

### Summary Information

<b>Module Code</b>	7306MECH
<b>Formal Module Title</b>	Marine Design Engineering
<b>Owning School</b>	Engineering
<b>Career</b>	Undergraduate
<b>Credits</b>	10
<b>Academic level</b>	FHEQ Level 7
<b>Grading Schema</b>	50

### Module Contacts

#### Module Leader

Contact Name	Applies to all offerings	Offerings
Eduardo Blanco Davis	Yes	N/A

#### Module Team Member

Contact Name	Applies to all offerings	Offerings
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#### Partner Module Team

Contact Name	Applies to all offerings	Offerings
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### Teaching Responsibility

<b>LJMU Schools involved in Delivery</b>
Engineering

### Learning Methods

Learning Method Type	Hours
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Lecture	22
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## Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-CTY	CTY	January	12 Weeks

## Aims and Outcomes

<b>Aims</b>	The aim of the module is to provide students with the appropriate level of marine engineering knowledge and expertise required of an effective member of a marine engineering design team.
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## Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Develop process and instrumentation diagrams.
MLO2	Critically analyse sound pressure levels in an enclosed space.
MLO3	Apply HAZOP to a complex scenario.
MLO4	Evaluate heat exchanger performance by the effectiveness-NTU method.

## Module Content

Outline Syllabus
Space engineering - to become aware of issues surrounding the layout of a machinery space taking account of items such as pipe routes, tankage, proximity to associated plant, maintenance space, access and safety etc. Detailed development of Piping and Instrumentation Diagrams (P&ID's). Number of Transfer Units (NTU) effectiveness method for evaluation of heat exchanger performance. Condition monitoring techniques including vibration analyses. Hazard and Operability Analysis (HAZOP) studies. Shafting alignment.

## Module Overview

Additional Information
The module is designed to provide the student with an in-depth grounding of the typical practices and procedures that they will encounter should they pursue a career in the marine engineering design environment. The module will also provide a good grounding for those students pursuing careers in other industries such as power generation and process engineering. This module includes content which relates to the following UN Sustainable Development Goals: SDG13 – This module considers how marine engineering designers strive to lower GHG emissions onboard. SDG14 – This module will consider how onboard systems should be designed, operated, and maintained in order to prevent ocean pollution.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Centralised Exam	Examination	100	2	MLO1, MLO2, MLO4, MLO3