

	<p>Ministry of Higher Education and Scientific Research - Iraq</p> <p>University of Warith Al_Anbiyaa.... College of Engineering Oil and Gas Department</p>	
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## MODULE DESCRIPTION FORM

### نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Principle to Petroleum Engineering		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	OGE112		
ECTS Credits	4		
SWL (hr/sem)	125		
Module Level	UGI	Semester of Delivery	
Administering Department	OGE	College	Engineering
Module Leader	Sudad Hameed	e-mail	DRSUDAD@GMAIL.COM
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PH.D
Module Tutor	NA	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	English Language I	Semester	1

**Module Aims, Learning Outcomes and Indicative Contents**

## أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<b>Module Aims</b> أهداف المادة الدراسية	1- Identify the basics of oil and gas industry 2- This course aims to get familiar with the abbreviations and terminology used in the oil industry 3- Explain all operations that related to explore, drill, completion and produce oil wells as well as post-production procedures like well stimulation and production enhancement.
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	To Understand the fundamentals of the petroleum industry, which including: 1- Petroleum & Crude Oil Definition 2- Petroleum Formation Theories 3- Petroleum exploration methods 4- Oil and gas drilling operation and drilling fluid types 5- Identify oil and gas reservoirs, types of oil and the nature of oil formations 6- Well completion and Production operations 7- post-production operations like well stimulation and artificial lift 8- Drive Mechanisms, secondary recovery and enhance oil recovery 9- Get familiar with the key abbreviations and terminology used in the oil industry.
<b>Indicative Contents</b> المحتويات الإرشادية	Indicative content includes the following: <b>Part I: fundamentals of petroleum engineering</b> Petroleum & crude oil definition, API (American Petroleum Institute), associated gas and non-associated gas, The reservoir classification, biogenic and the abiotic theories for petroleum formation, rock types and petroleum history. (24 hrs) <b>Part II: Oil and gas well operations</b> Drilling operation, drilling fluid types and benefits, well logging and formation evaluation, well cementing and casing, perforation techniques and production operation. (28 hrs) <b>Part III: post-production operation</b> Enhance oil recovery by using artificial lift techniques, secondary and tertiary recovery techniques. (8 hrs)
<b>Learning and Teaching Strategies</b> استراتيجيات التعلم والتعليم	
<b>Strategies</b>	The main strategy that will be adopted in delivering this module is to Encourage students to ask and answer questions, as well as presenting many explanatory videos to increase students' knowledge, since most of the equipment and facilities for the oil industry are not available in daily life and it is difficult to see them, and also to introduce the student to the most important petroleum terms, abbreviations and symbols that he will need to complete the rest of the academic stages Or to work in the future as an oil engineer.

<b>Student Workload (SWL)</b>			
الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعا			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطلاب خلال الفصل	63	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطلاب أسبوعيا	4
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطلاب خلال الفصل	62	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطلاب خلال الفصل	125		

<b>Module Evaluation</b>					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	2	10% (10)	4, 11	1,2,3,4 and 5
	<b>Assignments</b>	2	10% (10)	3, 10	1,2,3,4 and 5
	<b>Projects / Report</b>	1	10% (10)	Continuous	All
		1	10% (10)	13	1,2,3,4,5 and 6
<b>Summative assessment</b>	<b>Midterm Exam</b>	2 hr	10% (10)	7	1,2,3,4 and 5
	<b>Final Exam</b>	2hr	50% (50)	16	All
<b>Total assessment</b>			100% (100 Marks)		

<b>Delivery Plan (Weekly Syllabus)</b>	
المنهاج الاسبوعي النظري	
	Material Covered
<b>Week 1</b>	Petroleum & Crude Oil Definition
<b>Week 2</b>	Petroleum Formation Theories
<b>Week 3</b>	Petroleum exploration methods
<b>Week 4</b>	Drilling Engineering
<b>Week 5</b>	Drilling Fluids
<b>Week 6</b>	Cable-tool drilling & Rotary Drilling
<b>Week 7</b>	Reservoir Engineering
<b>Week 8</b>	Reservoir fluids properties
<b>Week 9</b>	Petrophysical rock properties
<b>Week 10</b>	Formation evaluation & well logging

<b>Week 11</b>	Well Completion
<b>Week 12</b>	Production Engineering
<b>Week 13</b>	Oil and gas separators
<b>Week 14</b>	Artificial lift
<b>Week 15</b>	Drive Mechanisms, secondary recovery and enhance oil recovery
<b>Week 16</b>	<b>Preparatory week before the final Exam</b>

### Learning and Teaching Resources

#### مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	- Dalvi, Samir (2015). Fundamentals of Oil & Gas Industry for Beginners. - John R. Fanchi (2017). Introduction to Petroleum Engineering. - Moshood Sanni (2018). Petroleum Engineering: Principles, Calculations, and Workflows	No
<b>Recommended Texts</b>	- Ahmed, Tarek (2010). Reservoir Engineering Handbook.	yes
<b>Websites</b>	<a href="https://guides.loc.gov/oil-and-gas-industry">https://guides.loc.gov/oil-and-gas-industry</a> <a href="https://www.drillingformulas.com/">https://www.drillingformulas.com/</a> <a href="https://glossary.slb.com/en/search#sort=relevancy">https://glossary.slb.com/en/search#sort=relevancy</a>	

### Grading Scheme

#### مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
<b>Success Group (50 - 100)</b>	<b>A - Excellent</b>	امتياز	90 - 100	Outstanding Performance
	<b>B - Very Good</b>	جيد جدا	80 - 89	Above average with some errors
	<b>C - Good</b>	جيد	70 - 79	Sound work with notable errors
	<b>D - Satisfactory</b>	متوسط	60 - 69	Fair but with major shortcomings
	<b>E - Sufficient</b>	مقبول	50 - 59	Work meets minimum criteria
<b>Fail Group (0 - 49)</b>	<b>FX – Fail</b>	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	<b>F – Fail</b>	راسب	(0-44)	Considerable amount of work required

**Note:** Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.