

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Biology		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	BIOL110			
ECTS Credits	4			
SWL (hr/sem)	100			
Module Level	1	Semester of Delivery		1 (one)
Administering Department		College	BENG	
Module Leader	Jihan Hasson Mohammed		e-mail	ahundo64@gmail.com
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	1. To contribute to students' general education through their involvement in the process of scientific investigation and the acquisition of biological knowledge and understanding 2. To encourage in students an attitude of scientific enquiry, of curiosity and self discovery through (i) individual study and personal initiative (ii) team work (iii) class-directed work 3. To develop an understanding of biological facts and principles 4. To enhance an interest in and develop an appreciation of the nature and diversity of organisms 5. To create an awareness of the application of biological knowledge to modern society in personal, social, economic, environmental, industrial, agricultural, medical, waste management and other technological contexts 6. To develop in students an ability to make informed evaluations about contemporary biological issues.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Make temporary preparations of cellular material suitable for viewing with a light microscope 2. Draw cells from microscope slides and photomicrographs 3. Calculate magnifications of images and actual sizes of specimens from drawings, photomicrographs and electron micrographs (scanning and transmission) 4. Define resolution and magnification and explain the differences between these terms, with reference to light microscopy and electron microscopy 5. Recognise organelles and other cell structures found in eukaryotic cells and outline their structures and functions, limited to: · Cell surface membrane · Nucleus, nuclear envelope and nucleolus · Rough endoplasmic reticulum · Smooth endoplasmic reticulum · Golgi body (golgi apparatus or golgi complex) · Mitochondria (including the presence of small circular dna) · Ribosomes · Lysosomes · Centrioles and microtubules · Cilia and microvilli 6. Describe the structure of a chromosome 7. Explain the importance of mitosis in the production of genetically identical daughter cells 8. Describe how the information in DNA is used during transcription and translation to construct polypeptides

Indicative contents المحتويات الارشادية	Microscopy An introduction to the microscope. Specific reference to the light microscope and the transmission electron microscope. Cells as the basic units of living organisms Components of the cell as seen under the light microscope and their functions. Identification and function of the cell membrane, mitochondrion, nucleus, nuclear pores, ribosome, and DNA. The Cell Cycle
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	Description of cell activities in the state of non-division (interphase) and division (mitosis). - Describe the structure of a chromosome, limited to: • DNA • Histone proteins • Sister chromatids • Centromere - Explain the importance of mitosis in the production of genetically identical daughter cells during: • Growth of multicellular organisms • Replacement of damaged or dead cells • Repair of tissues by cell replacement • Asexual reproduction - Outline the mitotic cell cycle, including: • Interphase (growth in G1 and G2 phases and DNA replication in S phase) • Mitosis • Cytokinesis
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies

Assessment is based on hand-in assignments, written exam, Case study, Quizzes, seminars, Practical testing and Online testing.

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 أسبوعياً	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	3.4
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	30% (10)	3,11,12, 13	LO # 1, 2, 10, 11, 12
	Assignments	2	10% (10)	12	LO # 1-15
	Projects / Lab.				
	Report				

Summative assessment	Midterm Exam	3 hr	10% (10)	9	LO # 3-8
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	The microscope in cell studies
Week 2	Introduction to cell biology
Week 3	Types of cells, animal cell
Week 4	The structure of the plasma membrane
Week 5	Plasma membrane proteins & its function,
Week 6	The function of the plasma membrane
Week 7	Membrane fluidity, membrane permeability, Gradient across the plasma membrane
Week 8	Transport across the plasma membrane, passive transport, simple diffusion, facilitated diffusion, carrier-mediated facilitated diffusion, osmosis
Week 9	Midterm Exam
Week 10	Active process, primary active transport, secondary active transport, transport in vesicles
Week 11	The cytoplasm, cytoskeleton, cilia and flagella, ribosomes
Week 12	Endoplasmic reticulum, golgi apparatus, lysosomes, peroxisomes, proteasomes, mitochondria
Week 13	The nucleus, transcription, translation
Week 14	Cell division, control of cell division
Week 15	Reproductive cell division, cellular diversity, aging and cells
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

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Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		
Recommended Texts		
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جدا جيد	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.