

Liverpool John Moores University

Title: Oil and Gas Lifecycle Hazards and Risks
Status: Definitive
Code: **7534RSKDL** (118802)
Version Start Date: 01-08-2019

Owning School/Faculty: Maritime and Mechanical Engineering
Teaching School/Faculty: Maritime and Mechanical Engineering

Team	Leader
Alan Wall	Y

Academic Level: FHEQ7 **Credit Value:** 10 **Total Delivered Hours:** 16.5
Total Learning Hours: 100 **Private Study:** 83.5

Delivery Options

Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	8
Online	.5
Tutorial	8

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	Essay		95	
Reflection	Test&refl		5	

Aims

To provide an overview of oil and gas industry facilities and activities and the typical hazards associated with this industry.

To provide an understanding of the role of risk management through the oil and gas project lifecycle

Learning Outcomes

After completing the module the student should be able to:

- 1 Critically review, from an HSE perspective, the engineering options for developing an oil and/or gas reservoir and delivering the products to market.
- 2 Analyze the oil & gas industry project life cycle with regards to the change in the hazard and risk profile, and devise a programme of HSE and risk studies appropriate for each stage of the life cycle.
- 3 Critically compare and contrast the different approaches to governance and regulation of the oil and gas industry around the world and analyse the influence of major incidents on regulatory regimes.

Learning Outcomes of Assessments

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

Essay	2	3
Online test & reflection	1	

Outline Syllabus

Hydrocarbon industries sources of risk:

- Drilling and Well Intervention*
- Offshore Production Systems*
- Production and debottlenecking*
- Simultaneous Operations*
- Maintenance and Aging Assets*
- Pipelines & Shipping*
- Refining, Downstream Processing & Storage*
- LNG/LPG*

Regulatory regimes

Value and risk management through the project lifecycle:

- Initiation*
- Feasibility*
- Concept Selection*
- Project Definition*
- Detailed Design*
- Construction and Commissioning*
- Operation*
- Abandonment*
- Change Management*

Overview of Risk Assessment Tools and Techniques

Learning Activities

A combination of slides and notes, exercises, discussions, interactive web activities and supported self study.

Notes

The purpose of this module is to provide an overview of oil and gas industry facilities and activities, and the typical hazards associated with this industry.

The module also aims to provide an understanding of the role of risk management through the oil and gas project lifecycle. This includes evaluating regulatory regimes and the opportunities for risk reduction during the phases of a project.

The assessment for this module is an essay combined with online activities (e.g. tests, discussions, etc.).