

Liverpool John Moores University

Title: Oil and Gas Lifecycle Hazards and Risks
Status: Definitive
Code: **7563RTC** (120396)
Version Start Date: 01-08-2019

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

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: Semester 1

Component	Contact Hours
Lecture	8
Online	.5
Tutorial	8

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	An essay question comprising several component parts, based around a case study, up to 4,000 words long.	95	
Test	AS2	Individual and group activities e. g. quiz, forum	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:

4000 word essay	1	2	3
Individual and group work	1	2	

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 lectures, exercises 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.

Assessment is in the form of an essay combined with activities (e.g. exercises, discussions, etc.). The delivery modes for the module elements are explained below.

Lecture (using slides and notes): will be delivered by classroom based teacher (face to face) or online self-study (distance learning) or mixture of the two (blended learning).

Tutorial/Activities (exercises and reviews): will be delivered by classroom based teacher (face to face) or online activities with teacher feedback/virtual classroom (distance learning) or mixture of the two (blended learning).

Tutor supported online: will be delivered by email support prior to assessment submission (face to face) or tutor feedback activities, virtual classrooms and email support (distance learning) or mixture of the two (blended learning).