Next course starts: **Jan 2020**

Duration: 12 weeks (Tue, 7:00 pm - 9:00 pm)

Location: St. Matthias Church Hall (Richmond and Richardson)

Pre-requisites: Advanced Piloting, Piloting or Seamanship

Cost: $250 . Register online or contact the course chair

Boat 6: Junior Navigator (Celestial Navigation) is the first of a two-part program of study in offshore (open coast) navigation. It is designed as a practical, how-to course using GPS for offshore navigation with **sun sight taking using a sextant** as a backup technique. The more advanced techniques for other celestial bodies and sights are covered in the subsequent Navigation Course.

JN subject matter includes: basic concepts of celestial navigation; how to use the mariner's sextant to take sights of the sun; the importance and techniques of accurate time determination; use of the Nautical Almanac: how to reduce sights to establish lines of position (LOPs); and the use of GPS, special charts, plotting sheets and other navigational data for offshore positioning and passage planning.

Note: The JN course covers only a few topics but at an in-depth, semi-professional level. The course is **not easy** and requires a significant time commitment. The recommended pre-requisite is Advanced Piloting, however, students with Piloting and/or Seamanship may also take the class.

Subject Areas:

Principles of Celestial Navigation: a complete overview of the principles of celestial navigation.

Marine Sextant: how to select one, care for it, and use it to take sights of the sun.

Sea Time: understanding time and how it is used to determine a celestial line of position.

Altitude Corrections: determining and applying corrections required for various celestial bodies.

Celestial Coordinates: defining terrestrial coordinates and celestial coordinates and computing local hour angles (LHA) for the sun.

Celestial LOP: understanding intercept, azimuth and the navigational triangle.

Meridian Transit of the Sun: mean and apparent sun, determining time of transit, taking the noon sight, computing latitude from the sight.

Route Planning: pilot charts, chart projections, charts for offshore voyages, route planning.

Wind and Current: wind and current offshore, determining CMG and SMG and allowing for current and leeway.