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MODULE DESCRIPTOR

Module Title

Drilling Operations Management

Reference	ENM211	Version	6
Created	August 2021	SCQF Level	SCQF 11
Approved	April 2004	SCQF Points	15
Amended	August 2021	ECTS Points	7.5

Aims of Module

To introduce the principles and techniques involved in managing well engineering and construction operations.
To provide an understanding of the theory and practice of drilling and well engineering.

Learning Outcomes for Module

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

- 1 Demonstrate understanding and efficiently apply the general principles of project management to drilling engineering, well construction and well intervention operations over the life cycle of a well.
- 2 Analyse outline economic evaluation of projects and demonstrate an understanding of Cost Management.
- 3 Develop and implement Safety Management Systems, identify 'safety critical items', efficiently ensure that equipment is 'fit for purpose' and risks from well operations are critically identified, evaluated and controlled.
- 4 Synthesize and efficiently apply modern management methods, such as partnering and alliances, network analysis and performance incentive schemes, to achieve significantly improved drill planning and performance and reduce the incidence of non productive time.
- 5 Develop the report writing and presentation skills required to communicate effectively with management and peers, both within drilling and with other technical and non-technical disciplines.

Indicative Module Content

Introduction to Drilling and Operations Management: - Scale and Scope of Drilling Projects; - Feasibility and Economics; - Drilling Organisation and People; - Project Management Tools and Techniques; - Risk Management and Analysis. Well Planning, Design and Construction: - The Well Planning Process; - Preliminary and Detailed Well Design; - Drilling Programmes; - Pre-Spud Meetings; - Operational Supervision and Control; - Drilling Training; - Avoidance/Control of Common Drilling Problems; - HP/HT considerations. Drilling and Petroleum Economics: -Drilling Costs and Field Development Economics; -Contracts for Rigs and Services; -Procurement Procedures; -Partnering and Alliances; -Evaluating the Impact of New Technology; -Cost Management, Estimating and Control; -Performance Monitoring; - Performance Improvement, Incentives, Benchmarking ; - Impact of Taxation. Legislation/Regulation of Drilling Operations: - U.K., European and International Perspectives; - Consents to Drill; - Planning Consents; - Cullen Inquiry and Safety Case Regime; - Well Examination Schemes; - Drilling Policy Documents. Health, Safety and Environmental Management: - Health and Safety Legislation and Regulation; - Safety Health and Environmental Management Systems; - Compliance and Control; - Emergency Response Plans; - HSE Manuals; - Incident Reporting and Analysis.

Module Delivery

The module will be delivered by means of lectures, tutorials and student-centred learning.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	50	40
Non-Contact Hours	100	110
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

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

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	Case study and reports to management.				

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

Component 1 comprises 100% of the module grade. To pass the module, a D grade is required.

Module Grade

Minimum Requirements to achieve Module Grade:

A

A

B

B

C

C

D

D

E

E

F

F

NS

Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module Normally a UK 2:2 honours degree in Engineering or a related discipline and proficiency in English language for academic purposes (or IELTS score of 6.5 or equivalent).

Corequisites for module None.

Precluded Modules This module is not suitable for students following a Professional Studies programme unless they meet the entry qualifications stipulated in the University Regulations on admission and the prerequisites stated above.

INDICATIVE BIBLIOGRAPHY

- 1 FRASER K. 1991. Managing Drilling Operations. Elsevier
- 2 GRACE R.D. 2003. Blowout and Well Control Handbook. Gulf Publishing
- 3 JAHN F., COOK M., and GRAHAM M. 1998. Hydrocarbon Exploration and Production. Elsevier
- 4 MOORE P.L. 1986. Drilling Practices Manual, 2nd ed. PenWell
- 5 TURNER J. R. 1993. The Handbook of Project-Based Management. McGraw-Hill