Liverpool John Moores University

Title:	Marine Engineering Knowledge General
Status:	Definitive
Code:	**5522ALAM** (123813)
Version Start Date:	01-08-2019
Owning School/Faculty:	Engineering
Teaching School/Faculty:	Malaysian Maritime Academy

Team	Leader
Geraint Phylip-Jones	Y

Academic Level:	FHEQ5	**Credit Value:**	20	**Total Delivered Hours:**	128
Total Learning Hours:	200	**Private Study:**	72		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	107
Tutorial	18

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	50	3
Portfolio	AS2	A portfolio of formative and summative assessment.	50	

Aims

To provide the students with the understanding of principles of safe and economic operation of marine diesel engines, steam turbines, boilers and associated equipment to manage, plan and operate the main propulsion and auxiliary machinery.

Also to provide the students with an understanding of performance monitoring and

fault diagnosing.

Learning Outcomes

After completing the module the student should be able to:

1 Recount and discuss the design features and operative mechanism of marine propulsion systems and associated auxiliaries.
2 Discuss the design and operational requirements of auxiliary machinery and systems.
3 Discuss and demonstrate refrigeration and air conditioning plant in terms of design, operation and maintenance.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Examination	1	2	3
Portfolio	1	2	3

Outline Syllabus

1 Design and operation of main propulsion plants including gas turbines
2 Design and operational aspects of propeller shafting and associated ancillaries
3 Design and operational procedures of auxiliary machinery and systems
4 Efficient operation, surveillance, performance assessment an of propulsion plant and auxiliary machinery
5 Safety systems and safe working practices.
6 Performance characteristics of pumps, compressors and associated machinery
7 Refrigeration and air conditioning system design: operation, maintenance and legislation
8 Physical and chemical properties of fuels and lubricants.
9 Ships steering gear and autopilot operation
9 Environmental responsibilities and legislation
10 Functions and operation of control systems

Learning Activities

A combination of lectures and tutorial sessions.

Notes

This module will provide a good grounding for those students wishing to pursue a career in the following marine related disciplines or industries: Marine Engineering Operations, Marine Engineering Design, Marine Superintendent, Surveying and Shipbuilding.