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

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	TOXICOLOGY			**Module Delivery**	
Module Type	CORE			**Theory** **Lecture** **Lab** **Tutorial** **Practical** **Seminar**	
Module Code	ENH23012				
ECTS Credits	7				
SWL (hr/sem)	175				
Module Level	2		**Semester of Delivery**	1	
Administering Department	Department of Environmental Health		**College**	College of Applied Medical Science	
Module Leader	Ali Abdulhamza Obaid		**e-mail**	alialfanharawi@mu.edu.iq	
Module Leader's Acad. Title	PROF		**Module Leader's Qualification**	PhD	
Module Tutor	Ali Abdulhamza Obaid		**e-mail**	alialfanharawi@mu.edu.iq	
Peer Reviewer Name			**e-mail**		
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 الإرشادية	
Module Aims أهداف المادة الدراسية	-Provide toxicological information at an introductory level while combining enough comprehensive information to meet the needs of more advanced students studying in the fields of Biomedical, Nursing, Veterinary, Pharmacology, Environmental Science, and Biology. - Study the effects of toxins on the physiologic, metabolic, reproductive, and developmental processes and body organ functions -Generate an applicable technical knowledge base in undergraduate students, as well as extend the expertise of graduate students pursuing careers in the health, medical, and environmental sciences.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	On completion of this module a student should be able to: focus on understanding how chemicals affect living things, covering principles like absorption, distribution, metabolism (ADME), toxicokinetics (what the body does to the chemical), toxicodynamics (what the chemical does to the body), organ-specific toxicity, carcinogenesis, mutagenesis, and risk

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Indicative Contents المحتويات الإرشادية	covers the harmful effects of chemicals on living things, focusing on dose-response, mechanisms (like oxidative stress, DNA damage), target organ toxicity, risk assessment, and sub-disciplines like clinical (poisoning treatment), environmental toxicology,
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. Also depends on Problem-Based Learning that students are presented with real-world problems or scenarios that require them to apply their knowledge and skills to find solutions. It promotes critical thinking, decision-making, and solving problem abilities. Furthermore, according

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	to Flipped Classroom: which involves reversing the traditional instructional model that help students to learn the content outside of class through videos or readings, while class time is used for discussions, activities, and individualized support. This will be achieved through classes, 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	97	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	78	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	
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, 3, and 11, 10)	
	Assignments	2	10% (10)	1 and 14	
	Projects / Lab.	0	10% (10)	Continuous	
	Report	0	10% (10)	4	
Summative assessment	**Midterm Exam**	1hr	10% (10)	7	
	Final Exam	3hr	50% (50)	14	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Toxicology
Week 2	Toxicant Proceeding in Vivo
Week 3	Industrial Chemicals
Week 4	Industrial Chemicals
Week 5	Drugs as Toxic Substances
Week 6	Food Additives and Contaminants
Week 7	Toxicants in Environment
Week 8	Midterm Examination
Week 9	Toxicants in Environment
Week 10	Organ toxicity
Week 11	Organ toxicity
Week 12	Organ toxicity
Week 13	Case Study Paper
Week 14	Open lecture
Week 15	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to Toxicology
Week 2	Toxicological Concepts
Week 3	Dose-Response Relationships
Week 4	Interpreting Dose-Response Data
Week 5	Absorption of Toxicants
Week 6	Distribution and Storage of Toxicants
Week 7	Environmental Toxicants
Week 8	Midterm Examination
Week 9	Chemical Toxins (Cyanide)
Week 10	Chemical Toxins (Heavy Metals)
Week 11	Nanotoxicology (Nanomaterial Toxins)
Week 12	Chemical Toxins (Hydrocarbons)
Week 13	Toxic Plants (Nicotine)
Week 14	Bacterial Toxins
Week 15	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	**A Textbook of Modern Toxicology, 4th Ed.", by Ernest Hodgson**	
Recommended Texts	-	
Websites		

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