

## INTERMEDIATE CREW STANDARD

### Course Description

This live aboard course follows the Basic Crew or Basic Cruising standards in the Sail Canada keelboat and cruising training system. Students will participate in operation of the vessel as crew under command of a skipper. The vessel will be operated under sail and power while making daytime passages. The ability to assist as competent crew in the operation of a sailing vessel by day in unfamiliar waters will be developed, while building the skills and experience needed for live-aboard cruises and bareboat charter.

Practical topics covered include sail selection and use of the jib cars and mainsheet traveler controls to adjust sail shape for efficient propulsion and balance in the conditions encountered. Students will have the opportunity to practice and develop skills maneuvering the vessel under power for mooring pickup, for accomplishing various anchoring strategies and for enhanced docking and dock departure techniques and procedures. Opportunities to practice the navigation skills taught in the Basic Coastal Navigation course including elementary pilotage and passage planning, non-electronic position determination methods and basic use of satellite positioning systems will help to strengthen this knowledge and skillset. Practical knowledge of the use and management of vessel systems will be taught through use of these systems on board while cruising.

This course builds on the skills developed in the Sail Canada Start Keelboat Sailing, the Basic Crew or Basic Cruising and the Basic Coastal Navigation courses. Candidates are expected to be able to competently demonstrate the skills developed in those courses.

It is envisioned that the program will be taught in a minimum five days in a live-aboard format. A challenge of the practical component of the standard may be accomplished through a 24 hour live-aboard skill evaluation.

### OBJECTIVE

To be able to cruise safely as crew of a sailing yacht of 9 to 12 meters, sloop rigged with an inboard engine, in moderate wind and sea conditions by day. The standard emphasizes on-the-water skills at a level acceptable for extended cruises in coastal and inland waters and for bareboat chartering.

### PREREQUISITES

Requirements prior to taking the standard:

- Sail Canada Basic Crew or Sail Canada Basic Cruising Standard,
- Sail Canada Basic Coastal Navigation or Coastal Navigation Standard,
- ROC(M): VHF with DSC endorsement,
- Pleasure Craft Operator's Card.

Recommended prior to taking the standard:

- Recognized standard first aid and CPR certificate,
- Sail Canada Intermediate Coastal Navigation Standard.

Note: To maximize the likelihood of successfully completing the Intermediate Crew Standard, a student should:

- a) Have experience as crew of at least ten day sails (or equivalent),
- b) Have applied the knowledge and practiced the skills in the Basic Crew or Basic Cruising Standard,
- c) Be able to consistently demonstrate the skills learned in the Basic Crew or Basic Cruising Standard and Sail Canada Basic Coastal Navigation Standard.

### ASHORE KNOWLEDGE

#### Section I: Planning

The candidate must be able to:

1. State the fuel tank capacity and range of the candidate's boat and list what factors could affect the range of the boat under power;
2. State the water capacity of the selected boat and the minimum and typical daily water requirements of a person and methods of conserving water;
3. State the causes, prevention and cures for seasickness and describe the impact seasickness on crew effectiveness;

4. List the appropriate personal clothing and safety gear for cruising and describe how its choice is related to safety and comfort;
5. Discuss menu planning and relate it to suitability for the day's activities;
6. Describe provisioning requirements and the factors to consider in stocking the vessel;
7. List the minimum contents of a first aid kit for a one week cruise in coastal or inland waters;
8. Know the spare engine parts one might deem prudent for a one week cruise in coastal or inland waters;
9. Know the minimum set of tools required for a one week cruise in local waters;
10. Describe the general procedures to be followed and the documents required for entering a country after leaving another country, and the current procedures for marine travel between Canada and the USA.

### **Section II: Living Afloat & Boat Systems**

The candidate must be able to:

11. Discuss galley procedures in order to minimize the danger of fire, scalding or other galley accidents;
12. Describe the common cooking systems (stoves and fuels) with respect to safe procedures for the operation of appliances, including safety checks, igniting appliances and system shut down, convenience, speed of cooking and costs;
13. Discuss the common types of cabin heaters with respect to safety, convenience and cost;
14. Describe the principle elements of the 120V and 12V vessel systems, their use, and considerations for proper battery management;
15. Describe refrigeration system types and state two ways to conserve power when a vessel is equipped with an electric refrigeration system;
16. Describe water distribution systems with multiple tanks and various styles of pumps;
17. Describe the proper operating procedures for the head and holding tank, list the precautions necessary to prevent malfunction and identify issues relating to holding tank capacity;
18. Identify boating environmental issues, with particular reference to responsible disposal of waste and management of pollutants;
19. Describe the safe operation of an anchor windlass including appropriate vessel handling while using this equipment;
20. Differentiate between various sail handling systems and discuss handling and operational considerations of a particular combination of systems including furling systems (foresail, mainsail in mast, mainsail in boom) and mainsail flaking systems.

### **Section III: Weather**

The candidate must be able to:

21. Describe the effect of local heating and cooling of land and water as related to wind and cloud formation;
22. Identify conditions likely to lead to fog.

### **Section IV: Seamanship**

The candidate must be able to:

23. Describe the complete actions to be taken for the following:
  - a) Springing a leak,
  - b) Steering fails,
  - c) Grounding,
  - d) Fouling a propeller,
  - e) Dragging Anchor,
  - f) Collision with another vessel,
  - g) Fire,
  - h) Propane leak,
  - i) Engine failure in an anchorage too crowded to permit safe sailing,
  - j) Engine failure in a busy channel,
  - k) Engine cooling water fails to flow;
24. Describe in detail two methods of getting a crew overboard back aboard;
25. Describe three methods of recovering fouled anchors;
26. Describe options for stowing and securing a dinghy when snugging down for the night;
27. Describe handling considerations (including stowage, launching/retrieving and towing) and differences between an inflatable dinghy, a rigid inflatable boat (RIB) and a rigid dingy;
28. Describe precautions for safe handling of an outboard motor for the tender and actions to take in the event of accidental submersion;
29. Describe the methods of rafting at anchor and dangers involved;
30. State the factors to be considered before allowing anyone to go swimming while the boat is at anchor;
31. Describe the information required and the procedures to be followed when tying a boat to a fixed dock in local tidal conditions;

32. Describe how to secure the boat the boat with an anchor on the bow or stern and the other end made fast to dock or shore;
33. Describe a seamanlike method of preparing a boat in order that it may be left at the dock or on a mooring for a period of a week or more without crew;
34. Describe the responsibilities of skipper and crew for the following courtesies, customs and legal obligations:
  - a) Permission to board,
  - b) Permission and entitlement to come alongside,
  - c) Courtesy in crossing adjacent boats when rafted,
  - d) Rights of first boat at an anchorage,
  - e) Keeping clear of boats racing (even though cruising boats may be the stand on vessel),
  - f) Flag etiquette:
    - (i) National Flag,
    - (ii) Courtesy flag,
    - (iii) Burgee / house flag,
  - g) Offering assistance to other yachts in trouble,
  - h) Alcohol consumption;
35. Describe the characteristics, limitations and uses of the following rope:
  - a) Polypropylene,
  - b) Dacron,
  - c) Nylon,
  - d) High modulus fibres.

### **Section V: Navigation & Passage Planning**

The candidate must be able to:

36. Convert directions between true, magnetic and compass, using the compass rose on a current chart;
37. Determine speed, time and distance when two are known;
38. Determine estimated time of arrival (ETA) and revised ETA;
39. Identify sources of navigation information and use this information in route planning.

## **AFLOAT SKILLS**

### **Section VI: Preliminaries**

The candidate must be able to:

1. File a sailing plan;
2. Obtain and interpret the Marine forecast;
3. Check stowage and condition of all mandated and recommended equipment aboard the vessel;
4. Perform routine daily and weekly maintenance procedures on engine;
5. With specific reference to the vessels engine;
  - a) Identify and describe the function of the following engine systems:
    - (i) Ignition and Electrical,
    - (ii) Fuel,
    - (iii) Propulsion,
    - (iv) Cooling,
    - (v) Lubrication;
  - b) Describe the basic engine troubleshooting procedures to follow when:
    - (i) The engine cooling water fails to flow,
    - (ii) The engine fails to turn over sufficiently when starting,
    - (iii) The engine overheats;
  - c) Describe the dangers of excessive engine cranking;
6. With specific reference to the candidate's boat, identify and describe the functions of all through-hulls, sea cocks, bilge pumps and related plumbing components;
7. Check out that all systems on boat are in working order: galley, head, electronics, sails, hull, deck hardware etc.

### **Section VII: Under Way**

8. Sail a vessel of the given size as crew:
  - a) On all points of sail, tacking, gybing, and sailing to weather efficiently,
  - b) Execute a series of tacks from close hauled to close hauled (six in ten minutes) using appropriate responses,
  - c) Execute a series of gybes while running (six in ten minutes) using appropriate responses, without losing control of the boom or steering,
  - d) Using the appropriate commands for all turns and changes of tack, assume any point of sail as directed and adjust sails and trim appropriately within a maximum of three minutes,

- e) Sail a close hauled course (within  $\pm 5$  degrees) with sails set, keeping foresail telltales flying efficiently and the boat moving well for a five minute period,
- f) Sail a compass course with sails set properly, with no land references for a minimum of five minutes,
- g) Demonstrate appropriate use of the mainsail traveler and foresail cars;
9. Reef the main sail while underway in an efficient manner;
10. Apply Rules 1 through 19, 40 and 45 of the *Collision Regulations*;
11. Manoeuvre the boat under power:
  - a) In a minimum space,
  - b) Stop the bow of the boat within 4 feet of a fixed marker in various wind and sea conditions,
  - c) Pick up and secure the vessel to a mooring buoy;
12. Assist skipper by handling ground tackle or helming while docking with stern or bow to dock or shore using a bow or stern anchor;
13. Demonstrate the use of a spring line to spring a vessel off of and on to a dock;
14. Prepare a suitable hot meal aboard the vessel while in harbour, demonstrating suitable choice of food and drink and economy of resources;
15. Demonstrate suitable methods and precautions while towing a dinghy;
16. Demonstrate in response to the skipper's actions/commands, while under sail, the Triangle method and one alternative method (i.e. Quick Stop, Fast Return, life sling, etc.) of returning to a crew overboard in daytime in moderate winds safely and efficiently within three minutes using appropriate communications.

### **Section VIII: Navigation**

17. Read a chart and identify corresponding landmarks and aids to navigation;
18. Demonstrate how to take soundings using electronic and manual methods;
19. Determine the depth above or below chart datum and apply;
20. Lay off a course and determine compass heading and Estimated Time of Arrival (ETA) (assuming no current or leeway);
21. Plot and determine your position using deduced reckoning (DR) methodology;
22. Plot a fix using bearings taken on objects visible at the same time;
23. Assist in the piloting of a vessel into an unfamiliar harbour or anchorage by day using charts and publications and application of pilotage and passage planning techniques.

### **Section IX: Seamanship**

24. Throw a heaving line to a target a distance of ten meters away, coming within two meters in three times out of five attempts;
25. Demonstrate use of the VHF marine radio, including specific operation aboard the candidate's vessel;
26. Tie a rolling hitch;
27. Act as responsible crew on a live-aboard cruise of at least 48 hours.

## **ENDORSEMENTS**

### ***Flying Sails***

1. Pack, set, hoist, fly, gybe and douse a cruising spinnaker;
2. Describe the advantages of, and demonstrate the use of a whisker pole for sailing downwind with genoa.

### ***Marlinspike Seamanship***

3. Make an eye splice in laid line;
4. Whip a line.

## **Outcomes and Evaluation**

Candidates capacity to operate as crew and vessel handling skills will be coached and evaluated throughout the training session. In addition to successful completion of the practical course candidates will be required to complete a closed book written exam that covers theoretical knowledge relevant to this standard. In order to complete certification a mark of 70% is required on the examination.



### **Additional Notes**

This standard offers candidates the opportunity to develop daytime passage making, vessel management and sailing skills in a relaxed practical environment.

### **Physical Requirements for Candidates**

These are offered as live aboard training courses. Participants will have the opportunity to experience sun, wind, spray, rain, and temperatures consistent with the time of year they take part in this activity. When underway the vessel may exhibit irregular motion due to wind and waves and temperatures may be cooler than on land. Participants will be expected to learn and demonstrate skills and to perform tasks while the vessel is at the dock, at anchor, and when the vessel is underway. Vessels will be underway for varying periods of time, primarily during daylight hours in light to strong wind and sea conditions. These training sessions will require short periods of moderate upper body exertion, as well as a moderate level of arm strength and core body fitness for handling lines and operating equipment. The successful candidate will show the ability to steer a straight course, respond early and appropriately to hazards, and stay present moment by moment when at the helm.

### **Resource Material**

Sail Canada *Intermediate Cruising Student Notes*