Ocean skipper (Shorebased)
40 hours

	Visa
1. The Earth and the Celestial Sphere ● The definition of observer's zenith and position of a heavenly body in terms of latitude, longitude, Greenwich Hour Angle (GHA) and declination ● Right angle relationships, latitude and co-latitude, declination and polar distance ● The relationship between GHA, longitude and Local Hour Angle (LHA) ● Tabulation of declination in nautical almanac ● The rate of increase of hour angle with time	
2. The PZX Triangle ● The tabulated components of the triangle, LHA, co-latitude and polar distance ● The calculable components, zenith distance and azimuth ● The relationship between zenith distance and altitude ● Introduction to the tabular method of solution in the Air Navigation Tables and the basic sight form ● The use of calculators for the solution of the PZX triangle	
3. The Sextant ● Practical guide to the use and care of a sextant at sea ● Conversion of sextant altitude to true altitude ● Application of dip, index error and refraction ● Correction of side error, perpendicularity, index error and collimation error	
4. Measurement of Time ● Definition of, and relationship between, Universal Time (UT), Local Mean Time (LMT), standard time and zone time ● Rating of chronometers and watches	
5. Meridian Altitudes ● Forecasting time of meridian altitude ● Reduction of meridian altitude sights	
6. Sun, Star and other Sights ● Reduction and plotting of sun sights using Air Navigation Tables ● Awareness of use of a calculator for sight reduction ● The plotting of a sun-run-sun meridian altitude ● Awareness of the reduction and plotting of sights obtained from stars, moon and planets	
7. Compass Checking ● Use of amplitude and azimuth tables systems and/or calculator	
8. Satellite Navigation Systems ● Principles and limitations of use of all systems	
9. Great Circle Sailing ● Comparison of rhumb lines and great circles ● Vertices and composite tracks ● The computation of a series of rhumb lines approximating to a great circle by use of gnomonic and Mercator projections	
10. Meteorology ● General pressure distribution and prevailing winds over the oceans of the world ● Tropical revolving storms, seasonal occurrence and forecasting by observation	
11. Passage Planning ● Publications available to assist with planning of long passages (routeing charts, ocean passages of the world and other publications) ● Preparation for ocean passage including survival equipment, victualling, water and fuel management, chafe protection, spares and maintenance	

Aezhenn Glaz

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	Visa
12. Passage-making ● Navigational routine ● Watchkeeping ● Crew management	
13. Communications ● Satellite and terrestrial systems ● Weather information	