

Safe Boating in Qld Workbook 3th Edition

MSQ Syllabus match

Subject matter, suggested learning experiences and assessment criteria as per January 2012 Competency Standard

Unit	Learning experiences	Page	Assessment criteria
Unit 1 Trip Planning	<p>Understand the important aspects of safety equipment and maintenance.</p> <p>Understand the law as it relates to carrying safety equipment and the legal obligations of the ship's master.</p> <p>Ensure the vessel is seaworthy and suitably equipped for a trip.</p>	3-29	<p><i>Understand the important aspects of safety equipment and maintenance.</i></p> <p>Identify the main parts of a recreational vessel and its equipment. Explain the importance of maintenance to vessel safety. List the safety equipment required. Determine the serviceability of safety equipment.</p> <p><i>Understand the law as it relates to carrying safety equipment and the legal obligations of the ship's master.</i></p> <p>Identify suitable PFDs and their location aboard. Understand the obligations of operating a recreational ship in Queensland.</p> <p>Determine if the vessel is fitted in accordance with the provisions of the International Regulations for Preventing Collisions at Sea.</p> <p>Ensure the vessel is seaworthy and suitably equipped for its intended operation.</p> <p>Inspect vessel for seaworthiness. List the tools, spares and equipment required for the vessel for its intended operation. Calculate the fuel required for a particular trip. Inspect the ships battery for useability.</p>
Unit 2 Navigation	<p>Apply IALA Buoyage system 'A' and use aids to navigation not covered by IALA.</p> <p>Use a GPS navigation system.</p> <p>Identify and apply collision and water traffic regulations relevant to the activity area.</p> <p>Report incidents.</p> <p>Avoid pollution.</p>	31-47	<p><i>Understand the IALA Buoyage system 'A' and use aids to navigation not covered by IALA.</i></p> <p>Knowledge of the following buoys, marks and beacons and how this is applied to safe navigation. Lateral and cardinal marks. Isolated danger marks. Special marks. Safe water marks. Middle channel marks. Leads. Speed signs. Cable crossings. Recognition of lights used for navigation at night and how these are identified on a chart. Problems associated with lights at night in a metropolitan area.</p> <p><i>Use a GPS navigation system.</i></p> <p>Briefly describe how the GPS system works. Operate a chart plotter and determine position. Describe the limitations of a GPS installation.</p>
Unit 3 Weather and tides	<p>Access and interpret weather information.</p> <p>Interpret tide tables.</p>	48-53	<p><i>Access and interpret weather information.</i></p> <p>Locate up to date weather charts and forecasts from a variety of sources. Interpret the information on a chart and compare to the published forecast. Predict the likely local conditions based on the forecast and local geography.</p> <p><i>Interpret tide tables.</i></p> <p>Distinguish between a tide and a tidal stream. Interpret a set of tide tables for a standard port to determine the high and low tides. Estimate the tide height and strength of flow at different times between high and low tide using the law of 12ths. Explain how tidal flow affects handling of small boats and anchoring requirements. Determine the time of high and low tide at a secondary port. Understand the effects of pollution on the marine environment.</p>
Unit 4 Emergencies	<p>Define and report a marine incident.</p> <p>Respond to a fire on board.</p> <p>Understand the importance of an EPIRB.</p> <p>Use appropriate emergency radio calls.</p>	55-59	<p><i>Define and report a marine incident.</i></p> <p>Describe a marine incident as defined in the Act (s123) and what it means. List the obligations on ships' masters when a collision occurs (s124). Recall that a report must be made, to whom and by when (s125). Explain the seriousness of marine incidents and the importance of reporting them.</p> <p><i>Respond to a fire on board.</i></p> <p>List the causes of fire on a small ship. Things to reduce risk of fire. Recall what to do when you abandon ship.</p> <p><i>Understand the importance of an EPIRB.</i></p> <p>Describe the features of a functioning EPIRB. Activate a dummy EPIRB.</p> <p><i>Use appropriate emergency radio calls.</i></p> <p>Recall the radio frequency to use. Simulate a Sécurité call. Simulate a Pan Pan call. Simulate a Mayday call.</p>

Personal water craft is discussed on pages 67-72

Safe Boating Workbook 3rd Edition

QSA Syllabus match

Subject matter and suggested learning experiences

Key concepts / elaboration	Learning experiences	Page	KU	IA	EC
MS1.1 Regulatory requirements and procedures are essential for dealing with hazards, accidents and emergencies.	Explain the general safety obligations (GSO) of operating a recreational ship in Queensland. Determine if the vessel is fitted in accordance with the provisions of the International Regulations for Preventing Collisions at Sea. Identify suitable PFD's and their location aboard. Evaluate and communicate emergency plans for a day's scientific research.	3-7	✓		
MS1.2 Risk assessments are carried out before conducting investigations in the field.	Explain hazards, risks and control measures for all water safety skills. Estimate risks for launch a boat. Inspect the ships battery for hazards. Identify correct loading of a vessel to maintain stability. Determine risks at the boat ramp and while operating the vessel. Determine risks when towing plankton net, operating current drogue, collecting water samples from depths, using probes in the boat. Moving around a boat while operating science equipment. Evaluate and communicate risk levels to crew.	60-66	✓		
MS1.3 Water safety skills and first aid procedures are important when undertaking marine activities.	Conduct a passenger briefing to satisfy GSO compliance. Tie a bowline in a length of rope to secure scientific equipment to a vessel. Review basic boating skills: Mount an outboard motor and safety depart and return to a beach. Safely engage and disengage forward and reverse gears. Manoeuvre the vessel at slow speed to determine its steering characteristics at low speed. Anchor the vessel ensuring the correct amount of anchor rope is deployed. Verification of anchor set is made with reference to landmarks ashore. Create a towing bridle and tow a plankton net. Review emergency procedures: Perform an emergency stop and review procedures for loss or snagging of science equipment. Approach a man overboard (MOB) with regard to wind and tide to retrieve. Perform basic first aid resuscitation skills.	60-66 60-66 60-66	✓		
MS1.5 Weather forecasts and synoptic charts are interpreted prior to and during investigations with decisions being made according to changing weather conditions.	Locate up to date weather charts and forecasts from a variety of sources. Interpret the information on a chart and compare to the published forecast. Predict the likely local conditions based on the forecast and local geography. Discuss effects on passage planning. Evaluate and communicate a passage plan.	48-49	✓		
MS1.6 Safety equipment is used and maintained.	Explain the importance of maintenance to vessel safety. List the safety equipment required for area of operation. Determine the serviceability of safety equipment.	16-29	✓		
MS2.2 Operating a vessel safely in different conditions and maintaining and servicing boat parts and accessories is a component of marine research.	Manoeuvre the vessel at slow speed to approach and reverse away from a mooring, pontoon or jetty. Use reverse gear to slowly move away from the mooring. Smoothly apply power to get the vessel to plane. Perform turns at speed to port and starboard. Use motor trim to maximise engine performance especially when towing science equipment. Calculate the fuel required for a science field trip. Inspect vessel for seaworthiness. List the tools, spares and equipment required for the vessel for its intended operation. Inspect the ships battery for useability. Complete pre-departure checks. Explain boat maintenance and service schedules.	60-62 15-16	✓		
MS2.3 Boat design, including hulls, materials and methods of propulsion, should suit the area and purpose of operation.	Identify the main parts of a recreational vessel and its equipment. Interpret a Capacity Plate or Australian Builders Plate. Recognise the key components of a steering system. Identify different hull shapes and their handling characteristics. Review advantages and disadvantages of different engine and drive types.	7-12 18-26	✓		
OC2.5 Tidal movement is driven by the gravitational pull of both the moon and sun, influencing current strength and wave action.	Distinguish between a tide and a tidal stream. Interpret a set of tide tables for a standard port to determine the high and low tides. Estimate the tide height and strength of flow at different times between high and low tide using the law of 12 th's. Explain how tidal flow affects handling of small boats and anchoring requirements. Determine the time of high and low tide at a secondary port.	50-52	✓		

Key concepts / elaboration	Learning experiences	Page	KU	IA	EC
MS3.1 Marine navigation and communication devices and procedures are used for coordination and safety.	Calculate a course allowing for variation. Evaluate effects of tidal heights and streams (where applicable) Discuss high speed navigation techniques Use a GPS or Chart Plotter as an aid to navigation and be aware of the limitations when using electronic charts Recognise distress signals and obligations. Discuss types of on-board emergencies and actions. Operate a marine radio in distress situations (simulate)	43-46 55-59	✓		
MS3.2 Chart datum and the IALA-A (International Association of Lighthouse Authorities region A) buoyage system are interpreted when operating vessels in marine environments.	Describe the following buoys, marks and beacons and how this is applied to safe navigation. Lateral and cardinal marks; Isolated danger marks; Special marks; Safe water marks; Middle channel marks; Leads; Speed signs; Cable crossings. Recognition of lights used for navigation at night and how these are identified on a chart. Problems associated with lights at night in a metropolitan area.	39-47	✓		
MS3.3 Navigational aids, including compass, GPS, and charts are used to plot courses	Describe how the GPS system works. Operate a chart plotter and determine position. Describe the limitations of a GPS installation.	44-46	✓		
MS3.4 A safe passage is planned and implemented using a variety of calculations and modifications (e.g. speed, distance, time).	Plan a passage with consideration of weather, crew and vessel capabilities. Can undertake a short passage by day or night incorporating navigation and rules of the road	45	✓		
MS3.5 Radio transmission communication should be clear and concise and fitting to local regulatory requirements	Describe log on and log off procedures, radio checks with local VMT Coast Guard. Recognise silence periods and local radio protocols. Communicate radio logo/log off, radio checks. Simulate a Sécurité call. Simulate a Pan Pan call. Simulate a Mayday call.	59	✓		
MS3.6 Organisations play vital roles in search and rescue	Recall the radio frequency to use.	59	✓		