MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Petroleum Pollution**			**Module Delivery**	
Module Type	Support			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	MTE 101				
ECTS Credits	2				
SWL (hr/sem)	50				
Module Level		UGI	**Semester of Delivery**		One
Administering Department		MTE	**College**	COP	
Module Leader	Abdullah I. Ibrahim		**e-mail**	abdullah.ibrahim@uomosul.edu.iq	
Module Leader's Acad. Title		lecturer	**Module Leader's Qualification**		PhD
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date		01/07/2023	**Version Number**		1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The aims of the module are to 1. Foster the development of problem-solving skills, with a particular emphasis on petroleum pollution issues.. 2. Comprehend the fundamental principles of pollutant transfer. 3. Explore the foundational concepts essential for learning the key principles of how to deal with pollution that generated through petroleum refinery process. 4. Gain a comprehensive understanding of petroleum related environmental pollution.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon completing the course, students will be able to: 1. How to detect pollution resources. 2. Put an efficient safety plan to deal with petroleum pollution in either exploration sites or refineries. 3. Draw, review, and execute Review the company's environmental protection policy and the applicable requirements, federal, state, and local requirements. 4. Assessment of the organization, it's management, and equipment. 5. Gather data and relevant information and evaluate overall environmental performance of petroleum industry.
Indicative Contents المحتويات الإرشادية	The indicative content of the course comprises the following: 1. Introduction to Environmental control in the Petroleum Industry. 2. Overview of Environmental Issues that raise in petroleum industry. 3. Guiding Principles for Environmentally Responsible Petroleum Operations. 4. Drilling and production operations and relevant environmental issues. 5. Remediation of contaminated sites and the most important methods in treatment of soil contaminated with oil. 6. The impact of petroleum industry on organisms and ecosystems.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategies adopted in delivering this module include: • Encouraging active participation and fostering critical thinking skills through engaging students in discussions related to the impact of petroleum industry on environment.

	• Applying the communicative approach to enhance students' skills and enable effective communication with stakeholders. • Incorporating authentic materials in the classroom to create a realistic and immersive learning experience. • Emphasizing student motivation and promoting their engagement in the learning process. • Enhancing interaction and communication skills to achieve greater success in environmental protection acts.

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 1	LO #1, 3 and 6,13
	Assignments	2	10% (10)	2 and 12	LO #2, 4 and 7, 12
	Projects	1	10% (10)	Continues	
	Report	1	10% (10)	13	LO #5, 8, 9, and 10
Summative assessment	**Midterm Exam**	1 hr	10% (10)	7	LO #1 - 7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Environmental control in the Petroleum Industry, Overview of Environmental Issues, Sources of Wastes,
Week 2	Environmental Impact of Wastes, Waste Migration, Managing Wastes
Week 3	Environmental Regulations, Guiding Principles for Environmentally Responsible Petroleum Operations,
Week 4	Drilling Fluids, Drilling Fluid Separations, Overview of the production processes
Week 5	Produced Water, Production Chemicals, Planning for Environmental Protection, Waste Treatment Methods and Waste Disposal Methods
Week 6	Remediation of Contaminated Sites, The most important methods in treatment of soil contaminated with oil, Natural processes in which is removed naturally
Week 7	**Midterm Exam**
Week 8	Treatment of water contaminated with oil, Physical methods
Week 9	Biological methods
Week 10	Treatment of air contaminated with oil
Week 11	Environmental effects of oil on organisms and ecosystems
Week 12	Oil spill incidents
Week 13	Spill management
Week 14	Removal and displacement mechanisms(Skimmers)
Week 15	Air& Water streams
Week 16	**Preparatory week before the 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	Environmental control in petroleum engineering by John C. Reis. Gulf Publishing Company, Houston, Texas.	Yes
Recommended Texts		No
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.