

	<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	Risk Analysis and Petroleum Economics		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	OGE326			
ECTS Credits	4			
SWL (hr/sem)	100			
Module Level	UGIII	Semester of Delivery		2
Administering Department	OGE	College	College of Engineering	
Module Leader	Sabah Rasoul Al-Jabiri		e-mail	
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
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Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	ENG216	Semester	1
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	<p>The economic structure of the petroleum industry differs strongly from other industries due to the great risks and uncertainty associated with oil and gas projects, coupled with dangerously volatile price levels.</p> <p>Therefore, this module provides students' knowledge and related sciences in the oil economy and its impact on the economic life of Iraq and the countries of the world, also international strategy of energy, types of interest, future production of oil and gas evaluation, time value of money, method of engineering decisions.</p>
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1- Differentiate the different stages in the life cycle of a petroleum project and recognize the costs associated with each one. 2- Distinguish the different types of petroleum contracts. 3- How to evaluate a petroleum project economically 4- The knowledge of money time value analysis and calculation for the oil and gas industry. 5- The knowledge of interest types used in different Transactions of petroleum industry stages. 6- How to estimate the oil in place using different methods.

	7- Establish the risk associated with reserve estimation.
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following:</p> <p>Part I: the economic structure of the petroleum industry</p> <p>Understand the different life cycles in petroleum projects. what is the cost associated with each of them, and how to evaluate a petroleum project</p> <p>Part II: Risk in petroleum economics</p> <p>How to calculate the oil reserve, how to analyze the risk associated with reserve estimation</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	<p>The main strategy that will be adopted in delivering this module is to Encourage students to ask and answer questions, as well as solve many examples to increase students' knowledge and also to introduce the student to the most important petroleum companies and help them understand the power of petroleum economic on our daily life.</p>
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem)	52	Unstructured SWL (h/w)	3

الحمل الدراسي غير المنتظم للطلاب خلال الفصل		الحمل الدراسي غير المنتظم للطلاب أسبوعيا
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	100	

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to the life cycle of a petroleum project

Week 2	Contract Types of Petroleum Exploration and Production
Week 3	Investment Decisions
Week 4	Evaluation of petroleum projects - The net cash flow
Week 5	Types of cost in petroleum project
Week 6	Evaluation of petroleum projects - Discounted cash flow - Net present value - Internal rate of return - Payback period
Week 7	Petroleum companies and economics
Week 8	Types of Interests: -Simple and compound interest
Week 9	Types of Interests: -Continuous Interest
Week 10	Risk in petroleum economics
Week 11	Risk of Reserve Estimation in Petroleum Engineering
Week 12	Reserves Estimations -Analog Method
Week 13	Reserves Estimations -Volumetric Method
Week 14	Reserves Estimations -Material Balance Method

Week 15	Material Balance Equation, straight-line concept
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1. Abdel-Aal, H. & Alsahlawi, M. (2014). Petroleum economics & engineering, 3rd ed. USA: Taylor & Francis Group, LLC.	No
Recommended Texts	1. Al-Attar, A. & Alomair, O. (2005). Evaluation of upstream petroleum agreements and exploration and production costs, OPEC Review, vol. 29, issue 4, pp. 243-266. 2. Babusiaux, D. & Pierru, A. (2005). Corporate investment & economic analysis: Exercises & case study, France: Editions Technip. 3. Babusiaux, D., Barreau, S. & et al. (2004). Oil and gas exploration and production reserves, costs, contracts. France: Editions Technip. 4. Belli, P., Anderson, J., et al. (1998). Handbook on economic analysis of investment operating, 5. USA: Operational Core Services Network Learning and Leadership Center of the World Bank. 6. Inkpen, A. & Moffett, M. H. (2011). The global oil and gas industry management, strategy & finance, USA: PennWell Publishing.	No

	7. Mian, M.A. (2011). Project Economics and decision analysis Volume I: Deterministic models, edition 2. Tulsa, Oklahoma: PennWell.	
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	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.

كلية الهندسة