

MODULE DESCRIPTOR

Module Title

Offshore Engineering

Reference	EN3581	Version	8
Created	April 2023	SCQF Level	SCQF 9
Approved	March 2004	SCQF Points	15
Amended	August 2023	ECTS Points	7.5

Aims of Module

To provide the student with a background to the offshore environment and an introduction to the core principles of offshore technology.

Learning Outcomes for Module

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

- 1 Explain how a well is drilled, including the functions of the specialist equipment.
- 2 Review the fundamentals of petroleum geology, including oil and gas reservoirs.
- 3 Draw on the standard hydrodynamic equations to predict the loading applied to fixed structures.
- 4 Review various options for the development of offshore oil and gas fields.

Indicative Module Content

Overview of overall well completion from exploration to drilling, completion and production. The Drilling System and Equipment. Basic introduction to well design. Production development options. Hydrodynamic effects. Environmental conditions - wind, wave and current. Wave loading and structural response. Principles of geology. Petroleum Geology. Oil and gas reservoirs.

Module Delivery

Full-time students: This module is delivered by a combination of lectures and tutorials. It will be supported by practical examples and activities. Part-time students: This module is delivered by a combination of lectures and tutorials online. It will be supported by online drop in evening sessions.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	40	40
Non-Contact Hours	110	110
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:	Examination	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4
Description:	Closed book examination.				

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

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1	RABIA, H., 1985, Oilwell Drilling Engineering - Principles and Practice. London: Graham & Trotman
2	JAHN F., COOK, M. AND GRAHAM, M., 2008, Hydrocarbon Exploration and Production. Amsterdam : Elsevier.
3	International Association of Drilling Contractors (IADC), 2015 IADC Drilling Manual, 12th edition. International Association of Drilling Contractors (IADC), Houston, Texas.
4	SELLEY, R., Elements of Petroleum Geology ISBN-13: 978-0123860316
5	RANDALL, R.E., 2010. Elements of Ocean Engineering, 2nd ed. College Station, TX.: Society of Naval Architects.
6	Selley, Richard C., Sonnenberg, Stephen A., 2022, Elements of petroleum geology(4th ed). Amsterdam : Academic Press