



# Advanced Coastal Cruising Standard 106

**Prerequisites:** Basic Keelboat Sailing 101, Basic Coastal Cruising 103, Bareboat Chartering 104 and Coastal Navigation Certification 105.

**General Description:** Able to safely act as skipper and crew of a sailing vessel about 30 to 50 feet in length 'm coastal and inland waters, in any conditions.

## **SAILING KNOWLEDGE**

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

1. Describe the theory of true and apparent wind.
2. Describe the theory of sailing using force diagrams. Graphically find the center of effort and center of resistance of sails and keel, 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 slight 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	Downhaul
Leech Line	Boomvang	Cunningham
Backstay Tension	Jib Fairleads	Jib Sheet Tension
Mainsheet	Traveller	

## **Weather**

5. Identify how to use a barometer and a thermometer either singly or together to assist in predicting weather.
6. Describe cirrus, cirrostratus, altocumulus, stratocumulus, cumulonimbus and cumulus clouds and the weather expected to be associated with each.
7. Describe local weather in relation to thermal winds and prevailing winds.
8. Describe three sources of weather information available to yachtsmen 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 selection made.

10. Describe the appropriate heavy weather precautions for the boat selected and describe how they are carried out. Include sail changes, use of special equipment (safety harness, sea anchor), doubling up of gear, special checks in areas liable to chafe, stowage of equipment (above and below decks), additional checks on condition of bilge, special arrangements for towing dinghy/tender (if used), problems of fatigue, selection of clothing, and the need of at least two on deck at all times.
11. Describe all the steps to be taken by skipper and crew for "heaving to" and "lying ahull."
12. Describe the methods Of rafting at anchor and the possible problems with day and night rafting.
13. Describe how to prevent the tender/dinghy from riding up and bumping the vessels hull while anchored at night.
14. Describe step by step how to secure a boat overnight with one anchor and stem made fast to the shore or dock.
15. Describe two methods of using a second anchor to reduce swinging.
16. Describe four different methods of recovering an anchor which 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 such a 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
20. List from memory the visual distress signals listed in the applicable U. S. Coast Guard publications.
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 the selected boat and the factors that could affect its range.
24. State the water tank capacity on your boat and the minimum water requirement per person-
25. Describe the skipper's responsibilities and action for the following common courtesies and customs of yachtsmen:
- ✓ 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 (even though cruising boats may be the "stand on boats").
  - ✓ Offering assistance to yachtsmen in trouble.
  - ✓ Flag etiquette: National flag, Courtesy flag, Burgee/house flag, Dipping flag.
  - ✓ Lines dangling over side.
  - ✓ Fenders over side when underway.
  - ✓ Checking of boat's appearance (shipshape & Bristol).
26. List the documents required and the procedures followed when leaving and entering U.S. territorial waters.

### **Engineering**

27. Describe and demonstrate the appropriate collective measures for the following common engine problems as applicable to the boat selected.
- ✓ Stoppage in fuel line
  - ✓ Burned and defective points
  - ✓ Fouled spark plug/injector problems
  - ✓ Unserviceable starter
  - ✓ Electrolysis
28. Describe when and how to carry out an oil change in the engine selected.
29. Describe the minimum preseason maintenance and checks given to 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. State the factors you would consider before allowing anyone to go swimming while the boat is at anchor.
32. State the danger of overhead power lines.
33. Describe the uses, capabilities and limitations of a portable radar reflector.

## **SAILING SKILLS**

### **Boat Handling Under Sail (by Day and Night, 30 hours minimum ASA instructional program)**

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

34. Act as helmsman and demonstrate the proper techniques of beating, reaching, running, tacking, jibing, heading up, heading down (bearing away) and luffing in approximately 20 knots of wind.
35. Work to weather to best advantage using wind shifts, tides and local geography.
36. Sail a compass course (within 10 degrees) with sails trimmed.
37. Demonstrate correct methods of towing a dinghy.
38. Properly carry out nighttime man overboard procedures.
39. Demonstrate correct procedures for hoisting, setting, trimmings, jibing, dousing and packing a spinnaker.\*
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. Stand a navigation watch during a passage of about 20 miles by night and 20 miles by day and demonstrate all of the skills required for the ASA Coastal Navigation Standard.

**The course outline is provided by the American Sailing Association as a guideline for content and subject matter. Actual course syllabus taught by the instructor may not follow the preceding plan as presented.**