Liverpool John Moores University

Title:	Marine Engineering Knowledge Steam
Status:	Definitive
Code:	**5514ALAM** (120781)
Version Start Date:	01-08-2016
Owning School/Faculty:	Maritime and Mechanical Engineering
Teaching School/Faculty:	Malaysian Maritime Academy

Team	Leader
Geraint Phylip-Jones	Y

Academic Level:	FHEQ5	**Credit Value:**	24	**Total Delivered Hours:**	128
Total Learning Hours:	240	**Private Study:**	112		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	113
Tutorial	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	50	3
Portfolio	AS2	Portfolio	50	

Aims

To provide the student with the understanding of principles of safe and economic operation of marine steam Turbines, boilers and associated equipment to manage, plan and operate the main propulsion and auxiliary machinery.
To provide the student with an understanding of performance monitoring and fault diagnostics.

Learning Outcomes

After completing the module the student should be able to:

1	Recount and discuss the design, construction operation, maintenance and performance of steam propulsion plant.
2	Discuss the design, operation and maintenance of steam plant ancillary systems.
3	Analyse propulsive characteristics of steam and gas turbine propulsion plants.

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

Design principles, operation and maintenance of the following component of a marine
steam propulsion plant:

1. *Marine steam turbine and associated auxiliaries*
2. *Marine gas turbine and associated auxiliaries*
3. *Marine Steam Boiler and associated auxiliaries*
4. *Start-up, operation and shut-down procedures of main and auxiliary steam plant and auxiliary systems.*
5. *Monitoring and performance assessment of steam propulsion plant and auxiliary systems.*
6. *Propulsive characteristics of steam and gas turbine including speed, power and fuel consumption.*
7. *Fuel/lubricating oil properties and treatments.*
8. *Functions and mechanism of control systems auxiliary steam plant.*

Learning Activities

A combination of lectures, tutorial and practical 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.