SOUTH AFRICAN SAILING

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DAY SKIPPER SYLLABUS

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The Day Skipper Syllabus is designed to ensure that the day skipper is competent to skipper a yacht by day in his or her local waters. It is considered to be a license to learn.

SECTION 1: NAUTICAL TERMS

Candidates must know, and be able to explain, the nautical terms listed below. They must have a strong command of those nautical terms necessary to give precise and concise instructions.

HULL AND FITTINGS

Bilge, bilge pump, bow, bunk, chain plate, cleat, coach roof, cockpit, companionway, deck, fairlead, fiddle, guardrail and stanchions, gudgeon and pintle, heads, hull, jackstay, keel, lifeline, pulpit, pushpit, rudder, sea-cock, tiller, transom, wheel, winch and windlass.

MAST, SPARS AND STANDING RIGGING

Boom, gooseneck, rigging screw (or bottle screw or turnbuckle), spinnaker pole, spreader, shackle, snap shackle, shroud, stay (backstay and forestay), track.

RUNNING RIGGING

Block, downhaul, guy, gybe, preventer, halyard, kicker (kicking strap or boom vang), outhaul, purchase, roller furler, main sheet, jib sheet and topping lift.

SAILS

Batten, bolt rope, clew, cringle, foot, genoa, head, headsail or foresail, jib, leech, leech line, luff, piston hank, roach, stay sail, slides, spinnaker, storm jib, track and tri-sail.

MOORING GEAR

Boat hook, breast line, bow line, bow spring, stern spring, stern line, heaving line.

NAVIGATIONAL INSTRUMENTS AND AIDS

Barometer, echo sounder (depth gauge), hand bearing compass, lead line, log, log book, parallel ruler and Portland plotter

GPS

Waypoint, route, anchor alarm, proximity alarm.

SAILING AND GENERAL NAUTICAL TERMS

Abaft, abeam, aboard, aft, aground, alongside, amidships, ashore, awash, beat, bear away, bear up, bearing, below, berth, bright, bow, broach, buoy, cable, cast off, close hauled, draft, ensign, fetch, galley, gimbals, go about, gybe, heave to, heel, helm, in irons, jury, rig, kedge, lashing, lee oh, leeward, leeway, lee helm, weather helm, lee shore, luffing, make way, under way, masthead, moor, on deck, over board, pinch, pooped, port, starboard, quarter, reach, reef, run, trim a sail, spring off, steady, steerageway, tack or go about, tender, veer or back, wake, wash, to weather or to windward, weigh anchor, yaw.

SECTION 2: KNOTS AND ROPEWORK

Candidates must know the purpose of the following knots and be able to tie them in the dark or with their eyes closed – a figure of eight, a round turn and two half hitches, a rolling hitch, bowline, a reef knot, a single and double sheet bend and a clove hitch. In particular:

- when thrown a line, the candidate must be able to tie a bowline around his or her waist single-handed in the dark to simulate a MOB recovery
- candidates must be able to use a rolling hitch to release the tension on a jib sheet in order to release the over wind on a winch.

Candidates must understand the essential properties of nylon, polyester and polypropylene ropes. They must also know that three strand constructions provide more stretch than braided constructions but braided constructions are more robust. Candidates must be able to coil a line or for storage or for neatly securing the mast. Candidates must be able to heave a line and lasso a buoy.

SECTION 3: CHARTS AND NAVIGATIONAL PUBLICATIONS

Candidates must be familiar with the nautical chart and the common chart symbols. They must understand the concept of latitude and longitude and know why the latitude scale is used to measure distance. They must know that one minute of latitude is approximately one nautical mile or 10 cables. They must know that a nautical mile is 1852 meters. Candidates must also understand the need to use Notices to Mariners to keep their charts up to date.

Candidates must be aware of the concept of a horizontal datum, and know that when plotting a GPS derived position on a chart the datums must match, or the GPS position may need to be adjusted as stated on the chart.

Candidates must be familiar with SAN HO-1 (South African List of Lights and Radio Signals), SAN HO-6 (chart Symbols and Abbreviations) and SAN HO-15 (International Regulations for the Prevention of Collisions at Sea).

SECTION 4: NAVIGATION

Candidates must understand the basics of a magnetic compass including variation, deviation and conversion of bearing (or courses) magnetic and true. They must be able to take a bearing with a hand-bearing compass and plot a fix using bearings, transits and depth contours. They must be able to plot a GPS fix, and understand that a GPS fix is best plotted as a distance and a bearing from a convenient waypoint as this is less error prone than latitude and longitude. They must understand the importance of using the correct chart work symbols for ground track, water track, current, lines of position, dead reckoning, estimated position, waypoint and fix. Candidates must be able to plot a DR or an EP with both current and leeway. They must be able to shape a course in the presence of current and leeway.

SECTION 5: GPS

Candidates must understand that a GPS provides a more accurate and reliable fix than any other means, and has safety features as well. The safety conscious skipper will not go to sea without a GPR and an additional back-up hand help GPS that is independent of the yacht's power supply. The GPS should be loaded with local navigational landmarks, way point and fog routes back to the yacht's mooring and any other appropriate safe haven.

Notwithstanding the reliability and accuracy of GPS, candidates must understand that the GPS system is not fail proof. All electronics can fail and radio storms can block satellite signal. Therefore the traditional navigation and paper charts are essential as a visual reference and for the discipline of plotting positions and routes and observing danger, for back-up and confirmation.

Candidates must be able to use a GPS to demonstrate the following:

1. Immediate and urgent use of the MOD function in an emergency.
2. Follow a safe fog route back.
3. Determine the distance and bearings of any waypoint entered into GPS.
4. Use a GPS to calibrate his or her log.
5. Compare a GPS COG and SOG with a compass course & speed through the water in order to be aware of the effects of leeway and current.

Candidates must know that while the GPS system works in the WGS84 horizontal datum, many South African charts are still on an older datum called the Clarke 1880 spheroid. There will be a comment on the chart about the need to correct the satellite derived positions.

Candidates must be aware that chart accuracy may be significantly less than GPS accuracy, and that GPS should be used with caution when plotting a course close to navigational hazards

SECTION 6: PILOTAGE

Candidates must be able to use leading light, transits, clearing bearings, depth and distance logged to develop a simple pilotage plan.

SECTION 7: OTHER NAVIGATIONAL INSTRUMENTS

Candidates must understand the use of the log and depth sounder. They must be able to calibrate the depth sounder using a lead line and calibrate the log using a GPS.

SECTION 8: TIDES

Candidates must understand the cause of tides and the simple pattern of the tides in South Africa with highs, neaps and springs. Candidates must be able use the rule of twelfths to estimate the height of tide between low and high tides.

Candidates must understand the concept of a chart datum, and must know that the CD in South Africa is LAT.

SECTION 9: VHF RADIO

Candidates must know the phonetic alphabet and be fluent in its usage. They must know the basic radio procedures, and in particular, must know the Mayday call by heart. They must be able to make a Mayday call on VHF using DSC and channel 16.

Candidates must understand the importance of carrying a cellular phone with appropriate emergency back-up in the event of a VHF or power failure. They must be aware of the risk of the unauthorised use of cellular phones by crew, such as an unlawful call to the NSRI for help.

SECTION 10: COLREGS

Candidates must be able to identify the "stand on" and the "give way" vessel in any situation. They must know the basic lights, sounds and shapes.

SECTION 11: IALA BUOYAGE

Candidates must know the IALA system of buoys in region A.

SECTION 12: HANDLING A BOAT UNDER POWER

Candidates must demonstrate the ability to bring their yachts on and off their moorings under power.

SECTION 13: HANDLING A BOAT UNDER SAIL

Candidates must understand the basic points of sailing and be able to trim the sail appropriately for each point of sail. Candidates must know how and when to rig a gybe preventer.

Candidates must be able to instruct their crew how to tack, gybe or heave to in a safe and seamanlike manner. Candidates must be able to hoist sails, drop sails, reef sails or shake out a reef under power or sail.

Candidates must be able to pick up a buoy under sail. Candidates must demonstrate the ability to sail back onto a mooring or emergency buoy in the event of engine failure. This may be done in open water if demonstrating it in a marina is considered risky.

SECTION 14: MAN OVERBOARD

Candidates must be able to conduct an efficient MOD procedure when under power. They must be able to describe the alternative means of bringing the person back on board.

SECTION 15: WEATHER

Candidates must understand and be able to explain the following basic meteorological terms and concepts: isobar, wind arrows, veering, high pressure system, low pressure system, depression, cold front. Candidates must understand and be able to interpret a synoptic chart.

Candidates must be able to explain the typical sequences of events as a cold front approaches and passes. They must be able to do the same for a coastal low.

Candidates must be able to describe the weather forecasts they use before going sailing. They must know how to access the weather forecasts at sea on VHF.

SECTION 16: ANCHORING

Candidates must be able to demonstrate anchoring under power using the engine to ensure that the anchor has set.

SECTION 17: SAFETY AND EMERGENCY AT SEA

Candidates must demonstrate a thorough knowledge of their boat and be able to conduct a safety inspection. They must know the location of all safety equipment and how to use it. They must be able to give an appropriate safety briefing. They must have an understanding of the requirements for an annual Certificate of Fitness inspection.

Candidates must demonstrate the ability to coach the crew to operate in a safe and seamanlike manner at all times and to perform the MOB procedure.

Candidates must be able to explain the precautions they would take to prevent emergency situations e.g. flooding, cooking burns, fire, gas, explosions, ropes around the prop, engine failure and power failure. Candidates should be able to explain how they would handle these emergencies. They should also know how to fire flares – in the dark if necessary. They should be able to explain the process of abandoning to a life-raft.

Candidates must know the meaning of the flag alpha and be able to signal SOS in Morse code.

Candidates must be able to describe the precautions to be taken when caught out in fog and must also be able to describe the navigational techniques they would adopt if all GPS systems failed in fog.

SECTION 18: DIESEL ENGINES

Candidates must know how to perform basic engine checks on engine oil, gear-box oil and cooling water. They must also know how to bleed the engine.

Candidates must have an understanding of battery management and the protection of the engine starting battery.

SECTION 19: LOCAL KNOWLEDGE

Candidates must have sound local knowledge of their home port as well as a good understanding of local weather and any associated dangers.

SECTION 20: FIRST AID

Candidates must know how to treat burns or hypothermia, and must be able to give artificial respiration (AR) when required. They must know how to access medical advice via VHF or cell phone.