

# MNG 321 - MARINE BOILERS

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## Course Description

This course is an intensive study of Marine Boilers and covers all types of Water Tube boilers. Emphasis is placed on construction, operation and maintenance of equipment. Sub systems such as fuel handling and combustion chemistry, air handling; water preparation and chemistry, automated combustion systems and water regulation systems are covered in detail. Special emphasis is placed on USCG regulations and STCW competencies. STCW.

## Credit Hours

3.5

## Contact Hours

3.5

## Lecture Hours

3.5

## 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 operation of all components in the systems involved with marine boilers.

### Application:

- Demonstrate the operation of components of marine boilers.
- Demonstrate knowledge of marine boilers.

### Integration:

- Discern the importance of boilers within the steam propulsion systems used onboard merchant vessels.
- Demonstrate proper operation of the components of a marine boiler.

### Human Dimension:

- Recognize the importance of boiler maintenance.
- Recognize the importance of proper watch keeping on a merchant vessel.

### Caring - Civic Learning:

- Identify the expectations of a licensed engineering officer onboard a vessel.

### Learning How to Learn:

- Demonstrate competency on the STCW Code Knowledge, Understanding and Proficiencies (KUP) for ratings Forming Part of an Engineering Watch Task No.: 3.1.D, 3.1.E, 3.1.G, 3.1.H, 3.1.I.
- Demonstrate competency on the STCW Code KUPs for Officer in Charge of an Engineering Watch Task No.: 4.1.B, 4.1.C, 4.2.B, 4.3.J, 4.3.K, 4.3.L, 4.3.P, 4.3.Q, 9.1.C.