CHARTWORK & PILOTAGE – LEVEL 1

Registration code – NAUT CP1

Duration – 90 hours

Pre-requisites

- Grade 9 level of mathematics, algebra and geometry
- Basic computer skills

Course description

This course provides the deck officer with a basic knowledge of the practices and theory involved in piloting a vessel.

Topics covered in this course include: pilotage, steering; symbols; sailing directions; lists of lights; tidal currents; navigation in confined waters; navigation aids; buoyage system; bridge practices; charts; chart usage; fixing position; estimating position; courses; conversion of course; distance measurement; range of visibility; reliability of charts; publications; tidal terms; calculation of tides; set and rate of tides; records.

Required for the following certificates of competencies:

- Fishing Master, 4^{th} Class
- Chief Mate 150T, Domestic

Subject	Knowledge required
Competence:	**Plan and conduct safe navigation**
Knowledge of principles of construction of the different types of charts and their use	The chart, its nature and function as an aid to navigation; Practical effects of protection distortion, numbering and the presentation of information; factors affecting reliability of charts; Ability to use Mercator and polyconic charts.
Thorough knowledge of and ability to use publications	Light characteristics and colors and sound signals used as aids to navigation; List of lights, Buoys and Fog Signals; Tide tables, radio aids to marine navigation, sailing directions; Canadian buoyage System and its use; Use and purpose of *Notices to Shipping* and *Notices to Mariners* and chart corrections; Charts symbols and abbreviations as published in Canadian Hydrographic Service Chart No.1.
Ability to determine the ship's position by use of: 1. landmarks 2. aids to navigation, including lighthouses, beacons and buoys 3. dead reckoning, taking into account winds, tides, currents and estimated speed	**Chartwork Exercises** Locating a vessel's position on the chart by simultaneous true bearings or true bearing and distance; Locating a vessel's position by two or more simultaneous distances; Determining the latitude and longitude of a given position; Locating a position by its latitude and longitude, and its true bearing and distance from a given point; Laying off a course between given positions; Measuring the true direction of a course laid-off on the chart; Measuring distance on chart; Finding the DR position, given course, speed and time elapsed from the last observed position by plotting on a chart or by other acceptable method of the applicant's choice; Demonstrating an appreciation that current or wind may affect the vessel's course and speed over the ground; Determining speed over the ground between observed positions; Determining the true course made good between observed positions.
Keeping a log book and a record of compass errors	Appreciation of the need to keep an accurate record of the vessel's progress, and the keeping of this record; Care of dividers and parallel rules; Periodic operator checks and determination of compass error by comparison with true terrestrial bearings or headings; Determining and recording compass deviation; Use of the magnetic compass to determine accuracy of the gyro compass by comparison; Correcting courses and bearings for compass error, magnetic variation and deviation; Use of table of deviations.