

Liverpool John Moores University

Title: Offshore Engineering
Status: Definitive
Code: **7008MSC** (121678)
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering
Teaching School/Faculty: Engineering

Team	Leader
Musa Bashir	Y

Academic Level: FHEQ7
Credit Value: 20
Total Delivered Hours: 35
Total Learning Hours: 200
Private Study: 165

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Tutorial	11

Grading Basis: 50 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS2	Exam	70	2
Portfolio	AS1	Portfolio	30	

Aims

To provide advanced understanding of offshore installation types and knowledge of offshore installations from an operational and safety aspect.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate the application of offshore installation and offshore installation types.
- 2 Demonstrate the principles of engineering plants' application and requirements in marine and offshore installations.
- 3 Critically evaluate the changes in the global oil, gas and energy markets and understand the impact on the marine and offshore engineering industry.
- 4 Demonstrate and understanding and an ability to quantify the environmental loads experienced by an offshore structure.

Learning Outcomes of Assessments

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

Exam	1	2
Portfolio	3	4

Outline Syllabus

Introduction to the offshore oil and gas industry.

General engineering knowledge of offshore installations and application of installations. With emphasis on fixed and floating offshore oil and gas facilities, renewable energy platforms and port infrastructures (jetties, wharves and docks). Interactions between external loading and structural behaviours of marine structures, concepts of fluid-structure interaction and general dynamics of marine systems. Engineering plant and systems required to support the activities on an offshore installation.

Drilling, well structure, well drive mechanisms and injection methods.

Production and processing of oil and gas.

Environmental factors and environmental loading.

Learning Activities

Formal lectures, Tutorials, Videos.

Notes

The module is designed to provide advanced understanding of various offshore installation types and the engineering plants required to operate these installations.