

AMERICAN BOATING 104 STANDARDS

ADVANCED POWERBOATING

DESCRIPTION:

The following standards cover the knowledge and skills required for a boater to be able to skipper a power driven vessel of approximately 30 to 45 feet in length.

ADVANCED Standards will instruct the student to have knowledge and skills during a multi-day cruise or bareboat charter upon inland or coastal waters in moderate to heavy winds (up to 30 knots) and sea conditions.

Knowledge of provisioning, galley operations, boat systems, engine operation, routine maintenance procedures, coastal navigation including basic chart plotting and GPS operation, multiple-anchor mooring, docking, health & safety, emergency operations, weather interpretation, and dinghy/tender operation is required.

PREREQUISITES:

- AB 101 Beginner Powerboating Certification
- AB 103 Intermediate Powerboating Certification
- Ability to demonstrate competencies in all knowledge and skills elements of those Standards

RECOMMENDATIONS:

- AB recommends a minimum of 80 on-water operating hours to build skills and experience before undertaking AB 103 & 104.

STUDY MATERIALS:

- Advanced Powerboating textbook
- [USCG Navigation Rules & Regulations Handbook](#)

KNOWLEDGE:

Will be tested through AB 104 Examination proctored by an AB certified Instructor

CRUISE PLANNING

1. List appropriate clothing and personal gear to pack for safety and comfort during a one-week passage.
2. Describe the required documents and procedures for customs and immigration when cruising into a foreign port of entry.
3. Plan a menu and create a provisioning list for a one-week passage.
4. List the tools and spare parts that should be onboard for a one-week cruise.
5. Describe variables that affect fuel consumption and cruising range under power, and calculate range based on average fuel consumption.
6. Describe the minimum daily water requirements for all crew and passengers onboard as well as methods to conserve fresh water.

SYSTEMS

7. Describe power conservation measures and procedures to prevent depleting batteries when docked, anchored, or moored overnight or for a longer period.

SEAMANSHIP

8. Describe the information required and the procedure for tying a boat to a fixed dock in areas with a large tidal range.
9. Describe the following anchor mooring procedures and their purposes:
 - 9.1 Fore & Aft Moor
 - 9.2 Forked Moor
 - 9.3 Bahamian Moor
 - 9.4 Mediterranean Moor
 - 9.5 Describe the process of anchoring with a single anchor
 - 9.6 Determine how much scope to use, and why it's an important anchoring variable
 - 9.7 Explain the utility of a snubber when anchoring with an all-chain anchor rode in rough conditions
10. Describe methods and potential dangers of rafting vessels at anchor
11. Describe safe methods for towing and securing a dinghy / tender
12. Describe preparation of the vessel for heavy weather operation, including gear stowage, crew safety, and appropriate speed for the existing sea state

KNOWLEDGE (CONTINUED):

SEAMANSHIP (CONTINUED)

- 13. Describe the following courtesies and customs:
 - 13.1 Permission to board
 - 13.2 Permission to come alongside
 - 13.3 Courtesy in walking across adjacent boats when rafted
 - 13.4 Rights of first boat in an anchorage
 - 13.5 Keeping clear of regattas and other gatherings of small craft
 - 13.6 Flag etiquette
 - 13.7 Rendering assistance to vessels in distress

NAVIGATION & WEATHER

- 11. Explain the importance and proper use of the following coastal navigation terms, using a chart or diagrams as appropriate:
 - 11.1 Speed
 - 11.2 Time
 - 11.3 Distance
 - 11.4 Tidal Range
 - 11.5 Current
 - 11.6 Track
 - 11.7 Course
 - 11.8 Heading
 - 11.9 Bearing
 - 11.10 Fix
 - 11.11 True degrees
 - 11.12 Magnetic degrees
 - 11.13 Variation
 - 11.14 Deviation
 - 11.15 Line of Position (LOP)
 - 11.16 Dead Reckoning (DR)
 - 11.17 Rhumb Line
- 12. Describe the sea breeze and land breeze dynamics and their effect on sea conditions.
- 13. Identify conditions that may lead to the formation of radiation and sea / advection fog.

SKILLS:

Will be demonstrated and practiced onboard for an AB certified instructor

GENERAL

14. Perform the duties of skipper and crew on a live-aboard coastal cruise of at least 48 hours

UNDERWAY IN CLOSE QUARTERS

15. 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.
- 15.1 Fore and Aft Moor
 - 15.2 Forked Moor
 - 15.3 Bahamian Moor
 - 15.4 Mediterranean Moor

UNDERWAY IN OPEN WATERS

16. Using only the wheel and the magnetic compass, hold a steady course within ten degrees at cruising speed for one half mile
- 16.1 Engage autopilot or GPS system
 - 16.2 Disengage autopilot or GPS system

SKILLS (CONTINUED):

NAVIGATION & WEATHER

17. Plan a coastal passage from origin to destination, plotting courses, distances, and waypoints. While enroute, keep a written log and plot DR positions on a chart, and calculate estimated times of arrival (ETA) to waypoints. Plan should include one night in an unfamiliar anchorage and one night in an unfamiliar marina with all arrivals in daylight.
18. 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.
19. Obtain updated weather forecasts during a passage and compare with visual and measured observations.
20. Take visual 2- or 3-bearing fixes using a hand-bearing compass.
21. Determine the predicted depth above or below chart datum at a given time using tide prediction tables.

KNOTS

22. Describe the purpose of and construct each of the following knots (without assistance and in a timely manner):
 - 22.1 Sheet Bend
 - 22.2 Rolling Hitch
 - 22.3 Trucker's Hitch