

Electronic Navigation

Electronic Navigation introduces GPS technology from the most basic receiver to chart plotter systems for navigation on board. The process of navigating by establishing waypoints and routes, and then running the planned courses, is demonstrated. Further, electronic charting software for the desktop computer is examined, with creation of waypoints and routes on the desktop and subsequent download to the on-board unit. Despite differences among the various manufacturers' offerings, a thorough discussion of the features being made available is included.

Special attention is paid to apps for tablets and smartphones that provide the electronic navigation function at the helm, for relatively little cost.

Students should be familiar with basic charting concepts such as latitude, longitude, the compass, course plotting, and time/distance calculation, to get the most out of the course.

The student materials include a soft-bound course text and a Windows-compatible CD for electronic content. The course menu provides all the class presentation PowerPoints, an interactive homework tool, and hands-on exercises on the PC that simulate GPS functions. We now recommend OpenCPN as the laptop/desktop chartplotter software along with free charts downloadable from NOAA. We no longer support the chartplotter emulator included on the CD.

This course omits Radar and Depth Sonar technologies, however Appendix 8 of the course text on Automatic Identification System (AIS) is presented and made part of the examinable material for USPS course credit.

While the USPS course *Marine Navigation Systems* (MNS) remains in development, successful completion of this *Electronic Navigation* course from Canadian Power and Sail will earn MNS credit toward a full certificate.

