

MNG 275 - REFRIGERATION

Course Description

This course provides instruction in the operation and maintenance of refrigeration and air conditioning equipment used on merchant vessels. It covers the theory of refrigeration and the practical operation of refrigeration plants. The student is introduced to the Environmental Protection Agency (EPA) rules governing halogenated refrigerants (CFCs). A discussion of the proper procedures to recover, recycle, and reclaim (CFCs) is also discussed. Lecture is reinforced with the use of hands-on labs. 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.

Course Learning Outcomes

Knowledge:

- Describe the theory of refrigeration.
- Identify the components that make up shipboard refrigeration systems.
- Demonstrate the practical operation of refrigeration plants.

Application:

- Demonstrate safe operation, repair, adjustment and maintenance of a modern shipboard refrigeration system.

Integration:

- Connect the theories and principals involved with refrigeration with the components of the engineering systems, both cargo and propulsion, contained on a large tonnage merchant vessel.

Human Dimension:

- Develop as merchant marine engineering officers.
- Appreciate how components of a specific system (e.g. refrigeration) are critical to the operation of a vessel.

Caring - Civic Learning:

- Learn the proper procedures to recover, recycle, and reclaim refrigerants.
- Define the Environmental Protection Agency (EPA) rules governing refrigerants.

Learning How to Learn:

- Demonstrate the STCW Code Knowledge, Understanding and Proficiencies (KUPs) for Ratings Forming Part of an Engineering Watch: 1.1.E.
- Demonstrate the STCW Code KUPs for Officer in Charge of an Engineering Watch: 4.3.T, 4.3.U, 4.3.V.