



Pre-study is vital to the success of your course. There will be two tests for each course, one written on sailing “Knowledge” and one performance on “Skills”.

To streamline your study, we recommend reading about each standard in the course textbook under the “Knowledge” section (listed below and set by the American Sailing Association). The “Skills” section will be taught on the boat, and will not be on a written exam. However, reading about the “Skills” standards is still advised. By studying the material outlined below, you will be prepared at the time of your course and will be able to concentrate on the knowledge and skills taught by the instructor.

ASA 103: Basic Coastal Cruising Curriculum

The textbook used for your course is *Coastal Cruising Made Easy*, by the American Sailing Association.

Prerequisites: Basic Sailing (ASA 101) certification and the ability to demonstrate competencies in all knowledge and skill elements of that standard.

Description: ASA 103/Basic Coastal Cruising

Able to skipper a sloop-rigged auxiliary powered (inboard or outboard engine) keelboat of approximately 25 to 35 feet 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.

KNOWLEDGE

Cruising Sailboat Terminology

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

- Turnbuckle
- Chainplate
- Stemhead Fitting
- Rudder Post
- Transom
- Compass

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

Safety Equipment & Procedures

2. List the federally required equipment for a 33-foot recreational vessel equipped with an inboard diesel engine.
 3. Describe the characteristics and benefits of Personal Flotation Devices (PFD's), both Wearable (Life Jackets) and Throwable.
 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.
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Navigation & Weather

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

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

- Measuring distance

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.
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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 reefing system.
 16. Describe the benefits of, and procedures for, heaving-to.
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Seamanship

17. Describe the primary responsibilities of skipper and crew.
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For elements 18 – 23, describe, using diagrams as appropriate, the applicable rules for a 33-foot recreational sailing vessel, as found in the *USCG Navigation Rules and Regulations Handbook*:

18. 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. Sailing vessels (Rule 12), overtaking (Rule 13), and power-driven vessels in head-on (Rule 14) and crossing (Rule 15) situations.
 20. Give-way and Stand-on vessels (Rules 16 & 17).
 21. Location, color and illumination angles of required navigation lights at anchor, under sail, and under power.
 22. 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. 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.
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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
 - Failed steering system

- Fouled propeller
- Failed running or standing rigging
- Dragging anchor
- Grounding at anchor
- Running aground under sail
- 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.
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Navigation

- 35.** Visually pilot the training 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.
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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.
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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
- jibsheet
- 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, 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 on wing").

46. Heave-to and get sailing normally again.

47. While underway, reduce sail area by reefing mainsail and genoa; then shake out reef.

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

ASA 104: Bareboat Cruising Curriculum

The textbook used for your course is *Bareboat Cruising Made Easy*, by the American Sailing Association.

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.

Description: ASA 104, Bareboat Cruising Certification

Able to skipper a sloop-rigged, auxiliary powered keelboat 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. 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

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. Describe variables that affect fuel consumption and cruising range under power, and calculate range based on average fuel consumption.
 8. Describe the minimum daily water requirements for all personnel on board as well as methods to conserve fresh water.
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Systems

9. Describe safe galley procedures to minimize dangers such as fire, scalding, and spillage.
 10. Describe proper marine toilet operation, including precautions to prevent malfunction, and describe proper holding tank pump-out procedures.
 11. Identify and describe the function of the fundamental systems and components of a marine diesel engine, including fuel, lubrication, cooling, and drive train.
 12. Describe safe fresh water tank filling procedures, including identification of correct deck fills.
 13. Describe power conservation measures and procedures to prevent running batteries down when anchored/moored overnight.
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Emergencies

14. Name four acceptable distress signals, per the *USCG Navigation Rules and Regulations Handbook*, 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
- Fire

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
- Forked Moor
- Bahamian Moor
- Mediterranean Moor

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, using diagrams as appropriate, the applicable rules (steering & sailing, lights, and sound signals) for a 30' to 45' recreational vessel, as found in the *USCG Navigation Rules and Regulations Handbook*.

Navigation & Weather

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

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

25. Describe the sea breeze and land breeze dynamics and their effect on sailing conditions.

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
- Squall / thunderstorm

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; demonstrate safe engine starting, operating and stopping procedures.

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 person in water (a.k.a. Man Overboard or MOB) recovery maneuver while under power and describe methods to bring the MOB safely back aboard.

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 steady compass course within +/- 10 degrees with sails trimmed properly.

- 45.** Demonstrate the proper use of all available lines and sail controls (halyards, sheets, traveler, boom vang, outhaul, downhaul/cunningham, jib sheet fairleads, etc.) to obtain maximum performance and comfort.
- 46.** Demonstrate the correct usage of a jibe preventer.
- 47.** Demonstrate proper reefing procedures while under sail or hove-to.
- 48.** Demonstrate two different MOB recovery maneuvers while under sail; starting from both close-hauled and a broad reach and selecting an appropriate maneuver for each initial point of sail.
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Navigation & Weather

- 49.** Plan a coastal passage from origin to destination, plotting courses, distances, and waypoints. While en route, keep a written log and plot DR positions on a chart, 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 cruising plans over a 3-day period.
- 51.** Obtain updated weather forecasts during a passage and compare with 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 available) 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.
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Knots

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

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

ASA 114: Cruising Catamaran Curriculum

The textbook used for your course is *Cruising Catamaran Made Easy*, by the American Sailing Association.

Prerequisites: Bareboat Cruising/ASA 104 and the ability to demonstrate competencies in all knowledge and skill elements of that standard.

Description: ASA 114/Cruising Catamaran

Able to skipper an auxiliary-powered sailing cruising catamaran of approximately 30 to 45 feet in length during a multi-day liveaboard cruise upon inland or coastal waters in moderate to heavy winds (up to 30 knots) and sea conditions. Knowledge of catamaran structure, components and features, performance under sail and power, boat systems, seamanship and safety, heavy weather operation, and emergency response.

KNOWLEDGE

Catamaran Terminology

1. Identify and describe the functions of the following terms and structural components:

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|---|--|--|
| <ul style="list-style-type: none">▪ Catamaran▪ Hull▪ Nacelle▪ Full Bridgedeck▪ Partial Bridgedeck▪ Deckhouse | <ul style="list-style-type: none">▪ Crossbeams▪ Fixed keel▪ Daggerboard▪ Escape hatch▪ Trampoline▪ Bridle | <ul style="list-style-type: none">▪ Twin engine▪ Mainsail Roach▪ Dolphin Striker▪ Seagull Striker |
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2. Identify and describe the functions of the following rigging terms and components:

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| <ul style="list-style-type: none">▪ Fractional rig▪ Tripod rig▪ Diamond stays▪ Spreaders▪ Shrouds▪ Forestay |
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Catamaran Features & Performance

- 3.** Describe the accommodations of a typical catamaran and their effect on comfort and safety.
 - 4.** Compare differences in operating and living aboard a monohull and catamaran of similar length.
 - 5.** Describe the impact that a catamaran's deck structures may have on visibility from the helm.
 - 6.** Describe stability differences between a ballasted monohull keelboat and a catamaran.
 - 7.** Describe load-carrying characteristics of a catamaran and how weight distribution affects safety and performance.
 - 8.** Describe shoal draft keels on a catamaran and the impact on cruise planning and sailing.
 - 9.** Describe the typical installation of daggerboards and how they affect performance.
 - 10.** Describe catamaran engine placement and the effect on performance and balance.
 - 11.** Describe maneuverability under power of a twin-engine catamaran.
 - 12.** Describe the effects of windage on close-quarters maneuverability under power.
 - 13.** Describe the effects of windage on sailing performance.
 - 14.** List differences in sailing performance between a monohull and a catamaran of similar size.
 - 15.** Describe how to use the jib to counteract the weather-vane effect of a catamaran's mainsail when tacking.
 - 16.** List various sail combinations utilized on a catamaran and how they affect the center of effort.
 - 17.** List differences between the mainsails of a monohull keelboat and a catamaran.
 - 18.** Describe indicators for and conditions under which a catamaran's sails should be reefed.
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Catamaran Systems

- 19.** List differences in the types of boat systems typically installed on monohulls versus catamarans.
 - 20.** Describe freshwater and fuel storage tank placement and precautions on a catamaran.
 - 21.** Describe battery-charging options, including alternators, shore power and generator, and how they affect twin-engine catamarans.
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Seamanship

- 22.** Describe options for gear stowage and proper stowing procedures.
 - 23.** Describe the features of a catamaran galley and methods of working safely in the galley.
 - 24.** Compare options for hoisting, carrying and towing a dinghy.
 - 25.** Describe methods and limitations of rafting a catamaran with other boats.
 - 26.** Describe the use of a bridle with a single bow anchor or fixed mooring.
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- 27.** Describe the following multiple-anchor mooring procedures on a catamaran and the circumstances under which they could be used:
 - Fore & Aft Moor
 - Bahamian Moor
 - Mediterranean Moor

Heavy Weather Operation & Emergency Response

- 28.** Describe conditions that may contribute to capsizing a catamaran and practices to avoid capsizing.
 - 29.** Describe post-capsize response procedures.
 - 30.** Describe where and how to attach jacklines and tethered safety harnesses on a catamaran.
 - 31.** Describe how the structure and performance of a catamaran under both sail and power affects the recovery of a person in the water (a.k.a. Man Overboard or MOB).
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- 32.** Describe heavy weather sailing practices applied to a catamaran, including:
 - Lying a-hull
 - Heaving-to

- Downwind speed control

33. Describe actions to be taken if one or both engines fail.

34. Identify the emergency steering tiller and indicate where it attaches to the controlling rudder post.

SKILLS

Pre-Departure

35. Locate and check the condition of all required and ASA recommended equipment.

36. Perform a routine vessel inspection, ensuring that all systems and equipment are in working order.

Under Power

37. Depart safely from a dock when the approximate wind direction is (a) parallel to the dock and (b) perpendicular to the dock.

38. Demonstrate the proper use of spring lines to pivot the catamaran during dock departure and return.

39. Ensure vessel and crew readiness and use the auxiliary engines to bring the catamaran smoothly to a controlled stop next to a parallel dock or into a slip; then secure the vessel using appropriate lines and fenders.

40. Make way ahead and turn the catamaran in a tight circle, comparing the turning radius between three different engine gear selections:

- Both engines in forward gear
- One engine in forward, the other in neutral
- One engine in forward, the other in reverse

41. Make way astern and turn the catamaran in a tight circle.

42. Steer a straight, controlled course astern for at least five boat lengths.

43. Approach a mark under power upwind, downwind, and with wind abeam, in each case stopping the catamaran within 10 feet of the mark.

44. Approach a mooring buoy (or suitable substitute if no mooring is available), attach to the mooring using a bridle, then cast off from the mooring and get underway.

45. Maneuver the catamaran under power in a confined space, compensating for wind and current effects.

46. Demonstrate the correct actions to be taken while under power to recover a MOB.

47. Demonstrate two of the following anchor/mooring methods as appropriate to local conditions, using correct procedures including hand signals, safety in handling ground tackle, proper operation of windlass and use of a bridle. Raise anchor(s) and get underway using correct procedures.

- Single bow anchor
- Fore and aft moor
- Bahamian Moor
- Mediterranean Moor

Under Sail

48. Sail a steady compass course, varying the heading no more than +/- 10 degrees, with sails trimmed properly.

49. Demonstrate proper usage of all lines and sail controls (halyards, sheets, traveler, boom vang, outhaul, downhaul, etc.) that are available on the catamaran to obtain maximum performance and comfort.

50. Demonstrate proper combined usage of the mainsheet and traveler for upwind and downwind sailing.

51. Demonstrate how to get out of "irons."

52. Perform each of the following maneuvers separately and under control, giving appropriate commands and ensuring proper sail trim:

- Head Up
- Bear Away
- Tack

- Jibe
- Heave to

53. Hold a steady course on each of the following points of sail, ensuring proper sail trim:

- Close Hauled
- Close Reach
- Beam Reach
- Broad Reach

54. Luff sails while sailing on a close reach at maximum safe speed for the conditions, noting the length of time required for the catamaran to come to a stop. Re-trim sails and note the length of time required to accelerate to maximum safe speed.

55. Demonstrate the correct use of a jibe preventer.

56. Demonstrate proper reefing procedures while under sail or hove-to.

57. Demonstrate the proper actions to be taken while under sail to recover a MOB, using two different recovery methods.
