MDK 324 - NAVIGATION III

Course Description

An introduction into nautical astronomy concerning: the practical application of celestial navigation, the solving of the spherical triangle, star identification, measurement of time and the use of the instruments. This course will cover plane, mid-latitude and mercator sailings and how to apply them to navigational problems through the various time zones. Sunrise, sunset, twilight, moonrise and moon-set calculations for a moving vessel will be covered. 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.

Recommended Prerequisites or Skills Competencies

ENG 111 and MTH 111

Course Learning Outcomes

Knowledge:
- Describe the basic concepts of celestial navigation.
- Determine the position of ship solely through use of celestial objects.
- Solve the spherical triangle.
- Identify stars.
- Describe the measurement of time with the use of the sextant and star tables.

Application:
- Solve advanced navigational problems that involve multiple steps.
- Calculate the time for astronomical events such as sunrise and sunset.
- Identify celestial bodies routinely used for navigational purposes.

Integration:
- Integrate numerous steps into the processes for solving complex navigation problems to determine a ship's position.
- Solve navigational problems through various time zones using plane, mid-latitude and Mercator sailings.

Human Dimension:
- See him/herself as a professional navigator able to determine the position of a vessel using advanced electronic tools as well as ageless methods.

Caring - Civic Learning:
- Recognize the importance of accuracy, measured to fraction of second, in order to correctly solve complex navigational problems.

Learning How to Learn:

- Demonstrate the STCW Code Knowledge, Understanding and Proficiencies (KUPs) for Officer in Charge of a Navigation Watch: 1.1.A, 1.1.B, 1.1.C, 1.1.D, 1.1.E, 1.1.F, 1.7.F.