

**MARINE ENGINEERING 3233
STEAM / GAS TURBINES**

<u>LESSON</u>	<u>TOPIC</u>
1	Introduction to Steam and Gas Turbines
2	Design Considerations
3	Main Plant Start-up
4	Thermodynamics
5	Impulse Turbines (ST only)
6	Reaction Turbines
7	Reheat Turbines
8	Blading (ST & GT)
9	Nozzles / Diaphragms
10	Rotor / Casings / Foundations
11	Dummy Pistons / Bypass Valves / Extractions / Inductions / Gland Sealing
12	Auxiliary Turbine Construction
13	Lube Oil Systems (ST & GT)
14	Bearings, Reduction Gears
15	Shafting / Bearings / Couplings
16	Propellers / Calculations
17	Throttles / Controls (ST & GT)
18	Main Engine Governors & Overspeed Devices (ST & GT)
19	Gas Turbines

**DEPARTMENT OF MARINE ENGINEERING
STEAM AND GAS TURBINES / EN-3233**

SPRING SEMESTER 2012

INSTRUCTOR: CDR ALDRICH

TEXTS:

1. ***Marine Engineering***, Harrington
2. ***Modern Marine Engineers Manual***, (M.M.M.), Volume 1, Osbourne
3. ***Principals of Naval Engineering***, (PNE)

COURSE DESCRIPTION:

Covers the principles, design, operation, maintenance, and repair of marine steam turbines including their reduction gears, thrust bearings, couplings, governors, and lubrication systems. Line shafting, bearings and propellers are other topics included. This course also includes an introduction to the design and operation of gas turbines.

COURSE OBJECTIVE:

1. To provide the student with a thorough understanding of steam and gas turbines in their design, operation, maintenance, repair and troubleshooting. The course includes reduction gears, bearings, speed control and lubrication systems.
2. To prepare the student for the United States Coast Guard Third Assistant License Examination.

GRADING:

The student's final grade will be computed as follows:

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| 1. | Final Examination | 30% |
| 2. | Additional Exams or Quizzes | 70% |

COURSE ORGANIZATION:

Will consist of lectures, reading assignments and training films and an associated laboratory.

CLASS ORGANIZATION:

Attendance is mandatory. Attendance will be a factor in computing a cadet's final grade. Some allowances will be given for watch standing, sickness, etc.

The proper uniform will be worn at all times. For extra assistance, office hours will be posted.

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