وزارة التعليم العالي والبحث العلمي

جـــهاز الإشـــراف والتقـويم العلـمي

دائرة ضمان الجودة والاعتماد الأكاديمي

استمارة وصف البرنامج الأكاديمي للكليات والمعاهد

للعام الدراسي ٢٠٢٣-٢٠٢٤

الجامعة : : تكريت

الكلية/ المعهد: كلية هندسة العمليات النفطية

القسم العلمي : هندسة سيطرة المنظومات النفطية

تاريخ ملء الملف : ٢٠٢٣/١١/٢٥

التوقيع :

اسم رئيس القسم : م. ياسين خضر ياسين

التاريخ : ٢٠٢٣/١١/٢٨

التوقيع :

اسم المعاون العلمي : ا.م.د.عمر ياسين ضايع

التاريخ : ٢٠٢٣/١٢/٣

دقق الملف من قبل

شعبة ضمان الجودة والأداء الجامعي

اسم مدير شعبة ضمان الجودة والأداء الجامعي: م.م أيوب إبراهيم محمد

التاريخ : ٢٠٢٣/١١/٢٨

التوقيع

مصادقة السيد العميد

أ.م.د غسان حمد عبد الله

٢٠٢٣/١٢/٣

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Principles of Petroleum Processes Engineering**			**Module Delivery**	
Module Type	**Support**			☒Theory ☐Lecture ☐Lab ☒Tutorial ☐Practical ☐Seminar	
Module Code	**PCS121**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	2	
Administering Department	PSCE		**College**	PPE	
Module Leader	Ayoob Ibrahim Mohammed		**e-mail**		
Module Leader's Acad. Title	Assist Lecturer		**Module Leader's Qualification**	M.SC.	
Module Tutor	Omar Ibrahim Farhan		**e-mail**	omar.i.farhan@tu.edu.iq	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	05/03/2024		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. Providing students the basics of scientific knowledge in the field of Petroleum Engineering and improving their professional abilities in the direction of analytical and creative thinking through the use of information technologies, data analysis and modern experimental methods in formulating and solving problems. 2. Preparing well-qualified engineers to advance the activities of Petroleum Systems Control Engineering and the ability to manage dealing with them in all aspects of life, especially in the field of petroleum industries. 3. Conducting scientific research of an academic nature to keep pace with the global scientific march and research of an applied nature to translate engineering knowledge and its theories into action by addressing the problems that the country suffers from in all fields. 4. Contribute in one way or another in terms of design, supervision, follow-up and advice for the reconstruction of the country in the various sectors of petroleum and petrochemical industries, with the provision of engineering consultancy, the preparation of economic feasibility studies, project designs and the provision of technical services. 5. Rooting scientific sobriety and making it a feature of this department in accordance with international controls and standards.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Broad-based education to understand the impact of engineering solutions globally and economically. 2. Ability to work in multidisciplinary teams. 3. The possibility of applying cognitive sciences such as mathematics and pure petroleum sciences. 4. The ability to use the techniques, skills and tools of contemporary engineering in the engineering field of the petroleum industries. 5. The ability to design petroleum and petrochemical systems to meet the required needs within realistic economic determinants. 6. The possibility of designing and implementing experiments, analyzing the results and translating them into reality.
Indicative Contents المحتويات الإرشادية	The indicative content includes the following: Part A – An introduction to crude oil and its origin. Reservoir characterization. [8 hrs.]. An introduction to petroleum exploration. Introduction to oil and gas drilling operations. [6 hrs.]. Part B – An introduction to production engineering and surface equipment. An introduction about all process that take place on oil field. [12 hrs.]. Introduction to natural gas. [10 hrs.] An introduction to oil storage and transportation. [10 hrs.]

	Part C – An introduction to units and dimensions and material balance and its application in petroleum and petroleum refining engineering [12 hrs.]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes and interactive tutorials. The following steps will be applied to enhance the learning strategies : 1. Using appropriate teaching methods in line with the level of students and allowing students to discuss. 2. Using modern and advanced means to deliver the largest amount of knowledge to the student. 3. Presenting the course vocabulary to the students (lectures). 4. Assigning students assignments, such as writing research papers, so that students acquire skills for self-learning and presentation. 5. Conducting sudden exams. 6. Oral exams via e-learning platforms. 7. Conducting the quarterly and final exams on the specified dates. 8. Informing students of how students' grades are calculated during the semester, their exam results, and discussing failures and successes. 9. Informing students of the curriculum books and auxiliary books that they need in the course vocabulary

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	73	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	77	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5, 9	LO (1,2,3,4), LO (5,6,7,8)
	Assignments	2	10% (10)	3, 11	LO (1,2), LO (9,10,11)
	Seminar	1/1	10% (10)	12	
	Scientific Report	-	-	-	-
Summative assessment	Midterm Exam	2 hr.	10% (10)	10	LO 1-9
	Final Exam	3 hr.	50% (50)	-	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	An introduction to crude oil and its origin.
Week 2	Reservoir characterization.
Week 3	An introduction to petroleum exploration.
Week 4	An introduction to oil and gas drilling operations.
Week 5	An introduction to production engineering and surface equipment.
Week 6	An introduction about all process that take place on oil field.
Week 7	An introduction to natural gas.
Week 8	An introduction to oil storage and transportation.
Week 9	An introduction to dimensions, units and their conversion.
Week 10	**Midterm exam.**
Week 11	An introduction to some concepts; density, moles, flow rate, temperature and pressure.
Week 12	An introduction to material balance.
Week 13	Application of material balance principles in petroleum engineering.
Week 14	**Preparatory week before the final Exam.**
Week 15	**Final Exam.**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Petroleum engineering. 2. Handbook of petroleum technology.	No No
Recommended Texts	1. An Introduction to petroleum Technology, Economics and politics by James G. Speight 2. Reservoir Engineering Hand book. 3. Petroleum production engineering. 4. Petroleum and Gas Field Processing, Second Edition, Hussein K. Abdel-Aal, Mohamed A. Aggour, and Mohamed A. Fahim 5. Basic Principles and Calculations in Chemical Engineering by David M. Himmelblau and James B. Riggs	Yes No No No Yes
Websites	https://www.arab-oil-naturalgas.com/	

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.