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MODULE DESCRIPTOR

Module Title

Petroleum Geoscience

Reference	ENM500	Version	4
Created	July 2017	SCQF Level	SCQF 11
Approved	August 2013	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To develop understanding and knowledge of important principles and concepts of rock formation processes; and petroleum formation and accumulation in sedimentary rocks.

Learning Outcomes for Module

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

- 1 Understand the basic principles and concepts of rock formation, petroleum basin formation, hydrocarbon formation, migration and accumulation.
- 2 Describe and analyse different rock types on the basis of their mode of formation, and physical and chemical properties.
- 3 Describe and analyse the geologic process of hydrocarbon formation, migration and accumulation.
- 4 Carry out simple formation evaluation by using the basic log interpretation techniques.

Indicative Module Content

Rock types: igneous, metamorphic and sedimentary rocks. Sedimentary basin: types of sedimentary basin, basin formation, worldwide sedimentary basin distribution. Hydrocarbon traps and trapping mechanisms. Hydrocarbon formation, migration and accumulation. Formation evaluation: well logs, types of well logs, well log interpretation: lithology determination, porosity estimation, HIIP estimation.

Module Delivery

The module will be delivered by means of lectures, tutorials and guided self-study.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	50	N/A
Non-Contact Hours	100	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<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
Description:	A coursework designed to test knowledge and understanding of petroleum geoscience and formation evaluation. It will include some report writing and practical formation evaluation using log interpretation.				

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

In order to pass, students should achieve a mark of at least 40% in the Component and an overall grade of D or greater.

Module Grade	Minimum Requirements to achieve Module Grade:
A	Greater than or equal to 70%
B	In the range 60% to 69%
C	In the range 50% to 59%
D	In the range 40% to 49%
E	In the range 35% to 39%
F	Less than 34%
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 STONELEY, R., Introduction to Petroleum Exploration for Non-Geologists (OUP, 1995, ISBN 0198548567).
- 2 ARCHER, J.S., WALL, C.G., Petroleum Engineering: Principles and Practice (Graham & Trotman, 1986, ISBN 0860106659).
- 3 JAHN, F., COOK, M., GRAHAM, M., Hydrocarbon Exploration and Production (Elsevier, 1998, ISBN 0444829210).
- 4 DAKE, L.P., The Practice of Reservoir Engineering (Elsevier, 2001).
- 5 ECONOMIDES, M. J., HILL A. D., EHLIG-ECONOMIDES, C.; Petroleum Production Systems (Prentice Hall, 1994).