

Biology FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Biology		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOMU0302011		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	1
Administering Department	الأنظمة الطبية الذكية	College	العلوم
Module Leader	أ.د. فاضل فرهود مكي	e-mail	Fadhil.Farhood@uomus.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PhD
Module Tutor	أ.د. فاضل فرهود مكي	e-mail	Fadhil.Farhood@uomus.edu.iq
Peer Reviewer Name	أ.د. مهدي عبادي مانع	e-mail	mahdi.ebadi@uomus.edu.iq
Scientific Committee Approval Date	11/06/2025	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	The course is aimed to make the student understand the basic concept of cell structure, membrane, cellular functions of different types of cell, modes of cellular signaling and signal amplification.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ul style="list-style-type: none"> - To study cell structure and functions of organelle functions and understand the mechanism of cellular transport within and outside the cell membrane. - To focus on different receptors and model of signaling and introduce the concept of cell signaling and their role in diseases. - Helping the student to become familiar with the existing scientific facts, whether in the human body or in the universe surrounding us, and to know the scientific assumptions and theories of scientists and specialists. - Enable students to gain knowledge and understanding of how to maintain and restore biological systems. - Introduce students to laboratory work and apply theoretical information and link it to the reality of laboratory work
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p>I – Origin and evolution of cells, cells as experimental models, tools of cell biology – chemistry of cells – molecular composition of cells, central role of enzymes, metabolic energy, biosynthesis of cell constituents, cell membrane</p> <p>II - CELL SIGNALING – CELL REGULATION Signaling molecules and their receptors, functions, pathways of intracellular signal transduction – the Cell Cycle stem cells and therapeutic cloning</p> <p>III- – Mitosis and Meiosis : Cell death and cell renewal- Programmed cell death- Stem cells- Embryonic</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Learning by Experimentation 2- Cooperative Learning 3- Brainstorming 4- Self-Learning 5- Individual Skills Assessment

	6- Achievement Tests 7- Standard Tests
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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
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	1	10% (10)	6	LO #1, 2, 10 and 11
	Assignments	1	10% (10)	11	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	12	LO # 5, 8 and 10
Summative assessment	Midterm Exam	3 hr	10% (10)	13	LO # 1-7
	Final Exam	3 hr	50% (50)		All
Total assessment		100% (100 Marks)			

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Biology
Week 2	Branches of Biology
Week 3 - 4	Characteristics of Living Organisms
Week 5	Taxonomy and Classification

Week 6	Assignment and Presentation
Week 7 - 8	The Basic Unit of Life
Week 9	Midterm Exam
Week 10	The Cell Membrane and Transport
Week 11	Cell Signaling and Communications
Week 12	Cell Reproduction (Mitosis & Meiosis)I
Week 13	Stem Cells
Week 14	Current Topics and Discussions
Week 15	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Lab safety and Biomedical Waste Management
Week 2 - 3	Lab 2 - 3: Lab tools and Equipments
Week 4	Lab 4: Microscope
Week 5	Lab 5: Staining
Week 6 - 7	Lab 6 - 7: Microscopic Examination: Plant Cells
Week 8 - 9	Lab 8 - 9: Microscopic Examination: Blood Cells
Week 10 - 11	Lab 10 - 11: DNA extraction from plant samples
Week 12	Assignment and Presentations
Week 13	General Discussions
Week 14	Lab 14: Oral exam

Learning and Teaching Resources		
مصادر التعلم والتدریس		
	Text	Available in the Library?
Required Texts	Geoffrey M. Cooper and Robert E. Hausman, "The Cell: A Molecular Approach", Fifth Edition, ASM Press and Sinauer Associates, 2009.	Yes

Recommended Texts	Channarayappa, "Cell biology", Orient Blackswan, 2010. Rastogi SC, "Cell biology", New Age International, 2005. Cecie Starr, Ralph Taggart "Biology: The Unity and Diversity of life", Brooks/Cole, 11TH EDITION, 2006.	No
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 جداً	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.