	وزارة التعليم العالي والبحث العلمي **جامعة المستقبل** كلية العلوم قسم الكيمياء الحياتية	

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information **معلومات المادة الدراسية**			
Module Title	Microbiology		**Module Delivery**
Module Type	Basic		• ☒ **Theory** • ☒ **Lecture** • ☒ **Lab** • ☐ **Tutorial** • ☐ **Practical** • ☐ **Seminar**
Module Code	UOMU036234		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	2	**Semester of Delivery**	1
Administering Department	Department of Biochemistry	**College**	College of Science
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**e-mail**	
Peer Reviewer Name		**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 of basic microbial concepts and taxonomy Ability to identify and describe microbial structures Familiarity with the use of microscopes and staining techniques Introduction to the growth and reproduction of microorganisms
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	Understanding the role of microorganisms in health, disease, and the environment
Indicative Contents **المحتويات الإرشادية**	**Theory:** Role of microbes in nutrient cycles (carbon and nitrogen cycle) (4 hours) Requirements for microbial growth (nutrients, oxygen, temperature, pH)(4 hours) Bacterial growth curve and factors affecting growth(4 hours) Taxonomy and classification of microorganisms (4 hours) Major groups of microorganisms: bacteria, viruses, fungi, protozoa, algae (8hours) **Laboratory Work: (15 hours)**

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	provides a foundational understanding of microbiology and introduces students to key concepts and laboratory skills that they will build upon in advanced microbiology courses.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	63	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطالب أسبوعيا**	4.2
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	37	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	2.4
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	5% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	1	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects/ Lab.	1	10% (10)	Continous	
	Report	1	10% (10)	11	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	8,13	LO # 1-7
	Final Exam	3hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Definition and scope of microbiology
Week 2	History of microbiology and key discoveries
Week 3	Importance of microorganisms in nature and human life
Week 4	Branches of microbiology (bacteriology, virology, mycology, parasitology)
Week 5	Classification of microorganisms
Week 6	Taxonomy and classification of microorganisms
Week 7	Major groups of microorganisms: bacteria, viruses, fungi, protozoa, algae
Week 8	Binomial nomenclature and microbial systematics
Week 9	Microbial growth and reproduction
Week 10	Requirements for microbial growth (nutrients, oxygen, temperature, pH
Week 11	Types of culture media (selective, differential, enriched)
Week 12	Bacterial growth curve and factors affecting growth
Week 13	Methods of measuring microbial growth

Week 14	Introduction to aseptic techniques in microbiology
Week 15	Final Exam

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الاسبوعي للمختبر**	
	Material Covered
Week 1	Introduction to lab safety and aseptic techniques
Week 2-3	Use of microscopes and preparation of slides
Week 4-5	imple staining and Gram staining
Week 6-7	Isolation and culturing of microorganisms
Week 8-9	Measuring microbial growth using basic techniques
Week 10-11	Identification of microorganisms using biochemical tests
Week 11- 12	unknown sample identification
Week 13	Review
Week 14	Final exam

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	"Brock Biology of Microorganisms" by Madigan, Martinko, et al. "Prescott's Microbiology" by Joanne Willey et al.	yes
Recommended Texts	"Microbiology: An Introduction" by Tortora, Funke, and Case	
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 is 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.