



ASA 106 - Advanced Coastal Cruising

Pre-study is vital to the success of your course. There will be two tests for this course, one written and one skills. Please study the material outlined below so that you will be prepared at the time of your course and will be able to concentrate on the principles taught by the instructor.

We recommend going through each standard (listed below and set by the American Sailing Association), under the “Knowledge” section, looking up in the text and review, as this will streamline your learning. The “Skills” portion will be taught on the boat.

Prerequisites: Basic Sailing (ASA 101) and Basic Coastal Cruising (ASA 103) certification and the ability to demonstrate competencies in all knowledge and skill elements of those standards. Bareboat Cruising certification (ASA 104) or equivalent experience, plus additional cruising experience.

Description: ASA 106, Advanced Coastal Cruising

Able to skipper a sloop-rigged, auxiliary powered keelboat of approximately 30 to 50 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. 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.

KNOWLEDGE

- 1.** Describe true and apparent wind.
- 2.** Describe sailing forces using diagrams. Graphically find the center of effort and center of resistance of sails and keels, respectively.
- 3.** Describe with the aid of diagrams the causes of lee and weather helm and methods of correcting them. Include the reasons for preference of sight weather helm, sail selection (including full sails or reefed sails), mast position and mast rake.
- 4.** Describe sail shapes and sail interactions as needed for different wind strengths and points of sail. Describe the effects on sail shape and sail interactions when adjusting the following:
 - Luff tension
 - Outhaul
 - Leech line

 - Boom vang
 - Backstay tension

- Jib fairleads
- Jib sheet tension
- Mainsheet
- Traveller
- Downhaul / cunningham

Weather

5. Describe how to use a barometer and thermometer independently and concurrently to assist in predicting weather.
 6. Describe cirrus, cirrostratus, altocumulus, stratocumulus, cumulonimbus and cumulus clouds and the weather expected to be associated with each.
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7. Describe local weather in relation to thermal winds and prevailing winds.
 8. Describe three sources of weather information available in the United States.

Seamanship

9. Describe the proper selection of sails on a given boat for all weather conditions and give reasons for the selections made.
 10. Describe appropriate heavy weather precautions and describe how they are carried out, including:
 - Sail changes
 - Use of special equipment such as safety harness and sea anchor
 - Doubling up of gear
 - Special checks in areas liable to chafe
 - Stowage of equipment above and below decks
 - Additional checks on bilge condition
 - Special arrangements for towing dinghy/tender (if used)
 - Problems of fatigue
 - Selection of clothing
 - The need of at least two on deck at all times
 11. Describe the steps to be taken by skipper and crew for “heaving to” and “lying-a-hull.”
 12. Describe the methods for rafting at anchor and the possible risks with day and night rafting.
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13. Describe how to prevent the dinghy/tender from riding up and bumping the vessel’s hull while anchored at night.
 14. Describe procedures for securing a boat overnight with one anchor and stern made fast to a dock or shoreline.
 15. Describe two methods of using a second anchor to reduce swinging.
 16. Describe four different methods of recovering an anchor that is fouled on the bottom.
 17. Describe when and how to use a trip line and an anchor buoy.
 18. Describe when and how to set an anchor watch and the responsibilities of the crew on watch.
 19. Describe how to:
 - Prepare a towing bridle
 - Pass a tow to another boat
 - Get underway with a tow and which speeds to use
 - Avoid fouling the propeller
 - Avoid danger of towline parting under stress
 - Make proper lookout arrangements during towing
 20. List 8 of the 16 International Distress Signals found in Rule 37 of the *USCG Navigation Rules and Regulations Handbook*.
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21. Describe how the boat should be handled and what actions should be taken when the following emergencies occur while under sail:
 - The boat is dismasted
 - The boat runs aground on a lee shore

22. Describe how the boat should be handled and what remedial action should be taken when the following emergencies occur while under power:

- The engine cooling water fails to flow
- The engine fails in a crowded anchorage
- The engine fails in a busy channel

23. State the fuel tank capacity and range of a typical 40-foot cruising sailboat and the factors that could affect its range.

24. State the water tank capacity of a typical 40-foot cruising sailboat and the minimum water requirement per person.

25. Describe the skipper's responsibilities and action for the following common courtesies and customs:

- Permission to board
- Permission and entitlement to come alongside
- Permission and entitlement to cross adjacent boats when rafted
- Rights of first boat at an anchorage
- Keep clear of boats racing
- Offering assistance to yachtsmen in trouble.
- Flag etiquette: National flag, Courtesy flag, Burgee/house flag, Dipping flag
- Checking of boat's appearance (shipshape & Bristol fashion, no lines or fenders dangling over side)
- Duty to provide assistance at sea

26. List the documents required and the procedures followed when leaving and entering U.S. territorial waters.

Engineering

27. Describe appropriate measures for the following common engine problems:

- Stoppage in fuel line
- Burned and defective points
- Fouled spark plug/injector problems
- Carburetor icing (spring and fall sailing)
- Unserviceable starter
- Electrolysis

28. Describe when and how to carry out an oil change.

29. Describe the minimum pre-season inspection and maintenance for the following:

- Hull (including underwater fittings, electrical systems, painting, antifouling)
- Spars and rigging (including electrolysis)
- Sails
- Safety

30. Describe recommended permanent and temporary installation methods of grounding for lightning.

31. List factors to be considered before allowing anyone to go swimming while the boat is at anchor.

32. Describe the danger of overhead power lines.

33. Describe the uses, capabilities and limitations of a portable radar reflector.

SKILLS

Boat Handling Under Sail

- 34.** Perform the duties of skipper and crew on a liveaboard coastal cruise of at least 48 hours, including night sailing.
 - 35.** As helmsman, demonstrate the proper techniques of beating, reaching, running, tacking, jibing, heading up, bearing away, and luffing in approximately 20 knots of wind.
 - 36.** Work to weather to best advantage accounting for wind shifts, tides, current and local geography.
 - 37.** Sail to a compass course with +/- 10 degrees with sails trimmed.
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- 38.** Demonstrate correct methods of towing a dinghy.
 - 39.** Demonstrate a person in water (Man Overboard or MOB) recovery maneuvering while sailing at night.
 - 40.** Anchor, weigh anchor, pick up and cast-off moorings while acting as helmsman and/or crew.
 - 41.** Demonstrate how to take a sounding using two different methods.
 - 42.** Stand a navigation watch during a passage of at least 20 miles by night and 20 miles by day and demonstrate all of the skills elements in [ASA 105, Coastal Navigation](#).
 - 43.** (Optional) Demonstrate correct procedures for hoisting, setting, trimming, jibing, dousing and packing a spinnaker.