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MODULE DESCRIPTOR

Module Title

Facilities

Reference	ENM202	Version	12
Created	September 2022	SCQF Level	SCQF 11
Approved	April 2006	SCQF Points	15
Amended	September 2022	ECTS Points	7.5

Aims of Module

This module aims to develop an ability to identify and critically appraise the requirement for various components of surface and subsea petroleum production facilities for offshore field development and, the ability to optimise the design and performance of both the individual components and the full system over the life-cycle of the facility with a view to achieving Net-Zero.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Apply appropriate design methods for the selection and sizing of components for oil and gas production facilities.
- 2 Critically appraise and evaluate emission reduction strategies for oil and gas production.
- 3 Apply appropriate principles for hydrocarbon measurement and allocation in oil and gas field development.
- 4 Critically analyse and appraise subsea field development options.
- 5 Evaluate decommissioning options and techniques by applying relevant decommissioning legislation and technologies.

Indicative Module Content

Fluid Processing; Emission Reduction Strategies; Machinery; Hydrocarbon Measurement and Allocation; Field Development; Decommissioning.

Module Delivery

The module will be delivered by means of face to face (full time) and online (part time online learning) lectures, tutorials, and self guided study.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	48	60
Non-Contact Hours	102	90
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	20%	Outcomes Assessed:	2
Description:	Group presentation.				

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

The module has 2 components and an overall grade D is required to pass the module. The component weighting is as follows: C1 is worth 20% and C2 is worth 80%.

		Practical Exam:						
		A	B	C	D	E	F	NS
Coursework:	A	A	A	A	B	B	E	
	B	B	B	B	B	C	E	
	C	B	C	C	C	D	E	
	D	C	C	D	D	D	E	
	E	D	D	D	E	E	E	
	F	E	E	E	F	F	F	
NS		Non-submission of work by published deadline or non-attendance for examination						

Module Requirements

Prerequisites for Module	Normally a UK honours degree, or equivalent, in Engineering or related discipline at class 2.2 or above and proficiency in English language for academic purposes (IELTS minimum score of 6.5 or equivalent)
Corequisites for module	None
Precluded Modules	This module is not suitable for students following an MSc in Professional Studies programme unless they meet the entry qualifications stipulated in the University Regulations on admission and the prerequisites above.

ADDITIONAL NOTES

Part Time refers to Online Learning Part Time (OLPT).

INDICATIVE BIBLIOGRAPHY

- 1 Laik, Sukumar. (2018). Offshore Petroleum Drilling and Production. CRC Press. Chapters 3,6-8,10
- 2 Lyons, William C. Plisga, Gary J. Lorenz, Michael D.. (2016). Standard Handbook of Petroleum and Natural Gas Engineering (3rd Edition). Elsevier. Chapters 6-7
- 3 Arnold, Ken Stewart, Maurice. (2008). Surface Production Operations - Design of Oil Handling Systems and Facilities, Volume 1 (3rd Edition). Elsevier.
- 4 Coker, A. Kayode. (2021). Petroleum Refining Design and Applications Handbook, Volume 2 - Rules of Thumb, Process Planning, Scheduling and Flowsheet Design, Process Piping Design, Pumps, Compressors, and Process Safety Incidents. John Wiley & Sons. Chapter 16
- 5 Bai, Yong Bai, Qiang. (2019). Subsea Engineering Handbook (2nd Edition). Elsevier. Chapter 2
- 6 Journal articles, conference proceedings, and appropriate websites. Example OnePetro, Knovel, ASME