

## ASA 117 Basic Celestial Navigation

This endorsement is intended to provide the navigator with the minimum practice of celestial navigation needed for a safe backup to the failure of the GPS navigation system, while at the same time introducing the basic concepts of celestial navigation that can be expanded upon as called for. This endorsement also meets the cel nav prerequisite for Offshore Passagemaking, ASA 108.

Topics covered in the course include:

1. Convert longitude into time.
2. Convert standard time and zone time to UTC and vice versa.
3. Determine the watch time of local apparent noon (meridian passage)
4. Calculate the chronometer (or watch) error from known rate, set date, and present date.
5. Apply the corrections for index error, dip, and altitude corrections to convert sextant altitudes ( $H_s$ ) of the sun and stars to the corresponding observed altitudes ( $H_o$ ).
6. Determine your latitude from the observed meridian altitude of the sun.
7. Use the observed time of meridian passage to determine an approximate longitude.
8. Determine your northern latitude at twilight by means of Polaris.
9. Understand the procedures and uncertainties of ocean DR.
10. Demonstrate the use universal plotting sheets for plotting latitude lines and ocean DR