Propulsion Plant Simulator Laboratory
Marine Engineering Technology

TEXAS A&M UNIVERSITY
GALVESTON CAMPUS®

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of the Practice
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Head

Lab Objectives

To provide simulation capability for engine room operations

WÄRTSILÄ

Lab Capabilities

The engine room simulators comprise the following training elements:

- Thermodynamics and Heat Transfer
- Operational Principles of Marine Diesel, Gas Turbine, and Steam Propulsion Plants
- Operation and Maintenance of Machinery
- Physical and Chemical Properties of Fuels and Lubricants
- Marine Electro-technology, Electronics, and Electrical Equipment
- Fundamentals of Automation, Instrumentation, and Control Systems

The simulators can demonstrate and teach basic engine room operations, emergency operations and troubleshooting, and optimal fuel economy and energy conservation through realistic simulation of a real engine room.

Lab Facilities

15 student ERS TechSim (by Wärtsilä) stations and one instructor station for:
ANZAC Frigate (Gas Turbine CODOG)
Tanker LL (MAN BW 6S60MC-C)
Product Tanker (Dual Fuel Slow Speed Diesel)
Container Ship (Electronic Cam Slow Speed Diesel)
Offshore Patrol Vessel (Diesel-Electric)
LNG Carrier (Dual Fuel Diesel-Electric – High Voltage)
LNG Carrier (Dual Fuel Steam Turbine)
Azipod Cruise Ship (Diesel Electric – High Voltage)
Royal Princes Cruise Ship (Diesel Electric – High Voltage)
Offshore Hybrid Vessel (Wartsila 31 Hybrid Battery Drive)

Courses Supported

MARR 102 Engine room Resource Management and Dynamics
MARE 211 Steam Propulsion Plants
MARE 312 Diesel Propulsion Plants
MARE 424 Gas Turbine Power Generation

NAVSIM Services, Inc.

Research Supported

NA

Contact and Scheduling

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Texas A&M University at Galveston

Marine Engineering Technology Department