



Ministry of Higher Education and
Scientific Research - Iraq

University of Warith Al_Anbiyaa....
College of Engineering
Oil and Gas Department



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	1
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**

Module Aims أهداف المادة الدراسية	<p>1- Identify the basics of oil and gas industry</p> <p>2- This course aims to get familiar with the abbreviations and terminology used in the oil industry</p> <p>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.</p>
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<p>To Understand the fundamentals of the petroleum industry, which including:</p> <p>1- Petroleum & Crude Oil Definition</p> <p>2- Petroleum Formation Theories</p> <p>3- Petroleum exploration methods</p> <p>4- Oil and gas drilling operation and drilling fluid types</p> <p>5- Identify oil and gas reservoirs, types of oil and the nature of oil formations</p> <p>6- Well completion and Production operations</p> <p>7- post-production operations like well stimulation and artificial lift</p> <p>8- Drive Mechanisms, secondary recovery and enhance oil recovery</p> <p>9- Get familiar with the key abbreviations and terminology used in the oil industry.</p>
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following:</p> <p>Part I: fundamentals of petroleum engineering</p> <p>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)</p> <p>Part II: Oil and gas well operations</p> <p>Drilling operation, drilling fluid types and benefits, well logging and formation evaluation, well cementing and casing, perforation techniques and production operation. (28 hrs)</p> <p>Part III: post-production operation</p> <p>Enhance oil recovery by using artificial lift techniques, secondary and tertiary recovery techniques. (8 hrs)</p>

Learning and Teaching Strategies**استراتيجيات التعلم والتعليم**

Strategies	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.
-------------------	--

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعاً

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Petroleum & Crude Oil Definition
Week 2	Petroleum Formation Theories
Week 3	Petroleum exploration methods
Week 4	Drilling Engineering
Week 5	Drilling Fluids
Week 6	Cable-tool drilling & Rotary Drilling
Week 7	Reservoir Engineering
Week 8	Reservoir fluids properties
Week 9	Petrophysical rock properties
Week 10	Formation evaluation & well logging

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

Learning and Teaching Resources

مصادر التعلم والتدریس

	Text	Available in the Library?
Required Texts	<ul style="list-style-type: none"> - Dalvi, Samir (2015). Fundamentals of Oil & Gas Industry for Beginners. - John R. Fanchi (2017). Introduction to Petroleum Engineering. - Moshhood Sanni (2018). Petroleum Engineering: Principles, Calculations, and Workflows 	No
Recommended Texts	<ul style="list-style-type: none"> - Ahmed, Tarek (2010). Reservoir Engineering Handbook. 	yes
Websites	https://guides.loc.gov/oil-and-gas-industry https://www.drillingformulas.com/ https://glossary.slb.com/en/search#sort=relevancy	

Grading Scheme

مخطط الدرجات

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