



## GUIDANCE NOTE

**SAMSA Code:  
Small Vessels**

Document No. **GOP-536.01**  
Revision No, Date **28.02.13**  
Effective Date **01.10.11**  
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Compiled by

Approved by

Chief Examiner

Executive Head, Centre of Shipping

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# OPERATIONS – SEAFARER CERTIFICATION

## GUIDANCE NOTE

### SA MARITIME QUALIFICATIONS CODE

### Small Vessel Code

# **South African Maritime Safety Authority**

## **SMALL VESSEL CODE**

The national system now introduces a Small Vessel Code. This code lays out the differing levels of competence that a candidate must achieve in order to obtain a certificate for the level desired.

The Code is the national standard and any person who desires to train or examine small vessel skippers shall adhere to the specifications and level of knowledge detailed therein.

The first page of the Code contains a matrix and is in essence a summary of what is required in order to obtain the various levels of competency for small vessels including the endorsements.

The various types of certificates obtainable under the national small vessel examination system are detailed in chapter 10 of SAMSA's policy document.

The system that has been adopted is in a modular form. This means that once a person obtains a specific competence, they can progress to the next level without having to repeat certain subjects or modules.

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### STUDY MATRIX REQUIRED FOR THE SMALL VESSEL CERTIFICATE OF COMPETENCY

In the table the units for a particular subject are shown under the certificate of competency

As at 05/11	Skipper Inland Waters Day Skipper Category E <9m and >9m	Day Skipper Category C <9m and >9m	Day Skipper Category B ≤9m and >9m	Skipper Coastal Category B < 9 metres, (day and night)	Skipper Coastal >9 metres (Pleasure)	Coastal Skipper ≥9 metres (Comm.)	Skipper Offshore ≤9 metres	Skipper Offshore ≥9 metres (Pleasure)	Skipper Offshore ≥9 metres (Comm.)	Passenger vessel endorsement unrestricted	Passenger vessel endorsement restricted
<b>Chart - work</b>	Module 1	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3 Module 4	Module 1 Module 2 Module 3 Module 4	Module 1 Module 2 Module 3 Module 4	Addition oral exam whilst holding as a minimum a Category C certificate - with 100 hours on passenger vessels.  Oral examination in accordance with SAMSA practice.	Addition oral exam whilst holding as a minimum a Category E certificate - with 100 hours on passenger vessels.  Oral examination in accordance with SAMSA practice.
<b>Navarc</b>					Module 1	Module 1	Module 1	Module 1	Module 1		
<b>Power</b>	Module 1	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3	Module 1 Module 2	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3		
<b>Law</b>	Module 1	Module 1	Module 1	Module 1	Module 1 Module 2	Module 1 Module 2	Module 1	Module 1 Module 2	Module 1 Module 2		
<b>Meteor</b>	Module 1	Module 1	Module 1	Module 1	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2		
<b>Seamanship</b>	Module 1	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3	Module 1 Module 2 Module 3		
<b>Emergency</b>	Module 1	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2		
<b>Manoeuvring and boat handling</b>	Module 1	Module 1	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2	Module 1 Module 2		

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	Skipper Inland Waters Day Skipper Category C <9m and >9m	Day Skipper Category B ≤9m and >9m	Coastal Skipper Category B < 9 metres, (day and night)	Coastal Skipper >9 metres (Pleasure)	Coastal Skipper ≥9 metres (Comm.)	Skipper Offshore ≤9 metres	Skipper Offshore ≥9 metres (Pleasure)	Skipper Offshore ≥9 metres (Comm.)	Passenger vessel endorsement unrestricted	Passenger vessel endorsement restricted
<b>ID Doc</b>	X	X	X	X	X			X	X	X
<b>2x Photos</b>	X	X	X	X	X		X			X
<b>Medical on Prescribed form</b>					X	X	X			
<b>SAMSA Medical</b>						X		X	X	
<b>Eye Test</b>			X	X						X
<b>SAMSA Eye Test</b>						X		X	X	
<b>Proof of Sea Service</b>	X	X	X	X	X	X	X	X	X	X
<b>Liferaft ( 1 Day)</b>					X		X			
<b>Proficiency in Liferaft</b>								X	X	
<b>Elementary First Aid</b>					X	X	X			X
<b>First Aid at Sea</b>						X		X	X	
<b>Fire Fighting (1 Day)</b>					X	X	X			X

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	Skipper Inland Waters Day Skipper Category C <9m and >9m	Day Skipper Category B ≤9m and >9m	Skipper Coastal Category B < 9 metres, (day and night)	Skipper Coastal >9 metres (Pleasure)	Coastal Skipper ≥9 metres (Comm.)	Skipper Offshore ≤9 metres	Skipper Offshore ≥9 metres (Pleasure)	Skipper Offshore ≥9 metres (Comm.)	Passenger vessel endorsement unrestricted	Passenger vessel endorsement restricted
<b>Fire Fighting (2 Day)</b>								X	X	
<b>R/T Certificate</b>				X	X	X	X	X	X	
<b>Dive Skipper</b>										
<b>Surf Qualification</b>										
<b>Night Operations</b>										
<b>Sailing Qualification</b>										
<b>Passenger Vessel Endorsement</b>										

- \* Note: 1) SAMSA medicals and eyesight tests are required for the Skipper Coastal and Offshore Certificate over 9 metres and passenger vessel endorsements  
 2) SAMSA oral examinations are required for commercial skipper certificates for any vessels over nine metres.  
 3) SAMSA oral examinations are required for commercial passenger skipper certificates for any length vessel

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#### ADDITIONAL REQUIREMENTS FOR ENDORSEMENTS DETAILED BELOW

In the table the units for a particular subject are shown under the certificate of competency

	Skipper Inland waters Day Skipper Category E ≤9m and >9m	Day Skipper Category C ≤9m and >9m	Day Skipper Category B ≤9m and >9m	Coastal Skipper Category B ≤ 9 metres, (day and night)	Coastal Skipper >9 metres	Skipper Offshore ≤9 metres	Skipper Offshore >9 metres
<b>Dive Skipper</b>	Module 1	Module 1	Module 1	Module 1	Module 1	Module 1	Module 1
<b>Surf launching</b>	Module 1	Module 1	Module 1	Module 1	Module 1	Module 1	Module 1
<b>Night *** Operations</b>							
<b>Sailing **** Endorsements</b>							

\*\*\* This endorsement solely for the use of night operations for who are bona fide commercial operators in local waters and is issued at the discretion of the deck examiner concerned.

\*\*\*\* Sailing endorsements are only to be given to those persons who have a S.A. Sailing qualification until such time as appropriate examiners have been appointed.

**The Practical Examination for Day Skipper (local waters) restricted to certain geographical areas.**

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The practical examination should include any or all of the following where appropriate:

- Pre-launch procedures - weather check, trip and ETA logged, crew briefing, radio check, craft check.
- Launch craft - study launch site, con craft safely out to sea.
- Anchor usage - let down, set and weigh anchor.
- Ropes and knots - make basic knots and explain uses.
- Routine checks - do routine checks such as weather condition, geographical position, fuel usage, keeping a proper lookout.
- Radio use - channel selection and voice procedures.
- Outboard motors – a working knowledge on use, emergency repairs, maintenance.  
Loading and trim - show knowledge of trim and proper stowage.
- Man overboard drill - demonstrate correct and safe method for retrieving crew member.  
Navigation - demonstrate compass steering, chart interpretation, position plotting on chart in use.
- Landing craft - land craft safety.
- After-use procedures - log return, after-use maintenance, inspect craft, note fuel used

**SURF LAUNCHING**

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
1. Manoeuvre the boat in the surf	Knowledge of: .1 The effects of beach gradient on size and nature of breakers  .2 The importance of pre-launch checks, safety and preparation of the vessel and instructions to crew.  .3 Methods of launching in differing types of breakers and weather conditions.  .4 Preparation of vessel prior to landing  .5 Methods of beaching in differing types of breakers and weather conditions.	Oral examination and practical assessment.  Practical assessment: Once having completed a minimum of 12 (twelve) surf launches conducted on at least 4 (four) different days under differing weather and swell conditions.  All launches are to be through the surf and returning through the surf, witnessed and certified by a competent skipper in the form of an affidavit; The examiner shall witness a demonstration of the candidate's competence in real surf conditions.	Safe operating limits of boat propulsion, steering and power systems are not exceeded in manoeuvres while in the surf under varying swell and weather conditions.



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## BOAT MANOEUVRING AND HANDLING

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
.2 Manoeuvre the boat in the surf	Knowledge of: .1 the effects of a single and twin propeller(s) on the turning circle of a boat;  .2 the effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances;  .3 the effects of wind and current on boat handling;  .4 basic manoeuvres and duties during berthing and un-berthing and the use of the various mooring ropes when alongside.  .5 handling ship in rivers, estuaries and restricted waters, having regard to the effect of current, wind and restricted water on helm response; .6 Turning a boat "short round"	Oral examination whilst carrying out the practical assessment.	Safe operating limits of boat propulsion, steering and power systems are not exceeded in normal manoeuvres.  Adjustments made to the ship's course and speed to maintain safety of navigation. Demonstrates confidence and control in handling the vessel.

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COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 2</b>			
1. Manoeuvre and handle a boat in all conditions	<p>1. Manoeuvring and handling a boat in all conditions, including:</p> <ul style="list-style-type: none"><li>.1 choice of anchorage; anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used;</li><li>.2 dragging anchor; clearing fouled anchors; streaming a drogue</li><li>.3 management and handling of boats in heavy weather, including assisting another vessel in distress; towing operations; means of keeping an unmanageable boat out of a trough of the sea, lessening drift and the use of oil;</li><li>.4 methods of taking on board survivors from the water, other boats and survival craft;</li><li>.5 ability to determine the manoeuvring and propulsion characteristics of common types of vessels with special reference to stopping distances and turning circles at various draughts and speeds;</li><li>.6 importance of navigating at reduced speed to avoid damage caused by own ship' bow wave and stern wave;</li><li>.7 use of, and manoeuvring in and near, traffic separation schemes and in vessel traffic service (VTS) areas.</li></ul>	Oral examination and practical assessment.	<p>All decisions concerning berthing and anchoring are based on a proper assessment of the boat's manoeuvring and engine characteristics and the forces to be expected while berthed alongside or lying at anchor.</p> <p>While under way, a full assessment is made of possible effects of shallow and restricted waters, banks, tidal conditions, passing ships and own boat's bow and stern wave so that the boat can be safely manoeuvred under various conditions of loading and weather.</p>

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## CHARTWORK

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
1. Plan and conduct a safe passage 2. Buoyage	1. Able to plan and conduct a safe launch and passage using available publications for the area in which the intended voyage takes place.  2. Has a knowledge of the various types of IALA buoys that can be found on the South African Coast.	By written examination	The information obtained from navigational charts or map of area of operation is interpreted correctly and properly applied.  All potential navigational hazards are accurately identified and is familiar with appropriate chart symbols.  Buoys are identified and explanations given as to the purpose thereof
<b>MODULE 2</b>			
1. Plan and conduct a safe passage 2. Magnetic Compass 3. GPS	1. Ability to determine the position of the vessel on a chart by the use of: .1 latitude and longitude .2 approximate positional information from aids to navigation including lighthouses, beacons and buoys.  2. Knowledge of the basic magnetic compass .1 Understands the terms "Variation" and "Deviation" .2 Able to determine a safe passage (courses) and distances between two points on a chart .3 Converting true courses into magnetic courses and vice versa .4 Use of parallel rulers, dividers, course protractors and compass roses to determine a safe passage  3. 1 Important features and practical use of a GPS .2 GPS routes and waypoints	By written examination	As for Module 1 and in addition, accurately plot and monitor the vessel's position using a compass and simple navigational equipment.  Compass card is understood and the reasons why it is gimballed and filled with liquid. Be able to take a bearing and apply corrections to the bearing.  The practical use and limitations of a GPS satellite navigation unit is understood

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 3</b>			
4. Plan and conduct a safe passage 5. Magnetic Compass	<p>4. Ability to determine courses and distances by the following:</p> <ul style="list-style-type: none"><li>.1 Read off a sounding and identify the nature of the bottom</li><li>.2 Identify depth contours, rocks awash, dangers to navigation, breakers,</li><li>.3 shoals, anchorages, wrecks, foul ground, lighthouses and their characteristics and range.</li><li>.4 Ability to interpret the information shown on charts with respect to title, number, date of publication, scale</li><li>.5 Knowledge that distance on a chart is measured using the latitude scale only and that one nautical mile is 1852 metres</li><li>.6 Knowledge of estimated position, dead reckoning position and an appreciation of wind and current on these positions</li><li>.7 ETA's</li><li>.8 Plot a position using simultaneous cross bearings, transit bearings and</li><li>.9 The use of leading beacons/lights for entering ports and harbours</li><li>.10 Able to monitor a passage along a planned route</li></ul> <p>5. Ability to use a magnetic compass</p> <ul style="list-style-type: none"><li>.1 Deviation of compass can be checked by using transit bearings</li><li>.2 Knowledge that errors in navigation may result from an uncorrected compass</li><li>.3 Different types of magnetic compass available</li><li>.4 Knowledge that external factors may influence the accuracy of the compass such as electronic equipment, magnetised and other metals</li></ul>	By written examination	<p>As for Module 2 and in addition, accurately plot and monitor the vessel's position using a navigational chart,</p> <p>making use of the information provided on a navigational charts, use of the magnetic compass and standard navigational equipment.</p> <p>Compass card is understood and the reasons why it is gimballed and filled with liquid.</p> <p>Competent to navigate a vessel a vessel on a coastal voyage along the South African coast, but within 40 miles from shore.</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 4</b>			
6. Plan and conduct a safe passage 7. Magnetic Compass 8. GPS	6. Ability to plan a long sea passage .1 Determine a course and distance between two points using the following methods. .1 Traverse Tables .2 Mercator Sailing .2 Passage planning .1 Crew arrangements and watch keeping at sea or at anchor .2 Ensure that sufficient stores, food, spares and other items are on board for the contemplated voyage .3 Knowledge that correct charts and nautical publications are on board for the contemplated voyage are on board .4 Ability to determine high and low water at intended ports of call using local and Admiralty tide tables. .5 To determine the best passage between ports using weather charts and other weather information. .6 Knowledge of documentation when entering or departing from a foreign port .7. Ability to determine the deviation of the magnetic compass using amplitudes or azimuths of the sun  8. An understanding of GPS systems and errors including the following .1 The principles of the GPS system .2 How the positions are determined by the GPS systems .3 Errors of the GPS system .4 Use of correct datum .5 How to switch on a GPS and the knowledge of the initial information that must be programmed into the receiver .6 Use of all the functions of the GPS including way points, distances and courses between two points, compass, route determination, MOB and leeway and drift. (sidetrack error)	By written examination	Using nautical tables or by calculation determine the course and distance between two points.  Compass errors are determined by azimuths or amplitudes by use of nautical tables or calculation.  A full understanding of the principles, operation, errors and use of the GPS is shown.

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## DIVING

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
1. Pre- launch Checks appropriate to the certificate of competency required.  2. Dive control  3. Picking up divers  4. Emergency procedures	1. Has a thorough knowledge of checks to be made prior to proceeding on voyage .1 All diving equipment is checked and found to be in good condition .2 Boat to be loaded in order to protect equipment and be trimmed correctly.  2. Thorough knowledge of intended dive operations .1 Understanding of decompression tables .2 Obtains confirmation of experience and qualifications of divers that are diving. .3 Keeps accurate records of the dive times and surface intervals between dives .4 Ascertain depth of water before commencement of dive operations and deploys a marked shot line especially for depths greater than 30 metres. .5 Review of dive plan with all concerned and expected time of surfacing are understood and known by all. .6 Knowledge of dive operations when at anchor and when in a strong tidal current. .7 Knowledge of instructions on how to enter water and determination if water conditions are suitable and safe to enter water. .8 Knowledge that a proper and careful lookout is to be kept at all times for other craft and divers in the water. .9 Knowledge of daylight and night signals indicating divers in the water, emergency and diver recall signals. .10 Deployment of surface marker buoys and communication with divers using rope signals. .11 Ensure that divers are not under the influence of alcohol, drugs or under prescribed medication and are fit for dive operations.	By written examination Pass mark 65% Minimum 100 marks.	Is able to give clear and concise explanations of the reasons for a pre-launch check, weather forecasts care and use of equipment on board and use and reasons for such equipment.  Is able to give a clear and concise explanation of checks and procedures made prior to any dive operation irrespective of depth.  Is able to handle a vessel under varying weather conditions and understands the methods and precautions to be taken when picking up divers from the water.  Is able to show clear and concise understanding of differing types of emergencies and the methods of dealing with each type.

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
	<p>3. Correct methods are used for the picking up of divers under varying conditions of wind and current.</p> <p>4. Thorough knowledge of the following emergency procedures</p> <ul style="list-style-type: none"><li>.1 Lost diver situation in varying conditions and areas of diving such as open water, wrecks, kelp zones, poor underwater visibility and any other unusual conditions.</li><li>.2 Thorough knowledge of treatment and transportation of an injured diver</li><li>.3 Thorough knowledge of symptoms and treatment of decompression sickness (Bends) and pulmonary Barotraumas as recommended by the SAUU Medical Committee.</li><li>.4 Thorough knowledge of symptoms and treatment of other dive related injuries such as shark attack, drowning and hypothermia as recommended by the SAUU Medical Committee.</li></ul>		

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## ELEMENTARY FIRST AID

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
1. Take immediate action upon encountering an accident or other medical emergency	1) The assessment of needs of casualties and threats to own safety  2) Understanding of immediate measures to be taken in cases of emergency, including the ability to:  .1) conduct an initial assessment of an injured	Written and practical exam  <b>OR</b>  Level II certificate obtained from the Red Cross or St John's or holds a valid SAMSA approved Elementary First Aid certificate	The identification of the probable cause, nature and extent of injuries is prompt and complete and the priority and sequence of actions is proportional to any potential threat to life.  Risk of harm to self and casualty is minimized at all times.
<b>Module 2</b>			
	.1) conduct an initial assessment of an injured or unconscious person  .2) shallow water drowning and applying resuscitation and CPR techniques  .3) control bleeding  .4) apply appropriate measures of basic shock management  .5) apply appropriate measures in the event of burns and scalds, including accidents caused by sunburn and heat exhaustion  .6) apply appropriate measures of hypothermia management  .7) apply appropriate measures in the event of spinal fractures  .8) recovery position  .9) common injuries associated with boating.  e.g. hook removal, stings and bites etc.		



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## EMERGENCY PROCEDURES

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
1. Respond to emergencies and distress signals at sea.	<p>1. Able to take measures in emergencies for the protection and safety of ship, passengers and crew in that the candidate must be able to:-</p> <ul style="list-style-type: none"><li>.1 execute a man overboard drill;</li><li>.2 react properly to a distress signal; and</li><li>.3 take charge of life-saving appliances.</li></ul> <p>2. Able to take initial action following a collision or grounding; initial damage assessment and control in that the candidate must be able to identify the actions:-</p> <ul style="list-style-type: none"><li>.1 to be taken following a collision;</li><li>.2 to be taken following a grounding;</li><li>.3 the precautions for the protection of and safety of passengers in emergency situations;</li><li>.4 to be taken following a fire</li><li>.5 the procedure for abandoning the boat</li><li>.6 to be taken when there is a serious leak.</li><li>.7 beaching a boat in an emergency</li></ul> <p>.3Able to use the auxiliary steering and know the rigging and use of jury steering arrangements</p>	Written examination and practical examination.	<p>The type and scale of the emergency is promptly identified.</p> <p>Initial actions and, if appropriate, manoeuvring of the boat are in accordance with contingency plans and are appropriate to the urgency of the situation and nature of the emergency.</p>
2. Respond to emergencies and distress signals at sea.	4. Able to take measures tow a disabled boat and have knowledge of the precautions when towing.	Written examination and completion of training and assessment	<p>The type and scale of the emergency is promptly identified.</p> <p>Initial actions and, if appropriate, manoeuvring of the boat are in accordance with contingency plans and are appropriate to the urgency of the situation and nature of the emergency.</p>

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### LAW (SMALL VESSELS)

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<b>COMPETENCE</b>	<b>KNOWLEDGE, UNDERSTANDING AND PROFICIENCY</b>	<b>METHODS FOR DEMONSTRATING COMPETENCE</b>	<b>CRITERIA FOR EVALUATING COMPETENCE.</b>
<b>MODULE 1</b>			
1. Knowledge of the Merchant Shipping (Small Vessel Safety) Regulations.  2. Knowledge of the obligation to help other vessels in distress  3. Knowledge of obligation to report hazards to navigation	1. Has a working knowledge of: Parts 1, 2 3, 4 and Annex 2 of the Merchant Shipping (Small Vessel Safety) Regulations as applicable to the certificate required for the category of vessel.	By written examination	Is able to give a clear and concise explanation of the basic requirements of regulations for the applicable category of vessel.
<b>MODULE 2</b>			
4. Merchant Shipping Act as it applies to small Vessels  5. Maritime Occupational Regulations insofar as it applies to small vessels (Chapter 1)  6. MARPOL (Marine pollution) insofar as they apply to small vessels.	4. Has a working knowledge of: .1 the concept of licensed and registered vessels .2 the difference between "commercial" and "sport and recreation" vessels and the legal implications .3 the concept of an un-seaworthy vessel .4 the obligation and procedures to report a casualty  5. Has a working knowledge of: .1 the basic requirements of the Maritime Occupational Regulations – Chapter 1 .2 shipboard hygiene and associated crew health issues  6. Has a working knowledge of: .1 the prevention of oil pollution .2 the prevention of garbage pollution especially plastics .3 action to be taken when a pollution incident occurs	By oral examination and completion of training and assessment.  This is part of the oral examination carried out by the SAMSA examiners	Is able to give a clear and concise explanation of the basic requirements of the Act and regulations

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## METEOROLOGY

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<b>MODULE 1</b>			
1. Shipboard meteorological instruments 2. Weather forecasting 3. Tides	Read the atmospheric pressure from an aneroid barometer and understands the terms: .1 pressure gradient and its effect on the wind speed .2 the weather that may be encountered when pressure drops rapidly  2 .1 Defines wind.  2.2 Describes the: .1 Beaufort scale of wind force. .2 method of estimating the strength of the wind from the appearance of the sea surface. .3 Defines fog, mist and haze and states that visibility is reduced by the presence of particles in the atmosphere, near the earth's surface. .4 Describes methods of estimating the visibility at sea by day and by night, and the difficulties involved. .5 .1 the sources of weather information available to local shipping. .2 the appropriate local weather bulletins and their contents. .3 services provided for local storm warnings. .6 Defines the formation swells .7 Defines local winds such as Berg winds, busters, Cape South Easter and land and sea breezes  3 Defines neap and spring tides and when they occur	By written examination	Barometer is correctly used and read.  Current weather conditions are properly understood.  The current and latest weather forecasts are obtained by the appropriate means Causes and times of tides are understood
<b>MODULE 2</b>			
4. Weather systems	4. Basic knowledge of the following weather systems .1 Cold and warm fronts .2 Occlusions .3 Tropical depressions (for skipper offshore only) .4 Typical weather systems found off the South African Coast is summer and winter 5. Basic knowledge of currents around the South African Coast.	By written examination	Current weather conditions are properly understood.

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## NAVAL ARCHITECTURE

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
1. Small vessel construction and stability	<p>1 .1 Able to: A</p> <p>.1 name the principal parts and fittings of a small vessel including: bow, stern, stern, bulwarks, hull, hatch, access, rudder, propeller, Superstructure, hull valves, grid cooler, mast etc.</p> <p>.2 describe by means of a diagram:</p> <p>.1 a bilge pumping system</p> <p>.2 a steering system</p> <p>.2 Understands the:</p> <p>.1 reasons for making the deck and superstructure watertight.</p> <p>.2 purpose of watertight bulkheads and the collision bulkhead.</p> <p>.3 reason for a hull survey, the items surveyed at the hull survey and the period between surveys for the issue of a local general safety certificate.</p> <p>.4 relationship between centre of gravity, centre of buoyancy and Metacentric height.</p> <p>.5 the conditions of a :</p> <p>.1 stiff ship</p> <p>.2 tender ship and the dangers associated with them</p> <p>.6 the reasons for having efficient means of drawing water rapidly from the deck and the danger of water trapped on deck</p> <p>.7 reasons for stowing heavy items below and lighter items on top.</p> <p>.8 purpose of, free board and reserve buoyancy.</p> <p>.9 meaning of the terms displacement, deadweight and gross tonnage.</p>	By written examination	<p>The safe operating limits of the ship are not exceeded in normal operations.</p> <p>The ship is always properly stowed ensuring that she is always safe.</p> <p>Able to deliver clear and understandable reports using ship construction terminology.</p> <p>The vessel is always securely battened down before proceeding to sea and prepared for severe weather conditions.</p> <p>Bilge pumping systems are properly operated.</p>

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## POWER PLANTS

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
1 Understand the working and operation of on board machinery and boat propulsion systems	1 Understands the basic and operation of the following : .1 Outboard 2-stroke engines .2 Outboard 4-stroke engines .3 Describe fuel systems .4 Describe the function of the impeller and engine cooling water systems .5 Describe the propeller and care thereof .6 Describe the visual appearance of the gear oil .7 Describe the use of trim and tilt .8 Describe routine maintenance, tool kits and spares to be carried .9 Describe basic fault finding such as motor refuses to start, fuel starvation and lack of spark 10. Knowledge of ventilation battery compartments and approved fuel containers	a) Written examination	Show sufficient knowledge on matters relating to the running and maintenance of power plants complying with safe operating limits at all times.
<b>MODULE 2</b>			
1 Understand the working and operation of on board machinery and boat propulsion systems (as in Module 1)	1 Understands the causes, faults and diagnosis of the following : .1 Motor running rough at low speed .2 Motor running rough at high speed .3 Motor running at full speed and stops .4 Motor will not start .5 Motor vibrating .6 Motor jumping out of gear .7 Motor overheating .8 Water on plugs	a) Written examination	Show sufficient knowledge on matters relating to mechanical problems

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 3</b>			
1 Understand the working and operation of on board equipment and machinery and boat propulsion systems	<p>1 Understands the causes, faults, diagnosis and dangers associated with the following for inboard diesel engines and common ancillary installations</p> <ul style="list-style-type: none"><li>.1 Motor running at low speeds</li><li>.2 Motor running rough at high speed</li><li>.3 Motor running at full speed and stops</li><li>.4 Motor will not start</li><li>.5 Motor vibrating</li><li>.6 Motor jumping out of gear</li><li>.7 Motor overheating</li><li>.8 Fuel starvation</li><li>.9 Running and pre-start checks</li><li>.10 Turbo-chargers and the associated dangers</li></ul> <p>1. Basic Electrical knowledge of:</p> <ul style="list-style-type: none"><li>.1 Starting systems</li><li>.2 Charging systems</li><li>.3 Batteries</li><li>.4 Common circuits used on small vessels, fault finding and common damages which occur</li></ul> <p>2. Basic knowledge of additional equipment such as:</p> <ul style="list-style-type: none"><li>.1 Different common pumps and associated problems</li><li>.2 Seawater and freshwater systems (Toilet)</li></ul> <ul style="list-style-type: none"><li>.3 Steering systems</li><li>.4 Different propulsion systems</li><li>.5 Fixed fire installations</li></ul>	Written examination.	Show sufficient knowledge on matters relating to the running and maintenance of diesel installations as well as ancillary machinery and systems, complying with safe operating limits at all times.

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## SEAMANSHIP

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<b>MODULE 1</b>			
1.Pre- launch checks appropriate to the various categories of vessels  2. Stowage and care of safety equipment on the  3. Weather forecasts  4. Types and uses of various knots  5. Collision regulations as applicable to small boats	1. Has a thorough knowledge of checks to be made prior to proceeding on voyage  2. Working knowledge of care and use of safety equipment and drogue  3. Understands the importance of obtaining weather forecasts prior to proceeding on intended voyage  4. Knows the use of reef knot, sheet bend, clove hitch and bowline.  5. Has a working knowledge of Rules 2,5,6,7,8,9,12,13,14,15,16,17,18,19, 23, 34 and Annex IV (Distress Signals)	By written examination and oral examination	Is able to give clear and concise explanations of the reasons for a pre-launch check, weather forecasts care and use of equipment on board and use and reasons for knot types to be used.  Is able to show a knowledge of the Collision Regulations in cases of collision avoidance, lookout and duties of power driven vessels while underway and making way.
<b>MODULE 2</b>			
6. Name the principal parts of a boat  7. Different types of ropes and care and use thereof and when to condemn a rope	5. Has a knowledge of the principals parts of a boat and common nautical terms  7. Working knowledge of care and use of different types of ropes including deterioration due to Ultra-violet light and chemicals and when to Condemn a rope.	By written examination	Is able to identify the various principle parts of a boat and has a knowledge of common nautical terms Is able to give clear and concise explanations of types of rope, care thereof and when to Condemn.
<b>MODULE 3</b>			
8. Collision regulations as applicable to small boats and ships (Especially at night or in restricted visibility)	1. Has a sound knowledge of Parts A, B, C and E of the Collision Regulations	By written and oral examination	Is able to show a thorough knowledge of the International Regulations for the Prevention of Collisions at Sea, in cases of collision avoidance, lookout and duties of power driven vessels while underway and making way during the hours of darkness

## SMALL VESSEL FIRE FIGHTING

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE.
<p>1. Minimize the risk of fire and maintain a state of readiness to respond to emergency situations involving fire</p> <p>2. Fight and extinguish fires</p>	<p>1. Know the shipboard fire-fighting organization including amongst others;</p> <ul style="list-style-type: none"> <li>.1 emergency alarm</li> <li>.2 muster lists</li> <li>.3 communications</li> <li>.4 personnel safety procedures</li> <li>.5 periodic ship board drills</li> </ul> <p>2. Know the locations of fire-fighting appliances and emergency escape routes including amongst others the:</p> <ul style="list-style-type: none"> <li>.1 requirements for emergency escape routes from engine rooms and other spaces.</li> <li>.2 need to be familiar with accommodation and work place layouts, to know where the nearest fire fighting appliances are located.</li> </ul> <p>3. A knowledge of the:</p> <ul style="list-style-type: none"> <li>.1 elements of fire and explosion</li> <li>.2 conditions for fires</li> <li>.3 types and sources of ignition</li> <li>.4 properties of flammable materials, fire hazards and spread of fire</li> <li>.5 the hazards of gas bottles in or near a fire</li> </ul> <p>4. Understand the need for:</p> <ul style="list-style-type: none"> <li>.1 constant vigilance</li> <li>.2 raising the alarm</li> <li>.3 containment of fires</li> <li>.4 certain actions to be taken on board ship</li> </ul> <p>5. Know the classification of fires and applicable extinguishing agents.</p> <p>6. Be able to extinguish and contain small fires</p> <p>7. Know its location and be able to use firefighting equipment on board including amongst others;</p> <ul style="list-style-type: none"> <li>.1 Fire mains, hydrants, pressure relief valves, emergency generators, fire and bilge pumps</li> <li>.2 Fire-fighting appliances and equipment:- fire hoses and nozzles mobile apparatus (carbon dioxide cylinders with horn, powder containers with propellant gas) portable fire extinguishers (Water, foam,</li> </ul>	<p>Assessment of evidence obtained during attendance at an approved course, including practical demonstration in spaces which provide truly realistic training conditions (e.g. simulated shipboard conditions) and also darkness, of the ability to:</p> <ul style="list-style-type: none"> <li>1 use various types of portable fire extinguishers</li> <li>2 extinguish smaller fires, e.g. electrical fires and oil fires</li> <li>3 extinguish extensive fires with water using jet and spray nozzles</li> <li>4 extinguish fires with foam, powder, or any other suitable chemical agent</li> <li>5 extinguish fire with water fog or any suitable fire fighting agent in an accommodation foam or simulated engine room with fire and heavy smoke</li> <li>6 extinguish oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators</li> <li>7 use of a fire blanket</li> <li>8 extinguishing fire on a victim=s clothing and immediate cooling of victim.</li> </ul>	<p>1. Initial actions on becoming aware of an emergency conform with accepted practices and procedures</p> <p>2. Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures</p> <p>3. Clothing and equipment are appropriate to the nature of the main-fighting operations</p> <p>4. The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions.</p> <p>5. Extinguishment of fire is achieved using appropriate procedures, techniques and fire fighting agents.</p>



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	<ul style="list-style-type: none"><li>.3 powder, carbon dioxide) Fire fighting methods<ul style="list-style-type: none"><li>a. Knowledge of fire safety arrangements</li><li>b. Fire alarms and first actions</li><li>c. Assessment of fire location, personnel in vicinity of fire and fighting agents appropriate to the fire.</li></ul></li><li>.4 Fire fighting procedures:-<ul style="list-style-type: none"><li>a. Hose party</li><li>b. Water curtain</li><li>c. Boundary cooling</li><li>d. Battening down of enclosed spaces.</li></ul></li></ul>		