Determines the ship's position using current electronic navigation aids, receivers and display systems found in Deep Sea Fishing Vessels. Determine the expected accuracy of these positions. Explains sources and causes of errors, corrections and expected accuracy, and coverage areas.</p>
			<p>Describes the usefulness of electronic aids in oceanic, landfall, coastal, and harbour approach navigation.</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Use of electronic navigational equipment for positioning. cont.</b>			Explains the way that Track Plotters present navigation information.
			Explains that some Track Plotters does not display the accuracy of the position fix and that over reliance on Track Plotter information can lead to errors in own ship's positioning.
			Explains the limitations of ECDIS and ECS with regard to accuracy and chart correction options.
	<b>2. Operates Satellite Navigation Systems</b>	Approved training and service experience by way of written assessment and oral examination.	Describes the GPS Satellite system, the GPS satellite orbits, and explains how a GPS satellite fix is obtained.
			Describes the areas of coverage and the effect that dilution of precision has on fix accuracy.
			Explains that Differential GPS gives improved positional accuracy.
			Demonstrate how to set up GPS equipment according to instructions in the operator's manual, obtains and correctly interprets the information displayed, plots the information produced on a navigation chart and checks the integrity and any ambiguity.
			Explains the degradation of precision concept, and the capability of the system.
			Explains the reasons for datum adjustments, and how they are achieved.
			Describes the information transmitted by a GPS Satellite.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Use of electronic navigational equipment for positioning. cont.</b>	<i>Operates Satellite Navigation Systems cont.</i>		Demonstrates how to Obtain a fix using GPS equipment.
			Understands the Russian GLONASS system, the GLONASS satellite orbits and system accuracy
<b>Echo Sounders</b>	Operates and maintains echo sounders.	Approved training and service experience by way of written assessment and oral examination.	Demonstrates how to care and use of echo sounders, including the starting and operational procedures and instrumental errors.
			Describes the basic principles of an ultrasonic marine echo sounder.
			Demonstrates how to operate the echo sounding equipment according to the instructions laid down in the operating manual, and an ability to carry out user maintenance.
			States the accepted value of the velocity of sound in seawater.
			Explains the difference between range and phase, and demonstrates an awareness of the dangers of using the wrong phase.
			Explains the differences between inaccuracies caused by instrument and scale error, and those caused by "false echoes".
			Explains the causes of inaccuracies due to instrument or scale error, states their likely magnitude, and describe measures that may be taken to eliminate them.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Echo Sounders cont.</b>	<i>Operates and maintains echo sounder cont.</i>	Approved training and service experience by way of written assessment and oral examination.	States the various types of false echoes, describes their formation, and states the possible action to remove them from the trace.
			Describes the circumstances in which aeration or cavitation is likely to degrade the performance of the echo sounder device.
			Explains why dry-docking procedures may affect the echo sounder.
			Describes the errors that may result from incorrect motor speed, second trace returns from deep water, false echoes, aeration, incorrect draught allowance and misalignment of the zero setting.

## Function: Radar Navigation

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate Radar.	1. Performance.	Approved training and service experience by way of written assessment and oral examination.	Identified the factors affecting the performance and accuracy of the radar being used
	2. Using the radar and interpreting the data received from the radar.		<p>Demonstrates how to set up the radar and maintain the displays.</p> <p>Identifies misrepresentations of information such as false echoes and sea return</p> <p>Identifies critical echoes.</p> <p>Demonstrates how to establish the range and bearing of a radar target.</p>
	3. Using radar for collision avoidance.		<p>Demonstrate how to establish the course and speed of other ships.</p> <p>Determines the time and distance of closest approach of the following:</p> <ul style="list-style-type: none"> <li>• crossing ships,</li> <li>• meeting ships, and</li> <li>• overtaking ships.</li> </ul> <p>Demonstrate how to detect when other ships change course and or speed.</p> <p>Demonstrates how to identify the effect of changes in own vessel's course and or speed.</p>

## Function: Watch Keeping

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Watchkeeping.</b>	<b>1.</b> Safe watchkeeping practices.	Approved training and service experience by way of written assessment and oral examination.	Describes the following safe watchkeeping practices: <ul style="list-style-type: none"> <li>• watchkeepers to be experienced and capable,</li> <li>• precautions to be taken against fatigue,</li> <li>• number of watchkeepers to be increased at critical times,</li> <li>• auto pilot to have a frequent re-set alarm</li> <li>• radar to be used in addition to and not instead of a visual lookout, and</li> <li>• the hazards associated with 'divided command'.</li> </ul>
	<b>2.</b> Buoys and Beacons.		Identifies the buoys and beacons of IALA System "A" by day or night and describes the appropriate action to take on encountering them.
	<b>3.</b> Basic principles for watchkeeping.		Demonstrates how to plan a navigational watch.
			Explains and demonstrates how to maintain a navigational watch.
			Explains and demonstrates how to maintain an anchor watch.
			Demonstrates knowledge of the content of the basic principles to be observed in keeping a navigational watch on board a deep sea fishing vessel, as prescribed in Chapter IV, Regulation 1 Annex to 1995 STCW-F.
<b>International Regulations for the Prevention of</b>	<b>1.</b> International Collision Prevention	Approved training and service experience by way of written	Demonstrates thorough knowledge of the content, application and intent of Maritime Rule Part 22 – Collision Prevention (the International Regulations for Preventing Collisions at Sea 1972; especially Annexes II and IV

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Collision at Sea.</b>	Regulations	assessment and oral examination.	concerned with safe navigation)
	<b>2.</b> Recognise Lights Shapes and Signals for all Classes of Vessels.		Identifies but is not limited to the following: <ul style="list-style-type: none"> <li>• navigation lights,</li> <li>• day shapes,</li> <li>• fishing vessels,</li> <li>• fog signals and</li> <li>• power driven vessels</li> </ul>
	<b>3.</b> Recognise Sound Signals for all Classes of Vessels.		Identifies the maneuvering and sound signals and when to use them.
	<b>4.</b> Margins of safety.		Explains the procedure for keeping a proper lookout in order to maintain a margin of safety between own vessel and other traffic.
<b>Collision prevention Actions.</b>	Risk of Collision.		Describes the procedures for determining if a risk of collision exists.
			States the correct action to take, by day or night, in any visibility to avoid collision in any case.
			Demonstrates ability to identify risk of collision using: <ul style="list-style-type: none"> <li>• compass bearings,</li> <li>• visually, and</li> <li>• by radar.</li> </ul>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Collision prevention Actions cont.</b>	<i>Risk of Collision cont</i>	Approved training and service experience by way of written assessment and oral examination.	Describes the precautions to take in poor visibility with regard to : <ul style="list-style-type: none"> <li>• Speed,</li> <li>• Radar,</li> <li>• Autopilot,</li> <li>• Fog signals,</li> <li>• Navigation light,</li> <li>• Lookout, and</li> <li>• Echo sounder</li> </ul>
			Demonstrates the ability to assess the likelihood of collision with an approaching vessel and describes the appropriate action to take in poor visibility from a relative motion radar plot.

## Function: Fishing Power Plant and General Engineering

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Engineering.</b>	1. Power Plants.	Approved training and service experience by way of written assessment and oral examination.	Describes the general operating principles and use of marine power plants in vessels including: <ul style="list-style-type: none"> <li>• auxiliary and emergency machinery,</li> <li>• marine engineering terms,</li> <li>• control systems,</li> <li>• main propulsion and drive systems,</li> <li>• steering systems,</li> <li>• deck machinery, and</li> <li>• bilge pumping systems.</li> </ul>
	2. Associated dangers.		Describes the dangers associated with refrigerants, flammable gases, petroleum products, asbestos, cleaning materials, including organochlorides used on fishing vessels and knows the stowage and other precautions to take in order to minimise these dangers.

**Function: Meteorology**

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Meteorology</b>	1. Obtain and apply meteorological information	Approved training and service experience by way of written assessment and oral examination.	Identifies weather conditions that are liable to damage the vessel.
			Demonstrates how to use the ship borne meteorological instruments.
			Finds the time and radio telephone frequencies of scheduled marine weather broadcasts by reference to the New Zealand Almanac.
			Explains the meaning of the terms used in marine weather broadcasts.
			Identifies the following on a sample New Zealand Meteorological MSL Analysis map: <ul style="list-style-type: none"> <li>• Depressions, anticyclones, tropical depressions, ridges, troughs.</li> <li>• Warm, cold, stationary and occluded fronts.</li> </ul>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Meteorology cont.</b>			Identifies and gives a basic description of the following on a sample New Zealand Meteorological MSL Analysis map, given a specified time and location, or coastal forecast area: <ul style="list-style-type: none"> <li>• The approximate strength and direction of the wind.</li> <li>• The sea state.</li> <li>• The approximate barometric pressure and pressure tendency.</li> <li>• The predominant cloud type.</li> <li>• The likelihood of precipitation.</li> <li>• The likelihood of reduced visibility.</li> </ul>
	<b>2. Pressure Distribution – General.</b>	Approved training and service experience by way of written assessment and oral examination.	Illustrates, using suitable sketches, the pressure distribution over an ideal Earth.
			Explains the pressure variations introduced by land mass distribution and surface heating.
			Identifies the approximate position and seasonal variation of wind belts.
	<b>3. Air Masses.</b>		Explains the characteristics that distinguish one air mass from another.
			Explains that the air masses, which affect New Zealand, have their sources in the tropical, polar and other distant regions.
			Defines a front, and recognizes the signs indicating its approach.
			Describes the difference between a warm front, a cold front and an occluded front, and knows the weather associated with the passage of each.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence	
<b>Meteorology cont.</b>	<b>4.</b> Pressure Distribution - Temperate Latitudes.		Describes the isobaric patterns and weather associated with high-pressure systems, low-pressure systems, ridges and troughs.	
			Explains the development of lows and troughs, convergence, rising air, cloud and precipitation.	
			Explains the development of highs and ridges, divergence, descending air and warming.	
	<b>5.</b> Winds and Currents.	Approved training and service experience by way of written assessment and oral examination.		Explains the relationship between wind speed at the surface and pressure gradient.
				States the causes and seasonal variations of the prevailing winds and currents, in the Pacific.
				Demonstrates how to identify the direction, rates and geographical extent of the prevailing winds and currents in the Pacific, on a given chart.
				Explains the differences between land and sea breezes.
				Explains the development and effect of katabatic winds.
	<b>6.</b> Tropical Revolving Storms.			Describes the warning signs of tropical revolving storms, and indicates the correct action to take to avoid storm centers and the dangerous quadrant.
				Identifies the weather associated with tropical revolving storms.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Meteorology cont.</b>			Explains the season, area of origins, typical tracks and warning signs of tropical revolving storms.
	7. Weather Forecasts.	Approved training and service experience by way of written assessment and oral examination.	Demonstrates and explains how to obtain meteorological information available to shipping from official sources.
	8. Weather Forecasts.		Identifies the areas included in ocean, coastal and harbour marine forecasts, and outlines their general contents.
			Describes the content of gale warnings and marine weather forecasts, and the means used to broadcast them.
			Demonstrates how to use meteorological information available.
			Interprets a sample MSL Analysis map, and states the following for a specified time and location or coastal forecast area: <ul style="list-style-type: none"> <li>• The approximate direction and strength of the wind.</li> <li>• The sea state.</li> <li>• The approximate barometric pressure and pressure tendency.</li> <li>• The direction and state of the swell.</li> <li>• The likelihood of precipitation.</li> <li>• The visibility.</li> </ul>
	9. Fog and Ice.		Describes the warning signs and dangers associated with fog and ice.
		Describes the formation of advection, radiation, frontal fog and sea smoke.	

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Meteorology cont.</b>			Describes the factors that cause ice accretion, its dangers and the means of avoidance.
	<b>10. Weather Routing.</b>	Approved training and service experience by way of written assessment and oral examination.	Identifies the points to consider, and the publications to consult, when selecting the most appropriate route to and from distant fishing grounds, with regard to weather and currents.

## Function: Fishing Vessel Manoeuvring and Handling.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Theory of manoeuvring and handling of a fishing vessel.</b>	<b>1.</b> Manoeuvring in shallow water.	Approved training and service experience by way of written assessment and oral examination.	Describes what considerations should be taken when manoeuvring in shallow water. Should include but is not limited to keel clearance due to the effects of rolling and pitching.
	<b>2.</b> Berthing, unberthing and manoeuvring alongside other vessels.		Identifies the requirements for berthing and unberthing under various conditions of wind and tide, with and without tugs.
			Identifies the requirements for manoeuvring alongside other vessels under various conditions of wind and tide, with and without tugs.
	<b>3.</b> Anchoring.		Explains and describes choice of anchorage.
			Explains and describes anchoring with one or two anchors. Should include: <ul style="list-style-type: none"> <li>• limited anchorage, and</li> <li>• factors involved with determining the length of anchor cable to be used.</li> </ul>
			Explains what is meant by the following with regard anchors and the actions that should be taken: <ul style="list-style-type: none"> <li>• dragging,</li> <li>• fouling, and</li> <li>• clearing.</li> </ul>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Theory of manoeuvring and handling of a fishing vessel cont.</b>	4. Dry Docking.	Approved training and service experience by way of written assessment and oral examination.	Explains and describes dry docking of a fishing vessel with and without damage.
	5. Handling of a Fishing Vessel.		<p>Describes the principles for managing and handling a fishing vessel in heavy weather for the following scenarios:</p> <ul style="list-style-type: none"> <li>• assisting a ship, vessel or aircraft in distress,</li> <li>• towing operations,</li> <li>• means of keeping an unmanageable fishing vessel out of a sea trough,</li> <li>• lessening drift, and</li> <li>• use of oil.</li> </ul>
			Describes the considerations and precautions for manoeuvring the fishing vessels during fishing operations with special regard to factors which could adversely affect the fishing vessel's safety during such operations.
			Demonstrates practical measures to be taken when navigating in ice or in conditions of ice accretion on board the vessel
<b>Manoeuvring and Handling of a Fishing Vessel.</b>	6. Berth, unberth and anchor a fishing vessel.		Demonstrates how to Berth, unberth and anchor a fishing vessel in various conditions of wind and tide.
			Describes how to manage and handle fishing vessels in heavy weather, including appropriate speed, particularly in following and quartering seas
			Describes how to manoeuvre a fishing vessel during fishing operations.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Heavy weather	7. Handling a fishing vessel in heavy weather		Describes precautions to be taken on deck before onset of heavy weather
			Describes precautions to be taken in manoeuvring a fishing vessel for launching boats or life rafts in heavy weather

## Function: Instruments

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Instruments</b>	Care and use of specified instruments.	Approved training and service experience by way of written assessment and oral examination.	Demonstrates how to safely and efficiently use and care for the following instruments: <ul style="list-style-type: none"> <li>• aneroid barometer,</li> <li>• precision aneroid barometer,</li> <li>• barograph,</li> <li>• wet, dry and sea thermometers including the sea water bucket and the Stevenson's screen,</li> <li>• anemometer,</li> <li>• weather facsimile to obtain a surface analysis or prognostic chart,</li> <li>• sextant, including detection and removal of errors,</li> <li>• pelorus, and</li> <li>• azimuth mirror.</li> </ul>

## Function: Fishing Vessel Construction and Deck Equipment

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p><b>Ship Construction</b></p>	<p>1. Principal structural members and stresses</p>	<p>Approved training and service experience by way of written assessment and oral examination.</p>	<p>Identifies the principal structural members of a deep sea fishing vessel, and describe the plate and frame numbering system and the proper names for various parts</p>
			<p>Describes and identifies the principal stresses to a ship's structure at sea and discharging operations. Should include the following:</p> <ul style="list-style-type: none"> <li>• Longitudinal, transverse and local stresses within a vessel and</li> <li>• stresses imposed by the loading of fish and ballast.</li> </ul>
			<p>Demonstrate how to read and interpret shipboard plans, which include the general arrangement, pumping and piping and shell expansion.</p>
			<p>Describes and makes simple sketches of hatch and tank closing arrangements. Has a general knowledge of the testing of tanks and other watertight work.</p>
			<p>Explains the significance of weather tight and watertight integrity in the hull and openings, and how these are maintained.</p>
			<p>Describes the arrangements for restricting the spread of fire on board a fishing vessel.</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p><b>Ship Construction cont.</b></p>	<p><i>Principal structural members and stresses cont.</i></p>	<p>Approved training and service experience by way of written assessment and oral examination.</p>	<p>Explains the causes and effects and means of compensating for the following stresses:</p> <ul style="list-style-type: none"> <li>• hogging,</li> <li>• sagging,</li> <li>• racking, and</li> <li>• panting and pounding.</li> </ul>
			<p>Describes how to stabilising devices including:</p> <ul style="list-style-type: none"> <li>• ballast tanks,</li> <li>• flume tanks, and</li> <li>• roll reducing devices.</li> </ul>
			<p>Explains the effect of welding and burning on a vessel's structure. Appreciates the precautions to be taken when such processes are carried out on board a vessel.</p>
			<p>Explains the impact of corrosion in a ship's structure, its causes, effects and control.</p>
			<p>Demonstrates knowledge of dry-docking procedures, and repairs and maintenance of commonly used materials.</p>
			<p>Identifies the functions of classification societies.</p>
			<p>Describes the procedure of surveys, including the purpose and extent of hull, load line, equipment, machinery and classification surveys.</p>
	<p><b>2. Fishing vessel deck equipment</b></p>		<p>Identifies and demonstrate understanding of the construction, application and purpose of each of the following pieces of deck equipment on fishing vessels.</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Ship Construction cont.</b>	<i>Fishing vessel deck equipment cont.</i>		Equipment should include but is not limited to: <ul style="list-style-type: none"> <li>• Trawl gallows and trawl doors,</li> <li>• Gantries,</li> <li>• Bollards,</li> <li>• Blocks (including power blocks, pursing blocks and snatch blocks),</li> <li>• Winches and booms,</li> <li>• Derricks,</li> <li>• Net drums and side rollers including monofilament surface long line drums,</li> <li>• Line and trap haulers,</li> <li>• Windlasses, surge drums and capstans,</li> <li>• Freeing ports,</li> <li>• Sea anchors, and</li> <li>• Hydraulic cranes.</li> </ul>
	<b>3.</b> Operation of deck equipment.	Approved training and service experience by way of written assessment and oral examination.	Explains precautions, where applicable, to be taken when operating each piece of deck equipment.
	<b>4.</b> Maintenance		Describes the processes required to maintain each piece of deck equipment.
	<b>5.</b> Lifting and Hauling Gear.		Identifies the components of a single derrick rig and a Hiab crane.
	Describes the operating principles and dangers of transferring loads by means of a swinging derrick, Hiab or other commonly used hydraulic cranes.		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p><b>Ship Construction cont.</b></p>	<p><i>Lifting and Hauling Gear cont.</i></p>	<p>Approved training and service experience by way of written assessment and oral examination.</p>	<p>Identifies and explains the common causes of damage to gear and gear failure.</p>
			<p>Identifies and describes the routine checks that should be made prior to and during operation of a single derrick rig, Hiab or other commonly used hydraulic crane.</p>
			<p>Describes the procedures for the safe operation of winches and associated lifting and hauling gear. Identifies examples of unsafe practices with winches, lifting and hauling gear.</p>
			<p>Identifies the Rules or Regulations, which apply to the use of cargo and lifting gear and know that they require the following:  No gear, or gear that has been repaired is to be used for working cargo unless a Certificate of Test has been issued, and certificates to be kept on board.</p>
			<p>Cargo gear to be permanently marked with its SWL and identification.  Cargo gear to be inspected at intervals of no longer than 1 year to ensure that the item and its component parts are safe for use, in efficient working order, and capable of fulfilling its purpose.</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Ship Construction cont.</b>	<i>Lifting and Hauling Gear cont.</i>	Approved training and service experience by way of written assessment and oral examination	Cargo gear to be maintained in good order and condition, and when any dimension of a component is reduced by 10% or more it must be replaced.
			Splices in a wire rope to have 5 tucks against the lay, or to be made by an equally effective method that satisfies a Port Safety Inspector or Surveyor.  No knots in wire ropes or chains.  Wire ropes with more than 5% of the wire broken in any length of ten times its diameter, or with any excessive wear, corrosion or defect not to be used for cargo work.
			Nuts or pins in blocks and shackles to be so designed that they prevent accidental release.  Maintenance of a Register of Cargo Gear.
			Describes safe practices when slinging loads.

## Function: Stability

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Transverse stability</b>	Stability terminology and meanings	Approved training and service experience by way of written assessment and oral examination.	<p>Explains the meaning of the following terms;</p> <ul style="list-style-type: none"> <li>• centre of gravity</li> <li>• centre of buoyancy</li> <li>• metacentric height</li> <li>• righting lever</li> <li>• period of roll</li> <li>• displacement</li> <li>• tonnes per centimetre immersion</li> <li>• freeboard</li> <li>• reserve buoyancy</li> <li>• watertight integrity</li> <li>• list</li> <li>• trim</li> <li>• heel</li> </ul>
			Describes the effect on stability of freely suspended weights.
			Demonstrates how to use stability data, stability and trim tables, pre-calculated operating conditions
			Describes use of information contained in a vessel's stability information book

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Transverse stability cont.</b>	<i>Stability terminology and meanings cont.</i>	Approved training and service experience by way of written assessment and oral examination.	to determine metacentric height, mean draft and angle of vanishing stability.
			Determines the initial metacentric height for different conditions of loading and ballasting, allowing for the effects of free surface, from stability data.
			Determines, by using given stability data, the change of draught and trim if a weight on board is moved or a large catch is landed on deck.
			Demonstrates an understanding of the factors affecting stability by means of simple calculations concerning displacement, deadweight, changes of draft and trim, fuel consumption, adding and removing weights and free surface effect.
			Is able to construct a curve of statical stability, and has full appreciation of the information available from it, including significance of the area under the curve.
			Interprets information displayed on stability computer devices.
			Calculates fuel and fresh water with reference to fuel and water consumption. Uses tank calibration tables.
			Explains the significance of weather tight and watertight integrity in the hull and openings, and their importance as a factor affecting ship stability.
Describes the theories and factors affecting trim and stability, and the measures necessary to preserve safe trim and stability.			

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Transverse stability cont.</b>	<i>Stability terminology and meanings cont.</i>	Approved training and service experience by way of written assessment and oral examination.	Defines good stability and poor stability, and recognises the signs which indicate poor stability.
			Explains the reduction in stability of the vessel when in the listed condition.
			Interprets information displayed on stability computers
			Explains the fundamental action to be taken in the event of partial loss of intact buoyancy.
			Demonstrates how to calculate the effect of a shift, addition or removal of weight on transverse stability, including an understanding of the effects upon stability during loading and discharging operations including heeling moments from gear and loads.
			Explains the consequences of changes of draught and trim on the operation and handling qualities of a deep sea fishing boat.
			Describes the effects of free surface and ice accretion.
			Explains the presence and dangers of negative GM and angle of loll.
			Explains how stability is affected when taking the blocks of a dry dock or the cradle of a patent slip.
			Demonstrates how to calculate the stability at the time of taking the blocks fore and aft.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b><i>Transverse stability cont.</i></b>	<i>Stability terminology and meanings cont.</i>	Approved training and service experience by way of written assessment and oral examination.	<p>Describes the precautions to take regarding movement of weights when on the slip or in dry dock.</p> <p>Explains why it is necessary to correctly distribute weights, prior to entering a dock or before slipping.</p>

## Function: Catch Handling and Stowage

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Catch handling and stowage.</b>	The effects of catch handling and stowage	Approved training and service experience by way of written assessment and oral examination.	Describes the precautions to be taken on deck when shooting, hauling or towing the trawl
			Describes the safe handling, stowing, securing and storing the catch from the time it comes aboard to the time it is landed ashore, and the effect of these upon the safety of the vessel (regard should be had to the methods of holding the catch in slurry tanks, use of pond boards divisions, bulk ice stowage etc)
			Describes how to stow and secure catch and fishing gear on board a vessel.
			Describes the procedure of transferring catch at sea to other vessels.
			Explains loading and discharging operations, with special regard to heeling moments from gear and catch.
			Describes rigging purchases and the power gained by their use, including the stresses and loads on gear.
			Demonstrates how to determine the safe working load on a wire or rope.

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Catch handling and stowage cont.</b>	<i>The effects of catch handling and stowage cont.</i>	Approved training and service experience by way of written assessment and oral examination.	Describes the signs of deterioration in wire ropes, blocks, shackles and other items of fishing and cargo gear, and the need to replace such gear
			Draws diagrams of purchases containing multi-sheave blocks, and finds, by appropriate formulae, the maximum weight that the system will lift.

## Function: Fire Prevention and Fire Fighting

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Fire Prevention.</b>	1. Main Causes of Fire.	Approved training and service experience by way of written assessment and oral examination.	States the main causes of fires on board vessels.
	2. Main Elements of Fire and Explosion.		States the three main elements of fire and explosion.
<b>Fire Safety Procedures.</b>	Firefighting equipment.		<p>Describes the following:</p> <ul style="list-style-type: none"> <li>• The appropriate action to take on finding a fire on board,</li> <li>• where to direct a jet of foam to extinguish an oil fire,</li> <li>• the correct extinguisher to use on each type of fire,</li> <li>• the location of Fire Fighting Appliances on board, and</li> <li>• the appropriate action to be taken after a fire.</li> </ul> <p>Describes fire safety procedures and the use of portable and fixed fire-fighting equipment.</p> <p>Identifies the rule requirements for fire fighting equipment for unlimited fishing vessels.</p> <p>Demonstrates how to organise and conduct fire drills.</p>

## Function: Personal Safety

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Personal Safety.</b>	1. Protective Clothing.	Approved training and service experience by way of written assessment and oral examination.	Identifies protective clothing and circumstances in which it should be used.
	2. Hazard Identification.		Identifies the hazards of refrigerant gases and precautions to take. Identifies hazard areas on deck and precautions to take.
	3. Working Conditions		Describes the following adverse effects which influence work practices: <ul style="list-style-type: none"> <li>• Isolation,</li> <li>• dependence on each other, and</li> <li>• Discomfort.</li> </ul>
			Identifies and explains the items listed in the appropriate sections of the FAO/ILO/IMO Code of Safety for Fishermen and Fishing Vessels, Part A, and in chapter VIII of the annex to the 1993 Torremolinos Protocol.
	4. First Aid..		Describes strategies to overcome each adverse effect. Demonstrates first aid procedures.
<b>Vessel Safety.</b>	1. Vessel Movement.	Describes the danger caused by the vessels movement and accelerations and the precautions that can be applied in differing situations.	

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	2. Slippery Surfaces.		Describes the danger of slippery surfaces on board a vessel and the precautions that should be taken when working on slippery surfaces.
	3. Fishing Operations.		Describes some of the dangers associate with fishing operations. This may include but is not limited to the following: Shooting fishing gear into the water, towing the trawl, hauling the fishing gear, and landing the catch on board.
<b>Cleanliness.</b>	1. Personal Hygiene.	Approved training and service experience by way of written assessment and oral examination..	Explains the procedures and reasons for maintaining personal hygiene.
	2. Vessel Cleanliness.		Explains the procedures and reasons for maintaining boat cleanliness.
<b>Legislation</b>	Health and Safety in Employment Act 1992		Explains New Zealand legislation concerning health and safety of seafarers, duties of employers in relation to hazards, information, training and supervision, and duties of the crew in relation to accidents and incidents in accordance with the Health and Safety in Employment Act 1992

## Function: Emergency Procedures

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Emergency equipment</b>	Lifesaving and fire fighting equipment	Approved training and service experience by way of written assessment and oral examination.	Describes the various types of lifesaving and fire fighting equipment carried aboard deep sea fishing vessels and knows how to use them
<b>Responses to Emergency Situations.</b>	1. Beaching .		Describes the precautions to be taken when beaching a vessel.
	2. Grounding.		Identifies the actions to be taken prior to and after grounding.
	3. Gear becoming fast		Describes the action to be taken when the gear becomes fast to the ground or other obstruction.
	4. Re-floating a grounded vessel.		Describes the process for floating grounded vessel, with and without assistance.
	5. Collision.		Describes the appropriate actions to be taken after a collision.
	6. Watertight integrity		Describes how to plug leaks using appropriate procedures.
	7. Contingency planning.		Describes the pumps that should be used, and pumping arrangements that should be made, in the event of damage to the hull below the waterline
		Describes how to prepare a contingency plans for the protection and safety of fishing vessel personnel in emergencies.	
		Demonstrates the ability to follow emergency procedures specified in the vessel's contingency plan.	

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence		
			Describes the measure to be taken to prevent falling or being swept overboard.		
			Describes the relevant emergency situation duties and responsibilities.		
			Demonstrates how to organise and conduct emergency drills including abandon ship and fire.		
	<b>8. Limiting damage and salvaging.</b>	Approved training and service experience by way of written assessment and oral examination.		Describes the procedures for limiting damage and salvaging the vessel following a fire or explosion.	
				<b>9. Abandon Ship.</b>	Describes the procedures to be followed in abandoning the fishing vessel.
				<b>10. Emergency Steering Arrangements.</b>	Describes the actions to be taken in the event of loss of the rudder or propeller, including emergency steering, rigging and use of jury steering and the means of rigging a jury rudder, where practicable
				<b>Assistance in Emergency Situations.</b>	<b>11. Rescuing Persons from a Ship in Distress or Wreck.</b>
Demonstrate how to follow the recommended procedures for rescuing persons from a ship in distress or a wreck.					
Describes the man overboard procedures.					
			Demonstrates how to follow the man overboard procedures.		
			<b>12. Towing.</b>	Describe the procedures for towing and being towed.	
			Demonstrates how to apply the procedures for towing and being towed.		

## Function: Medical Care

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Render First Aid to Injured Persons.</b>	1. Basic First Aid.	Approved training and service experience by way of written assessment and oral examination.	Demonstrates how to apply first aid.
	2. Medical Advice.		Describes the procedure for obtaining medical advice by radio.
	3. International Medical Guide for Ships.		Demonstrates ability to use and interpret information from the International Medical Guide for Ships or its equivalent publications.
	4. International Code of Signals.		Demonstrates how to use the medical section of the International Code of Signals.

**Function: Casualty Reporting**

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Accident Reporting.</b>	Casualty Report Forms.	Approved training and service experience by way of written assessment and oral examination.	States the range of accidents specified in the current legislation which must be reported to Maritime New Zealand on a Casualty Report Form.
			Identifies and explains the information, which must be gathered and recorded at the time of any accident, specified in current legislation, and which may be required to complete an accident report.
			Identifies and explains the procedures, specified in the current legislation, with respect to the reporting of accidents.

## Function: Marine Pollution

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Marine Pollution.</b>	Legislation.	Approved training and service experience by way of written assessment and oral examination.	<p>Defines pollution of the marine environment.</p> <p>States that discharge of oil and sewage or disposal of garbage within the 12-mile limit is covered by regulation under the Resource Management Act.</p> <p>States that discharge of oil or disposal of garbage beyond the 12-mile limit is covered by the Maritime Transport Act and Marine Protection Rules.</p> <p>Describes the requirements of Part 170 of the Marine Protection Rules – Prevention of Pollution by Garbage from Ships and Offshore Installations.</p>
<b>Pollution Prevention.</b>	Practical methods pollution prevention and knowledge of MARPOL		<p>Describes the International Convention for the Prevention of Pollution from Ships known as MARPOL as it applies to ships up to 500 gross tonnage and fishing vessels up to 60 metres registered length.</p> <p>Describes the limits and conditions under which plastics, dunnage, packaging materials and other garbage may be disposed of.</p> <p>Identifies and explains methods of dealing with oily water in bilge's and tanks.</p> <p>Identifies and explains practical steps to avoid discharge of oil over side when loading or transferring oil fuel.</p> <p>Describes precautions to be routinely taken to prevent pollution of the marine environment by oil, garbage or other pollutants.</p> <p>Lists and explain the actions to take in the event of an oil spillage or other pollution event.</p>

## Function: Global Maritime Distress and Safety System (GMDSS) and Radio Communications

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>GMDSS.</b>	1. Select Appropriate Services.	Approved training and service experience by way of written assessment and oral examination.	Identifies navigational and meteorological warning systems.
			Demonstrates how to select the appropriate service.
	2. Operate Radio Telecommunications.		Demonstrates how to operate radio communication equipment.
			Demonstrates how to operate radio services in an emergency.
			Describes how to apply search and rescue radio communication procedures.
			Demonstrates how to use the ship reporting system.
			Demonstrate how to apply the radio medical services procedure.
			Describe the measures to protect personnel from radiation hazards.
<b>Visual Signals.</b>	3. International Codes.	Demonstrates how to use the International Code of Signals.	

## Function: Survival Techniques

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Survival response procedures</b>	1. Emergency.	Approved training and service experience by way of written assessment and oral examination.	Describes the procedures to be taken in response to emergencies.
			Identifies all the methods for signaling distress available to the crew of a fishing vessel.
			Describes and demonstrate how to tune an SSB or VHF radio transmitter in order to send a distress signal and correctly repeat the format of a MAYDAY call.
	2. Survival.		Describes personal survival procedures.
			Describes the value of emergency training drills.
<b>Emergency Equipment.</b>	1. Location of emergency equipment.	Identifies the location of the lifesaving equipment.	
	2. Use of Life Jackets and Lifebuoys.	Describes the use of life jackets and lifebuoys and the situations where it is appropriate to use them.	
		Demonstrates how to use life jackets and lifebuoys.	

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Emergency Equipment cont.</b>	<b>3. Use of Flares and Rockets</b>	Approved training and service experience by way of written assessment and oral examination.	Describes the use of flare and rockets and the situations where it is appropriate to use them.
			Demonstrates how to use flares and rockets.
	<b>4. Use of Life Rafts</b>		Describes the use of life rafts and the situations where it is appropriate to use them.
			Identifies the equipment that is to be in a life raft.
			Demonstrates how to use life rafts.

**Function: Search and Rescue.**

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Search and Rescue.</b>	Search and Rescue Procedures.	Approved training and service experience by way of written assessment and oral examination.	Identifies search and rescue procedures specified by the Merchant Ship Search and Rescue Manual (MERSAR) and the International Aeronautical and Maritime Search and Rescue Manual (IMAMSAR Manual).

## Function: Official Log Book

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<b>Official Log Book (OLB).</b>	OLB procedures and entries.	Approved training and service experience by way of written assessment and oral examination.	Identifies which vessels are required to keep an OLB.
			Identifies and explains the required and desirable entries to be made in the OLB.
			Explains the procedure for the delivery and archiving of the OLB.
			Demonstrate knowledge that vessels not required to keep an OLB must maintain proper records under Maritime Rules Parts 19 and 44