

# MDK 121 - NAVIGATION I

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## Course Description

An introduction to the principles of piloting and marine navigation. Includes chart projection, the magnetic compass, chart usage, buoyage systems, aids to navigation, fixes and running fixes, and the use of standard tables. STCW.

## Credit Hours

3

## Contact Hours

3

## Lecture Hours

3

## Required Prerequisites

All prerequisites for all GLMA courses are satisfied by following the approved Course Sequence Guide and any deviation from this guide needs to be approved by the cadet's adviser.

## Corequisites

MDK 122

## Course Learning Outcomes

### Knowledge:

- Basics of magnetism, compasses and their adjustment.
- Compass error and its elimination.
- Time, speed and distance relationship.
- Theory of dead reckoning and piloting.
- Use of special case bearings.
- Theory of set and drift.
- Buoy systems.
- Navigational light characteristics.
- Use of instruments for piloting.
- Use and layout of various nautical publications such as the Coast Pilot, the Light List and Sailing Directions.
- Theory behind and the ability to determine tide and tidal currents.

### Application:

- Demonstrate knowledge of the compass compensation process, and the time, speed and distance relationship.
- Demonstrate the use of tide and tidal current tables propeller pitch, RPM, and slip to determine speed made good.
- Demonstrate computing the visibility of lights.

### Integration:

- Synthesize the information accrued through the demonstration of competencies to solve real world navigation problems.
- Describe the responsibilities of a licensed deck officer in the U.S. merchant marine with respect to terrestrial navigation.

### Human Dimension:

- Incorporate a broad spectrum of knowledge, including the use of various publications and complex tables, in order to successfully serve as a professional mariner upon graduation.

### Caring - Civic Learning:

- Appreciate the connection and importance of federal regulators who develop the publications and tables.
- Relate the importance of data to decision making skills required of a merchant marine officer.

### Learning How to Learn:

- Demonstrate the STCW Code Knowledge, Understanding and Proficiencies (KUPs) for Officer in Charge of a Navigation Watch: 1.3.B, 1.6.A, 1.6.B, 1.6.C, 1.6.D.