



Basic Keelboat Sailing Standard (ASA 101)

Prerequisites: None

General Description: Description: Demonstrated ability to skipper a sloop-rigged keelboat of approximately 20 to 27 feet in length by day in light to moderate winds and sea conditions. Knowledge of basic sailing terminology, parts and functions, helm commands, basic sail trim, points of sail, buoyage, seamanship and safety including basic navigation rules to avoid collisions and hazards. Auxiliary power operation is not required

SAILING KNOWLEDGE

A Certified Sailor has successfully demonstrated his or her ability to:

TERMINOLOGY

1. Describe and identify the following sailboat parts and their functions:

Hull	Rudder	Winch
Deck	Standing Rigging	Cleat
Transom	Shroud	Fender
Keel	Spreader	Docklines
Mast	Chainplate	Block
Boom	Headstay / Forestay	Fairlead
Gooseneck	Backstay	Cockpit
Bow	Stanchion	Cabin
Stern	Lifeline	
Helm / Tiller / Wheel	Pulpit	

2. Identify and describe the functions of the following sails, sail parts and sail controls:

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Traverse City, Michigan
(231) 941-0535 bbyc.com
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Mainsail	Batten Pocket	Cunningham
Jib / Genoa	Bolt Rope	Traveler
Tack	Running Rigging	Hank
Head	Halyard	Boom Topping Lift
Clew	Mainsheet	Telltale
Luff	Jibsheet	Roller Furler
Foot	Boom Vang	Shackle
Leech	Outhaul	
Batten	Downhaul	

3. Define the following terms:

Port	Draft	Ahead
Starboard	Freeboard	Astern
Forward	Skipper	Abeam
Aft	Helmsman	Windward
Beam	Crew	Leeward
Heel	Weather helm	

Maneuvers & Points of Sail

4. Explain and identify using diagrams the following maneuvers, points of sail, and other terms:

No-Sail Zone	Closed Hauled	Sailing-by-the-Lee
In Irons	Close Reach	Stand-on
Luffing	Beam Reach	Give-way
Head-to-Wind	Broad Reach	Tacking
Port Tack	Run	Jibing



Starboard Tack

5. Explain and utilize correctly the following helm commands and crew responses:

- 'Heading Up'
- 'Bearing Away'
- 'Ready About' ----- 'Ready' ----- 'Helms a-Lee' (or 'Coming About' or 'Tacking')
- 'Prepare to Jibe' ----- 'Ready' ----- 'Jibe-Ho' (or 'Jibing')

Navigation Rules

6. Apply Rule 5 (Look-out) from the publication *Navigation Rules, International - Inland*.

For items 7 through 13, describe and use diagrams to apply the *Navigation Rules*. Identify the "stand-on" and "give-way" vessel in each situation.

7. Sailing vessels with the wind on different sides (starboard / port), Rule 12(a)(i)
8. Sailing vessels with the wind on same side (leeward / windward), Rule 12(a)(ii)
9. Sailing vessel on port tack cannot determine windward sailing vessel's tack, Rule 12(a)(iii)
10. Overtaking (Rule 13)
11. Power-driven vessels approaching each other head-on (Rule 14)
12. Power-driven vessel with another power-driven vessel on starboard side (Rule 15)
13. Describe appropriate actions to be taken when sailing in the vicinity of commercial traffic, including responding to a danger signal.

Aids to Navigation

14. Identify and state the purpose of lateral aids to navigation by color, shape & numbering, including preferred channel markers.
15. Identify safe water, information and regulatory markers.

Safety Gear & Procedures

16. List the federally required equipment for a recreational sailboat of 25-feet in length.
17. Identify the location and color of navigation lights used by a recreational vessel of 25-feet in length.
18. Describe the purpose of a Float Plan, give examples of information contained therein and to whom it should be submitted.
19. Describe when and to whom boating accidents must be reported.
20. State the Federal Blood Alcohol Content (BAC) limit for vessel operation.

SKILLS



Safety Equipment

21. Demonstrate the proper use of a lifejacket or personal flotation device (PFD).

Sailing

Rig/hoist/set sails safely and correctly to obtain proper sail trim using the following lines and controls, *if available* on the practice vessel

22. Halyards and/or furling devices
23. Downhaul or Cunningham
24. Outhaul
25. Boom Vang
26. Mainsheet
27. Jib Sheets
28. Winches
29. Traveler
30. Lower/furl/stow sails and coil/flake/stow lines properly

Without coaching or assistance from the instructor, verbalize appropriate commands and demonstrate competence, safety and good seamanship in the role of Skipper/Helmsman during the maneuvers listed in items 37-46. Honor all aids to navigation and use properly the basic *Navigation Rules*. Ensure sails are trimmed correctly and the vessel is in control at all times.

31. Depart dock or mooring fully ready to get underway safely
32. Select and maintain a given tack and course
33. Demonstrate how to get out of "irons"
34. Head Up
35. Bear Away
36. Sail Close Hauled
37. Sail on a Close Reach
38. Sail on a Beam Reach
39. Sail on a Broad Reach
40. Sail on a Run
41. Tack
42. Jibe
43. As crew, give appropriate verbal responses and perform correct actions during the maneuvers listed above.

Crew Overboard

44. Describe and demonstrate the correct actions to be taken while under sail from the time a person falls overboard until safely recovered.



Return & Secure

- 45. Return to dock or mooring
- 46. Secure vessel, using appropriate mooring/dock lines, fenders, etc.

Knots

- 47. Describe the purpose of, and construct without assistance in a timely manner, each of the following knots and hitches:

Figure-8 knot	Square/reef knot	Clove hitch
Cleat hitch	Bowline	Round turn & 2 half hitches

THIS CONCLUDES THE 101 BASIC SAILING STANDARDS

Basic Coastal Cruising Standard (ASA 103)

Prerequisites: Basic Keelboat Sailing (ASA 101) Certification

General Description: Demonstrated ability to skipper a sloop-rigged auxiliary powered (inboard or outboard engine) keelboat of approximately 25 to 35 feet in length by day in moderate winds (up to 20 knots) and sea conditions. Knowledge of cruising sailboat terminology, basic boat systems, auxiliary engine operation, docking procedures, intermediate sail trim, navigation rules, basic coastal navigation, anchoring, weather interpretation, safety and seamanship.

SAILING KNOWLEDGE

A Certified Sailor has successfully demonstrated his or her ability to:

Cruising Sailboat Terminology

- 1. Identify and describe the following cruising sailboat parts, areas, or systems and their functions:

Stemhead Fitting	Binnacle	Auxiliary Engine
Turnbuckle	Cockpit Locker	Bilge
Chainplate	Emergency Tiller	Bilge Pump
Hatch	Companionway	Through-hull Fitting
Transom	Saloon	Seacock
Self-bailing Cockpit	Galley	Ground Tackle
Compass	V-berth	Windlass





Safety Equipment & Procedures

2. List the federally required equipment for a 33-foot recreational vessel equipped with an inboard diesel engine.
3. Describe the different types of Personal Flotation Devices (PFD, or Life Jackets), their characteristics and benefits.
4. List the ASA recommended safety equipment for a recreational sailing vessel.
5. Describe ways to keep gear and equipment secure and in their proper location.
6. Describe the purpose and proper use of a safety harness and tether.
7. Describe safe refueling procedures for a vessel equipped with an outboard engine using gasoline or a diesel engine using diesel fuel.

Navigation & Weather

8. Demonstrate understanding of basic coastal navigation terminology and practices, including

Essential navigator's tools	Aids to navigation
Use of navigation charts and symbols	Latitude / Longitude
Depth soundings	Determining magnetic direction
Bottom types	Measuring distance
Hazards	

9. Describe how to prevent undue magnetic influence on a compass.
10. Describe the dangers of, and how to avoid, a 'Lee Shore.'
11. Obtain and interpret marine weather information; describe the impact that present observations and forecasts may have on sailing plans for the next 6 -12 hours.
12. Describe and identify Cumulonimbus clouds and what dangers they may signify.
13. Define 'small craft advisory' and 'gale warning' and describe precautions to be taken for each.

Sail Plan

14. Describe the appropriate sail combinations to carry under the following wind conditions: light (0-11 knots), moderate (12-19 knots), and heavy (20-33 knots).
15. Describe the procedures for reducing sail using a roller furling jib and a mainsail slab reefing system.
16. Describe the benefits of, and procedures for, heaving-to.

Seamanship

17. Describe the primary responsibilities of skipper and crew
18. Describe and apply the following *Navigation Rules* to avoid collisions: proceeding at a safe speed (Rule 6), determination of collision risk (Rule 7), and taking early and substantial action to avoid collision (Rule 8).
19. Describe and apply the *Navigation Rules* for sailing vessels (Rule 12), overtaking (Rule 13), and power-driven vessels in head-on (Rule 14) and crossing (Rule 15) situations.
20. Describe actions to be taken by Give-way and Stand-on vessels (Rules 16 & 17).
21. Describe the location, color and illumination angles of required navigation lights on a 33-foot recreational vessel at anchor, under sail, and under power.
22. Describe actions to be taken when operating a vessel in restricted visibility such as fog or haze including adaptation of speed and use of sound signals.



23. Describe the meaning of basic maneuvering and warning signals (short and prolonged whistle blasts) for inland waters.
24. Describe the appearance and purpose of the 'Diver Down' and 'Alpha' flags.
25. Describe common anchor types, major considerations for anchorage selection, and proper scope for short term and overnight anchoring as well as storm conditions.

Emergencies

26. Describe the three stages of hypothermia; name symptoms and treatment for each
27. Describe two methods for getting a person out of the water and safely back on board the vessel.
28. Identify common sources and prevention of fires and/or explosions, as well as appropriate actions to be taken if these situations arise. Describe different types of fires and procedures for operating a fire extinguisher.
29. Describe immediate actions to be taken when the following urgent situations arise:

Cabin filling with water	Dragging anchor
Failed steering system	Grounding at anchor
Fouled propeller	Running aground under sail
Failed running or standing rigging	Engine failure

SKILLS

Preliminaries

30. Locate and examine for compliance the vessel's federally required and ASA recommended safety equipment.
31. Demonstrate on shore or aboard the vessel the correct method for putting on a life jacket while in the water.
32. Identify the vessel's battery selector switch and power distribution panel and ensure all switches are in the proper position for getting underway.
33. Ensure navigation lights (sidelights, stern light, steaming light, and anchor light) operate properly.
34. Perform a radio check using a working channel on the VHF radio.

Navigation

35. Visually pilot the practice vessel in and out of a harbor, correlating nautical chart symbols to actual landmarks and aids to navigation
36. Steer a compass course (+/- 5 degrees) under power for a minimum of five minutes.

Under Power

37. Visually inspect the auxiliary engine and demonstrate safe engine starting, operating, and stopping procedures. Demonstrate proper gearshift and throttle usage.
38. Ensure vessel & crew readiness and depart dock or slip smoothly and under control



39. Approach a mooring buoy (or other mark as a simulation if no mooring available); stop the vessel within boathook reach; attach the vessel to the mooring using an appropriate line or bridle; cast off from the mooring and get underway.
40. Set a bow anchor in water depth 8 feet or greater, using correct procedures including hand signal communication, vessel maneuvers, safety in handling ground tackle, and proper operation of windlass (if equipped). Anchor should hold with engine in reverse gear at one-half throttle. Raise anchor and get underway smoothly using correct procedures.
41. Describe and demonstrate the correct actions to be taken while **under power** from the time a person falls overboard until safely recovered.

Under Sail

42. Hoist or unfurl sails correctly using halyards and / or furling devices. Describe the effect on sail trim or performance while adjusting each of the following lines and controls (*if available* on the practice vessel): Downhaul or Cunningham, Outhaul, Boom Vang, Mainsheet, Traveler, Jibsheets, Jibsheet fairleads. Discuss ways to reduce heeling.
43. Demonstrate correct winch operation, including safety considerations for line tension / breakage, hand / finger position, winch handle insertion / removal, and clearing overrides.

Without coaching or assistance from the instructor, verbalize appropriate commands and demonstrate competence, safety and good seamanship in the role of Skipper / Helmsman during the maneuvers listed below. Honor all aids to navigation and use properly the *Navigation Rules*. Ensure sails are trimmed correctly and the vessel is in control at all times. Adjust sail controls appropriately as the vessel's heading changes and wind / sea conditions evolve.

44. Get out of 'irons' then select and maintain a given tack and course.
45. Head Up, Tack, Bear Away, and Jibe while pausing briefly at each of the following points of sail: Close Hauled, Close Reach, Beam Reach, Broad Reach, and Run (with sails 'wing 'n' wing').
46. Heave-to and get sailing normally again.
47. While underway, reduce sail area by reefing mainsail and genoa; shake out reef and resume course.
48. As crew, give appropriate verbal responses and perform correct actions during the maneuvers listed above.
49. Describe and demonstrate the correct actions to be taken while **under sail** from the time a person falls overboard until safely recovered.
50. Lower and/or furl all sails and coil or flake and stow all lines properly.

Return to Dock/Slip

51. Ensure vessel / crew readiness and use the auxiliary engine to bring the vessel smoothly and under control to a stop next to a parallel dock or into a slip; secure the vessel using appropriate lines and fenders.

Knots

52. Describe the purpose of, and construct without assistance and in a timely manner, each of the following knots:



Figure-8	Cleat Hitch
Square (Reef) Knot	Bowline
Clove Hitch	Sheet Bend
Round Turn & 2 Half Hitches	Rolling Hitch

THIS CONCLUDES THE 103 BASIC COASTAL CRUISING STANDARDS

Intermediate Cruising Standard (ASA 104)

Prerequisites: Basic Keelboat Sailing (ASA 101) and Basic Coastal Cruising (103) Certification

General Description: Demonstrated ability to skipper a sloop-rigged, auxiliary powered keelboat (or catamaran, if course is conducted on such) of approximately 30 to 45 feet in length during a multi-day cruise upon inland or coastal waters in moderate to heavy winds (up to 30 knots) and sea conditions. Course is conducted as a live-aboard cruise of at least 48 hours. Knowledge of provisioning, galley operations, boat systems, auxiliary engine operation, routine maintenance procedures, advanced sail trim, coastal navigation including basic chart plotting and GPS operation, multiple-anchor mooring, docking, health & safety, emergency operations, weather interpretation, and dinghy/tender operation.

SAILING KNOWLEDGE

Cruise Planning

1. Describe appropriate clothing and personal gear to pack for safety and comfort during a one-week cruise.
2. Describe the required documents and procedures for customs and immigration when cruising to a foreign port of entry.
3. Plan a menu and create a provisioning list for a one-week cruise.
4. Describe the symptoms and first aid treatments for hypothermia and heat exhaustion / heat stroke.
5. Describe the causes, prevention and treatments for seasickness.
6. Describe the tools and spare parts that should be on board for a one-week cruise.
7. Determine the fuel tank capacity of the training vessel, describe variables that affect range under power, and calculate the range based on average fuel consumption.
8. Determine the fresh water capacity of the training vessel. Describe the minimum daily water requirements for all personnel on board and methods to conserve fresh water.

Systems

9. Describe safe galley procedures to minimize the danger of fire, scalding, spillage, etc.
10. Describe proper marine toilet operation, including precautions to prevent malfunction.
11. Describe proper holding tank pump-out procedures.
12. Describe safe fresh water tank filling procedures, including identification of correct deck fills and cautions to be observed near a pump-out station.



13. Describe power conservation measures and procedures to prevent running batteries down when anchored/moored overnight.

Emergencies

14. Name four acceptable distress signals, as listed in the *Navigation Rules*, which are appropriate for a recreational vessel.
15. Describe actions to be taken in the following situations:
 - Collision with another boat
 - Running aground
 - Dragging Anchor
 - Flooding
16. Describe actions to be taken in the following situations when the vessel is under power:
 - Fouled Propeller
 - Engine cooling water fails to flow
 - Engine fails in a crowded anchorage where using sails is not possible
 - Engine fails in a busy channel

Seamanship

17. Describe the information required and the procedure for tying a boat to a fixed dock in areas with a large tidal range.
18. Describe the following multiple-anchor mooring procedures and their purposes:
 - Fore & Aft Moor (bow and stern anchors)
 - Forked Moor (two anchors set 45 to 90 degrees apart at the bow)
 - Bahamian Moor (two anchors set 180 degrees apart at the bow)
 - Mediterranean Moor (anchor set off the bow with stern to a dock)
19. Describe methods and potential dangers of rafting vessels at anchor.
20. Describe safe methods for towing and securing a dinghy / tender.
21. Describe preparation of the vessel for heavy weather sailing including gear stowage, crew safety and appropriate sail plan.
22. Describe the following courtesies and customs:
 - Permission to board
 - Permission to come alongside
 - Courtesy in crossing adjacent boats when rafted
 - Rights of first boat in an anchorage
 - Keeping clear of regattas
 - Flag etiquette
 - Rendering assistance to vessels in distress
23. Describe and apply Rules 1 through 19 from *Navigation Rules, International - Inland*.

Navigation & Weather

24. Explain and identify the following coastal navigation terms, using a chart or diagrams as appropriate:

Speed	Track	Fix
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Time	Course	True
Distance	Heading	Magnetic
Tidal Range	Bearing	Variation
Tidal Current	Line of Position (LOP)	Deviation

25. Describe the sea breeze and land breeze effects.
26. Identify conditions that may lead to the formation of radiation and sea / advection fog.
27. Describe actions to be taken in the following weather situations:
 - Fog / reduced visibility
 - Heavy squall

SKILLS

General

28. Perform the duties of skipper and crew on a live-aboard coastal cruise of at least 48 hours
29. Locate and check the condition of all federally required equipment.

Systems

30. Perform a routine vessel inspection, ensuring that all systems and equipment are in working order, including:
 - fuel level
 - fresh water level
 - battery voltage
 - electrical system
 - navigation lights
 - instruments and electronics
 - bilge
 - through-hulls and seacocks
 - standing rigging
 - running rigging
 - deck hardware
 - ground tackle
31. Visually inspect the auxiliary engine. Check for correct engine oil level and potential problems such as leaking fluids or frayed belts.
32. Inspect the raw water strainer for debris and ensure that the raw water intake seacock is in the proper position for engine operation.
33. Locate the emergency steering tiller and identify where it attaches to the rudder post.
34. Operate the electric and manual bilge pumps to ensure they are functional.
35. Demonstrate proper usage of the VHF radio, including hailing another station on Channel 16 and switching to a working channel.
36. Demonstrate proper operation of the galley stove including fuel supply, lighting, and shutting down. Simulate the proper way to extinguish a galley fire.
37. Demonstrate the proper method of disconnecting and reconnecting shore power cables.

Under Power



38. Demonstrate the use of spring lines in the docking/undocking process (e.g., pivoting the vessel away from the dock during departure).
39. Maneuver the vessel in reverse gear, observing and explaining the effect of prop walk on the stern's direction.
40. Maneuver the boat in a confined space to include performing 'standing turn' maneuver, turning the vessel 180 degrees in a confined area using rudder position and gearshift / throttle control.
41. Ensure vessel / crew readiness and use the auxiliary engine to bring the vessel smoothly and under control to a stop next to a parallel dock or into a slip; secure the vessel using appropriate lines and fenders
42. Describe / demonstrate an appropriate crew overboard recovery method while *under power*. Describe methods to bring COB safely back onboard.
43. Demonstrate *one* of the following multiple-anchor mooring methods as appropriate to local conditions, using correct procedures such as hand signals, safety in handling ground tackle, proper operation of windlass (if equipped) and use of a snubber or bridle. Raise anchors and get underway smoothly using correct procedures.
 - Fore and Aft Moor
 - Forked Moor
 - Bahamian Moor
 - Mediterranean Moor

Under Sail

44. Sail a compass course (+/- 10 degrees) with sails trimmed properly.
45. Demonstrate the proper usage of all lines and sail controls (halyards, sheets, traveler, boom vang, outhaul, jibsheet fairleads) that are available on the training vessel to obtain maximum performance and comfort.
46. Demonstrate the correct usage of a jibe preventer.
47. Demonstrate proper reefing procedures (jiffy reefing or in-mast furling as appropriate for the training vessel) while under sail or hove-to.
48. Demonstrate *two* appropriate crew overboard recovery methods while *under sail*; options include the Quick-Stop, Figure-8 and Broad Reach/Close Reach methods. Begin from both close-hauled and a broad reach and select the most appropriate maneuver for the initial point of sail.

Navigation & Weather

49. Plan a coastal passage from origin to destination, plotting courses, distances, and waypoints. While en route, keep a log and a DR plot and calculate estimated times of arrival (ETA) to waypoints.
50. Obtain and interpret marine weather information; describe the impact that the present observations and forecast may have on sailing plans over the next three days.
51. Update weather forecasts during your passage, verify through visual and measured observations.
52. Take visual 2 or 3-bearing fixes using a hand-bearing compass.
53. Determine the predicted depth above or below chart datum at a given time using tide prediction tables.
54. Use a GPS / chartplotter (if so equipped) to obtain information and perform basic navigation functions such as position, course, speed, waypoints, ETA, and tidal information.
55. Pilot a boat into an unfamiliar harbor or anchorage by day using relevant nautical charts, publications and tidal information.

Knots

Describe the purpose of and construct each of the following knots (without assistance and in a timely manner):

Figure-8 knot	Clove hitch	Round turn & 2 half	Cleat hitch
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		hitches	
Truckers hitch	Rolling hitch	Sheet bend	Bowline

THIS CONCLUDES THE 104 BAREBOAT CHARTERING STUDY GUIDE

