

NAV 3 CERTIFICATION STANDARDS

Outcome: To safely plan and navigate an offshore passage.

Required Equipment:

Prerequisite: The prerequisite for Nav 3 certification is Nav 2 certification.

Certification Requirements: Successfully complete the following knowledge and skill requirements, including an online examination.

Knowledge

1.0 Chart Projections and Routes

- 1.1 Understand and differentiate between Mercator and Gnomonic chart projections.
- 1.2 Understand and differentiate between great circle and rhumb line routes.

2.0 Passage Route Selection and Planning

- 2.1 Understand how to select passage routes based on seasonal weather patterns and ocean currents.
- 2.2 Understand the information depicted on pilot charts.
- 2.3 Identify reliable sources of information for passage planning.

3.0 Routing Services and Navigation Technologies

- 3.1 Understand the role and limitations of routing services, both pre-departure and on passage.
- 3.2 Describe GPS datums and GNSS (Global Navigation Satellite Systems) and their significance in navigation.
- 3.3 Understand chart datum accuracy, chart update timing, and survey accuracy.
- 3.4 Recognize and understand the significance of isogonals.
- 3.5 Understand time and time zone issues in navigation, including the concept of 15° per hour.

4.0 Passage Navigation to Piloting Transition

- 4.1 Describe the process of transitioning from passage navigation to piloting, including the use of port notes and pilot plans.
- 4.2 Understand the importance of timing landfalls and developing contingency plans, including alternative routes.
- 4.3 Identify and implement emergency navigation techniques, including the use of plotting sheets, compass, and a knotmeter.

5.0 Navigation Safety and Log Keeping

- 5.1 Understand the principles of height of eye in sighting objects and luminous range, including the concept of bobbing the light.
- 5.2 Describe methods to protect electronic navigation devices.
- 5.3 Understand cloud and aircraft contrail patterns for navigational purposes.
- 5.4 Understand the importance of maintaining a detailed and accurate log, including weather conditions and other relevant information for safe navigation.

Practical Skills [NOTE: tbd. – RAD group suggested deletion]

1.0 Chart Projections and Routes

- 1.1 Apply Mercator and Gnomonic chart projections to plan offshore passages using electronic navigation tools.
- 1.2 Compare and select appropriate great circle and rhumb line routes for offshore passages using electronic navigation tools.

2.0 Passage Route Selection and Planning

- 2.1 Create passage plans using knowledge of seasonal weather patterns and ocean currents, and electronic navigation tools.
- 2.2 Utilize pilot charts to inform and refine passage planning using electronic navigation tools.
- 2.3 Demonstrate the ability to access and use Sailing Directions, World Cruising Routes, and Lists of Lights in passage planning through online resources.

3.0 Routing Services and Navigation Technologies

- 3.1 Apply routing services to plan and adjust passage routes using electronic navigation tools.
- 3.2 Demonstrate proficiency in using GPS datums/GNSS in navigation tasks with electronic tools.
- 3.3 Assess chart datum accuracy, chart update timing, and survey accuracy for navigation purposes using electronic resources.
- 3.4 Apply knowledge of isogonals to plan and adjust passage routes using electronic navigation tools.
- 3.5 Manage time and time zone issues in navigation tasks using electronic tools.

4.0 Passage Navigation to Piloting Transition

- 4.1 Apply port notes and pilot plans when transitioning from passage navigation to piloting using electronic navigation tools.
- 4.2 Develop contingency plans, including alternative routes, based on timing and conditions of landfalls using electronic navigation tools.
- 4.3 Determine and apply emergency headings using compass and celestial references, along with electronic navigation tools.
- 4.4 Demonstrate the use of emergency navigation techniques, such as plotting sheets and a knot meter, in a simulated environment.

5.0 Navigation Safety and Log Keeping

- 5.1 Apply height of eye principles and luminous range concepts in sighting objects during simulated offshore passages.
- 5.2 Demonstrate the proper use of navigation electronics protection methods in a classroom setting.
- 5.3 Utilize cloud and aircraft contrail patterns to inform navigation decisions using available electronic resources.
- 5.4 Maintain a detailed and accurate logbook throughout a simulated offshore passage, including weather conditions and other relevant information.