	Ministry of Higher Education and Scientific Research - Iraq Al-Muthanna University College of Applied Medical Sciences Department of Environmental Health	

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Environmental Health Science			**Module Delivery**	
Module Type	BASIC			**Theory** **Lecture** **Lab** **Tutorial** **Practical** **Seminar**	
Module Code	ENH1103				
ECTS Credits	7				
SWL (hr/sem)	125				
Module Level	1		**Semester of Delivery**	1	
Administering Department	ENH		**College**	Type College Code	
Module Leader	Haider S. Almnehlawi		**e-mail**	haider.almnehlawi@mu.edu.iq	
Module Leader's Acad. Title	Dr.		**Module Leader's Qualification**		
Module Tutor	Haider S. Almnehlawi		**e-mail**	haider.almnehlawi@mu.edu.iq	
Peer Reviewer Name	Haider S. Almnehlawi		**e-mail**	haider.almnehlawi@mu.edu.iq	
Review Committee Approval			**Version Number**		

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 الإرشادي	
Module Objectives أهداف المادة الدراسية	1. Understand the history and definition of environmental health. 2. Describe the major sources of environmental health risks from diverse environmental media (water, air, soil/sediments) 3. Discuss the association between population growth and dissemination of environmental pollutants. 4. Describe methods used in epidemiology and toxicology to assess environmental exposures and hazards. 5. Describe policies that have been developed to manage health risks associated with exposures to environmental hazards. 6. Identify chemical, physical, and microbial agents that originate in the environment and can impact human health. 7. Describe specific applications of environmental health concepts to fields such as water quality control, food safety, and occupational health. 8. Understand the major sources and types of environmental agents and how they affect health. 9. Describe how these agents interact with biological systems, and the mechanisms by which they exert adverse health effects.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize environmental factors including biological physical and chemical factors that affect the health of a community. 2. Understand the patterns of disease and injury in human populations and apply to the control of health problems. 3. Apply constructs of behavioral, social and cultural theories related to individual and population health and health disparities over the life course. 4. Gather, process, and present information to different audiences in-person, through information technologies, or through media channels. 5. Demonstrate the ability to interact with both diverse individuals and communities to produce or impact an intended public health outcome. 6. Incorporate public health biology – the biological and molecular context of public health – into public health practice. 7. Demonstrate ethical choices, values and professional practices implicit in public health decisions while considering the effect of choices on community stewardship, equity, social justice and accountability 8. Demonstrate ability to plan for the design, development, implementation, and evaluation of strategies to improve individual and community health. 9. Recognize system level properties that result from dynamic interactions among human and social systems and how they affect the relationships among

	individuals, groups, organizations, communities, and environments. 10. To understand the principles and practice of environmental health. 11. To understand environmental health and its' history as a crucial aspect of the history of public health. 12. To understand the U.S. and world health status and issues as background framework to environmental health. 13. To get a brief introduction to the public health research methodologies including epidemiology and toxicology 14. To understand crucial infectious and non-infectious disease principles as necessary to understand issues in environmental health. To understand the crucial environmental health topics (air, water, pesticide
Indicative Contents المحتويات الإرشادية	The module focuses on understanding of the epidemiological methods by which evidence has been obtained on environmental risks to health: how we know what we think we know about such risks. Its focus is therefore on principles, methods, interpretation and critical thinking. It concentrates on methods common in environmental epidemiology, including time series studies and risk assessment methods, and considers the evidence for the main areas of current interest in environmental epidemiology. These include air pollution, wastewater reuse, congenital anomalies, ionizing and nonionizing radiation, climate change/planetary health, as well as disease cluster investigations. The intention is to equip students with a good understanding of how to design an epidemiological study, to investigate an environmental hazard to health and how to interpret evidence from published literature. Introduction to environmental health and major source of health Risks, assessment, management and communication(10h) Ecology application in environmental health (5h) The concep to microbilogy and contact with Environmental Health (8h) Toxicology substances and Risk (8h) Diffusion of biodiversity issues (8h) Air and Water pollution health and management(10h) Food safety danger in environmental health (8h) Hazards wastes Risk and mangement(7h)

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, and refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
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) الحمل الدراسي غير المنتظم للطالب خلال الفصل	77	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation
تقيم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	(2,4,5,6,8,10) and 12	LO #(1-12)
	Assignments	2	10% (10)	1 and 14	LO #3, #6 and #8, #12
	Projects / Lab.	2	10% (10)	1-14	All
	Report	2	10% (10)	4	LO #3, #6,#9 and #12
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	14	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Environmental Health
Week 2	Major Sources of Environmental Health Risks
Week 3	Risk Assessment, Management and Communication
Week 4	Ecology concept and application
Week 5	Microbiology Environment
Week 6	Toxicology (Toxic substances and risk assessment)
Week 7	Midterm Exam
Week 8	Biodiversity issues
Week 9	Air pollution and Health
Week 10	Water pollution and management
Week 11	Food safety
Week 12	Hazardous substance and wastes management
Week 13	Radiation and Risk management
Week 14	Preparatory week before the final Exam
Week 15	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	General rules must be followed in the lab
Week 2	Introduction to the Environmental Health Science
Week 3	Laboratory safety procedures
Week 4	Types of environmental risks and their management
Week 5	Biodiversity Conservation
Week 6	Air pollution and the most important methods used to measure it
Week 7	Water pollution and methods of measuring it
Week 8	Exam 1
Week 9	Environmental and growth microbial population

Week 10	Waste, its environmental effects, and methods of treating it
Week 11	The most important methods of reclamation damaged ecosystems
Week 12	Preserving food with plastic materials
Week 13	Radiation protection principles and applications
Week 14	General Review
Week 15	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Daniel vallero / 4 Edition Environmental health /13 Edition Environmental microbiology /second edition Short textbook of public health medicine for the tropics /4 Edition Ecology coccepts and application / 6 Edition Food safety theory and practice	
Recommended Texts		
Websites	Epidemiology of occupational health, WHO, 1986 http://www.euro.who.int/_data/assets/pdf_file/0020/156071/WA400.pd http://www.who.int/water _sanitation health/en/ Publication: Liu et al., 2015 http://www.toxicolo gyschools.com/Free_Toxicology_Course1/a21.htm Vandenberg et al., 2009; Cerrillo et al., 2017	

APPENDIX:

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	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB 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.

ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي