INTERMEDIATE COASTAL NAVIGATION STANDARD

Standard Description

This Standard builds on the basic knowledge of navigation theory presented in the Sail Canada Basic Coastal Navigation Standard. This is the second course in a comprehensive set of courses offered by Sail Canada on vessel navigation. The curriculum focus is on near shore navigation and covers position determination methods using non-electronic means as well as methods for dealing with current and leeway. The course also covers the determination of intermediate tidal heights and introduces the student to the basics of passage planning and to the impact that the Collision Regulations may have on navigational practice.

Students completing a course leading to this Standard will have practiced and should understand the tools and techniques to support planning and safe passage making for coastal voyages.

Sessions complement material introduced in the Sail Canada Basic Coastal Navigation course and practiced in the Intermediate Cruising or Intermediate Power practical courses. The standard emphasizes the navigational skills at a level appropriate for bare boat chartering and for extended cruises in coastal waters. The concepts and skills covered will be applied in the Advanced Cruising course and prepares students for the Sail Canada Advanced Navigation course.

A course leading to this standard should be offered and evaluated in not less than 18 hours of classroom sessions.

Objectives

To be able to demonstrate the navigational theory required to safely plan and execute a long continuous passage including night sailing in unfamiliar coastal or inland waters, in all conditions of visibility, with or without electronic aids. The concepts are applied and tested in the Advanced Cruising Standard.

Prerequisites

Sail Canada Basic Coastal Navigation

Ashore Knowledge

The candidate must be able to:

1. Describe the navigator's role and responsibilities including specific reference to the impact of Collision Regulations rules 5, 6, 10 and 19 (safe speed, lookout, traffic separation schemes, restricted visibility).
2. Use the *Tide and Current Tables* to find tidal heights at intermediate times between high and low tides.
3. Use a current atlas or chart embedded current tables to find current rate and direction at intermediate times between turns.
4. Describe:
   a) How to check compass deviation by means of a transit bearing and process for building a deviation card;
   b) Means of calibrating a depth sounder and a knot log or knotmeter.
5. Explain causes of leeway and how to estimate leeway when underway.
6. Describe the day and night appearance and meaning of aids to navigation including:
   a) The Canadian Aids to Navigation System (lateral, cardinal, special buoys; and daybeacons);
   b) The difference between IALA Region A and B systems, and where each applies.
7. Plot/determine:
   a) Current set and drift given the course steered, speed, and two observed positions;
   b) Estimated position given a DR and current/leeway assumptions;
   c) Heading to counteract a known current;
   d) Heading to counteract leeway.
8. Plot a chart position from terrestrial objects, using:
   a) A running fix on one or two objects;
   b) One distance (e.g. a sounding, or dipping a light) and one bearing.

9. Demonstrate sound planning of an overnight coastal passage exceeding 20 miles using all relevant sources of information to include the following components:
   a) An overall plan on a small scale chart;
   b) A detailed plan on a large scale chart;
   c) A departure or arrival plan including tide and current information with considerations for night arrival or departure;
   d) Pilotage techniques including transits, lead/back bearings and danger/clearing bearings;
   e) Methods of transfer of position between charts to accommodate differing horizontal datum.
10. With reference to a global navigation satellite system (GNSS) such as *GPS (Navstar), Beidou, Glonass or Galileo* explain:
   a) Cross-track error (XTE) displayed between waypoints on a chart plotter;
   b) Methods and importance of evaluating GNSS position accuracy;
   c) Differences in vessel course derived from the steering compass and GNSS.
11. Use Sail Canada Uniform Navigation Symbols and Terms for plotting and labelling.

Outcomes and Evaluation

You can attain this Standard by achieving a minimum of 70% on the Sail Canada Intermediate Coastal Navigation Examination. Performance on the written exam will be reviewed with the candidate.

Successful candidates will be awarded the Intermediate Coastal Navigation standard and the certification will be noted in the candidates Sail Canada Logbook. Certification is complete when the logbook is signed by the evaluating instructor(s) and a seal affixed, and when the candidate status is updated in the Sail Canada data base. Student certification is good for life.

Additional Notes

Students that have completed Intermediate Coastal Navigation may further develop their skills by taking the Sail Canada Advanced Navigation or Advanced Cruising course.

Over time student skills may weaken and updates to training to refresh and build skill are recommended.

Physical Requirements for Candidates

None.

Further Information

For further information on navigation training contact your Provincial Sailing Association or Sail Canada.

Resource Material

Intermediate Coastal Navigation Notes, Exercises and Appendices, Author: Jamie Gordon
exercises for chart 9997IC (Ontario)

Intermediate Coastal Navigation, Author: Gillian West, exercises for chart 3463 (British Columbia)

Coastal Navigation, Author: Dominique Prinet, exercises for chart 3463 (British Columbia)