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

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	MICROBIOLOGY			**Module Delivery**	
Module Type	CORE			**Theory** **Lecture** **Lab** **Tutorial** **Practical** **Seminar**	
Module Code	ENH23111				
ECTS Credits	7				
SWL (hr/sem)	175				
Module Level	2		**Semester of Delivery**	1	
Administering Department	Dept. environmental health		**College**	Applied of Medical Sciences	
Module Leader	Yousif Sinan alhamadani		**e-mail**	Yousif.sinan@mu.edu.iq	
Module Leader's Acad. Title	Assis. Lecturer		**Module Leader's Qualification**	Ph.D	
Module Tutor	Yousif Sinan alhamadani		**e-mail**	Yousif.sinan@mu.edu.iq	
Peer Reviewer Name	Yousif Sinan alhamadani		**e-mail**	Yousif.sinan@mu.edu.iq	
Review Committee Approval			**Version Number**	1.0	

Relation With Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	MICROBIOLOGY	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- This course introduces the general concepts of microbiology and other related fields. 2- Increase our knowledge and understanding original of micrograph 3- diagnose and management of human disease .
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- 1- Discuss the study of bacterial cell biology. 2- 3- Describe the different stages of the bacterial cell cycle. 3- 4- Explain the role of cell division in reproduction. 4- 5- Brief discussion of cell growth and differentiation. 5- 6- Study the types of microorganisms.
Indicative Contents المحتويات الإرشادية	Learn about the history and method of discovering germ cells and their basic components, and the role of electron and light microscopy in shedding light on the most minute details of cells, their shapes, and their different types. Learn about the importance of germ cells in transmitting genetic traits between generations, the role of the nucleus in preserving genetic traits, including the chromosomes and genes it contains, and how these traits are preserved and controlled through the process of cell division. Study the metabolic and chemical processes that occur within germ cells and their role. Learn about the mechanism of communication between cells and how they function as specialized tissues for a specific function.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The learning strategy for this course includes introducing students to germ cells and their importance through theoretical information, studying the different shapes and types of cells, understanding their basic components and how to work with them through practical laboratory experiments, and training students to handle the many laboratory tools necessary to conduct these experiments.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	97	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10%		
	Assignments	2	10%		
	Projects / Lab.	1	10%		
	Report	1	10%		
Summative assessment	**Midterm Exam**	1h	10%		
	Final Exam	3h	50%		
Total assessment			100%		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction and History Development of Microbiology
Week 2	The classification of microorganisms
Week 3	Nutritional requirements of bacteria
Week 4	Microbial metabolism
Week 5	Enzyme
Week 6	Microbial Genetics and Molecular Biology
Week 7	Mid Ex
Week 8	Zoonotic diseases
Week 9	Fungi
Week 10	Viruses
Week 11	Immunology
Week 12	Microorganisms and Disease (Medical Microbiology)
Week 13	Food and Industrial Microbiology
Week 14	Environmental Microbiology
Week 15	Microbial Control

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab Equipment
Week 2	Scope of Microbiology
Week 3	Safety and Laboratory Guideline
Week 4	The Structure and Shape of Bacterial cell
Week 5	Media for Bacterial Growth
Week 6	Methods of bacteria culturing
Week 7	**Mid Ex**
Week 8	Bacterial stain
Week 9	Gram stain
Week 10	Fungi
Week 11	Viruses
Week 12	Physical and Chemical agents for the Control of Microbial Growth
Week 13	Biochemical tests I
Week 14	Biochemical tests II
Week 15	Ag-Ab Reaction

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	**Microbiology Book**	No
Recommended Texts	**Principle of Microbiology Book**	No
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