MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Environmental pollution**			**Module Delivery**	
Module Type	S			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	UOMU0301066				
ECTS Credits	3				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Department of Medical Physics		**College**	Al mustaqbal University	
Module Leader	م.م فاطمة باسم ياسين -أ.م.د محمد لطيف		**e-mail**	Fatema.Basim.Yassien@uomus.edu.iq	
Module Leader's Acad. Title	**Assistant Lecturer**		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**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 Aims أهداف المادة الدراسية	Understanding the basic concepts in environmental pollution science
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Define environmental pollution and identify its main types. 2. Explain different sources of pollution (natural and anthropogenic). 3. Distinguish between chemical, biological, and radioactive pollutants. 4. Describe the effects of pollution on human health and ecosystems. 5. Explain the role of biogeochemical cycles in the environment. 6. Analyze the causes and impacts of air, water, and soil pollution. 7. Identify noise, thermal, light, and plastic pollution. 8. Evaluate the risks of radioactive pollution and radon gas. 9. Propose methods for pollution control and environmental protection. 10. Relate pollution concepts to Sustainable Development Goals (SDGs). 11. Develop environmental awareness and social responsibility.
Indicative Contents المحتويات الإرشادية	▯ General introduction to environmental pollution and its importance. ▯ Definition of pollution and its types (chemical, biological, radioactive). ▯ Air pollution: causes, pollutants, and health/environmental impacts. ▯ Water pollution: sources, types, and treatment methods. ▯ Soil pollution and its effects on agriculture and food quality. ▯ Radioactive pollution and its natural and industrial sources. ▯ Noise, thermal, and light pollution. ▯ Plastic pollution and microplastics. ▯ Industrial, domestic, and agricultural pollution sources.

	▯ Biogeochemical cycles in the environment. ▯ Chemical contamination and long-term effects. ▯ Impacts of pollution on humans and living organisms. ▯ Pollution mitigation strategies and environmental protection methods. ▯ Role of legislation and public awareness in environmental conservation

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Lectures 2. Discussion 3. Teaching strategies used to develop these skills and abilities 4. Small group discussions 5. Workshops

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	58	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب 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	

	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	General introduction to pollution
Week 2	Types of pollution - Chemical pollution Biological pollution
Week 3	Radioactive pollution Soil pollution Water pollution
Week 4	Air pollution Noise pollution Thermal pollution
Week 5	Plastic pollution Light pollution
Week 6	Sources of pollution
Week 7	Sources of pollution
Week 8	First Exam
Week 9	Biochemical cycles
Week 10	Biochemical cycles
Week 11	Chemical contamination
Week 12	Light pollution
Week 13	Thermal pollution
Week 14	Noise pollution.

Week 15	**Second Exam**
Week 16	

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.