



Ministry of Higher Education and  
Scientific Research - Iraq  
University of Warith Al-Anbiyaa  
College of Sciences  
Department of Medical Physics



## MODULE DESCRIPTOR FORM

### نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	GENERAL BIOLOGY		Module Delivery	
Module Type	CORE		Theory ✓ Lab ✓ Tutorial ✓ Seminar ✓	
Module Code	MPH103			
ECTS Credits	9			
SWL (hr/sem)	225			
Module Level	1	Semester of Delivery		1
Administering Department	MPH	College	CS103	
Module Leader	Dhurgham Adel Obaid Altai		e-mail	dirgham.ad@uowa.edu.iq
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	MSc, Biology	
Module Tutor	Thoalfakar Abbas Al hamed	e-mail	Thoalfakar.Ab@g.uowa.edu.iq	
Peer Reviewer Name		e-mail		
Review Committee Approval	10-11-2023	Version Number	1	

## Relation With Other Modules

### العلاقة مع المواد الدراسية الأخرى

Prerequisite module	No	Semester	-
Co-requisites module	No	Semester	-

## Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Aims</b> أهداف المادة الدراسية</p>	<p><b>The aims of the syllabus are to:</b></p> <ul style="list-style-type: none"><li>• Contribute to students' general education through their involvement in the process of scientific investigation and the acquisition of biological knowledge and understanding</li><li>• Encourage in students an attitude of scientific enquiry, of curiosity and self-discovery through<ol style="list-style-type: none"><li>(i) individual study and personal initiative</li><li>(ii) teamwork</li><li>(iii) class-directed work</li></ol></li><li>• Develop an understanding of biological facts and principles</li><li>• Enhance an interest in and develop an appreciation of the nature and diversity of organisms</li><li>• 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</li><li>• Develop in students an ability to make informed evaluations about contemporary biological issues.</li></ul>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<p>Upon successful completion of this course, the student will be able to do the following:</p> <ol style="list-style-type: none"><li>1- Identifying the steps in the scientific method .</li><li>2- Identifying function of cellular organelles.</li><li>3- Describing the cellular membrane and the methods of cellular transport</li><li>4- Differentiating between molecular structure of carbohydrates, lipids, proteins and nucleic acids.</li><li>5- Recognizing the differences in chemical bonding and describe the structure of an enzyme and the enzyme's role in metabolism.</li><li>6- Describing the structure of a chromosome including being able to distinguish between chromatin, chromatids, and centromere.</li><li>7- Explaining the process of meiosis , define the following terms: gene, allele, locus, dominant, recessive, phenotype, genotype, homozygous and heterozygous</li><li>8- Explaining the structure and types of Animal and Plant tissues.</li><li>9- Recognizing the differences of Animal Cell Culture and Plant Cell Culture</li><li>10- Demonstrating an understanding of the pathways that constitute cellular</li></ol>

	<p>respiration and photosynthesis</p> <p>11- Distinguishing between prokaryotic and eukaryotic cells</p> <p>12- Explaining the anatomy of bacteria and explain techniques used in bacterial smear preparation, such as Gram staining.</p>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<p>Indicative content includes the following:</p> <ul style="list-style-type: none"> <li>• Explaining the scope of biology and molecular basis of life (1) .</li> <li>• Describing life activities from the cellular point of view (2) .</li> <li>• Identifying the principal features of different groups of living things (3).</li> <li>• Explaining the scope of Tissues, bone and cartilages (8) .</li> <li>• Outlining basic processes of energy transduction and synthesis of intermediate or final products in living cells (4,5) .</li> <li>• Understanding the basic concepts of genetics and inheritance (6).</li> <li>• Understanding the concepts of infection and immunity (12) .</li> <li>• Classifying organisms based on their cellular organization and complexity (11) .</li> <li>• Explaining components, processes and interrelationships within a given ecosystem (3).</li> <li>• Explaining the scope of Plant tissues and Photosynthesis(10).</li> <li>• Develop scientific attitude, skill and conduct biological experiments using scientific procedures (12) .</li> <li>• Manipulating basic biological tool, record data and draw conclusions (12,9).</li> </ul>
<p><b>Learning and Teaching Strategies</b> استراتيجيات التعلم والتعليم</p>	
<p><b>Strategies</b></p>	<p>The ability to: - identify problems, make predictions, develop hypotheses and devise means of carrying out investigations to test the hypotheses; - plan and execute experimental procedures and operations in an appropriate sequence; - use experimental controls where appropriate; - modify an original plan or sequence of operations as a result of difficulties encountered in carrying out experiments or obtaining unexpected results; - take into account possible sources of errors and danger in the design of an experiment; - select and use appropriate equipment and techniques.</p>

<b>Student Workload (SWL)</b> الحمل الدراسي للطالب			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	93 hrs.	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعياً	6 hr.
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	132 hrs.	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعياً	9 hrs.
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	225 hrs.		

<b>Module Evaluation</b> تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	3	6	2, 8, 13, 5	3, 5, 6, 7, 8, 11
	<b>Assignments</b>	4	8	10, 9, 6, 1	12, 7, 8, 4
	<b>Seminar</b>	2	6	all	all
	<b>Report</b>	12	12	2,3,4,5,6,7,8,10,11,12,13,14	all
	<b>Discussion/ Lab</b>	4	8	4,6,7,12	3,5,8,11
<b>Summative assessment</b>	<b>Midterm Exam</b>	1	10	8	1-10
	<b>Final Exam</b>	1	50	1-15	All points
<b>Total assessment</b>			100	1-15	All points

<b>Delivery Plan (Weekly Syllabus)</b> المنهاج الأسبوعي النظري	
	Material Covered
<b>Week 1</b>	Introduction to Biology
<b>Week 2</b>	Cell Structure
<b>Week 3</b>	Cytoplasmic membrane
<b>Week 4</b>	Organic Compounds a. Carbohydrates b. Lipids c. Proteins d. Nucleic Acids
<b>Week 5</b>	Energy and Metabolism
<b>Week 6</b>	DNA: The Genetic Material
<b>Week 7</b>	The Chromosomal Basis of Inheritance
<b>Week 8</b>	How Cells Divide + Midterm

<b>Week 9</b>	Tissues, bone and cartilages
<b>Week 10</b>	Plant tissues and organs
<b>Week 11</b>	Photosynthesis
<b>Week 12</b>	Prokaryotes and Viruses
<b>Week 13</b>	Anatomy of bacteria: Surface appendages, Capsule.
<b>Week 14</b>	Cell wall of G.+ve & G -ve bacteria.
<b>Week 15</b>	Protists and Fungi
<b>Week 16</b>	Final exam

<b>Delivery Plan (Weekly Lab. Syllabus)</b> المنهاج الأسبوعي للمختبر	
	<b>Material Covered</b>
<b>Week 1</b>	Orientation to the laboratory. Rules of conduct and general safety.
<b>Week 2</b>	Microscope & cell structure
<b>Week 3</b>	Cells : Prokaryotic Cells and Eukaryotic Cells
<b>Week 4</b>	Plant Cells, and Animal Cells
<b>Week 5</b>	Mitosis and Meiosis
<b>Week 6</b>	Animal Cell Culture
<b>Week 7</b>	The tissues (Single epithelial tissue)
<b>Week 8</b>	Plant tissue under microscope
<b>Week 9</b>	Plant Cell Culture
<b>Week 10</b>	Aseptic procedures ,culture media and habitat of microbiology
<b>Week 11</b>	Isolation and preparation of pure culture bacteria and fungi
<b>Week 12</b>	Microscopic examination and general morphology of fungi
<b>Week 13</b>	Bacterial smear preparation
<b>Week14-15</b>	Simple staining of bacteria (Gram staining).
<b>Week 16</b>	Final exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Mader, S. S. (2004). <b>Human biology</b> . ( <i>No Title</i> ).	
	Lowe, J. S., & Anderson, P. G. (2014). <i>Stevens &amp; Lowe's Human Histology E-Book: With STUDENT CONSULT Online Access</i> . Elsevier Health Sciences.	Yes
	Weaver, R. (2011). <i>EBOOK: Molecular Biology</i> . McGraw Hill.	Yes
	Alberts, B., Hopkin, K., Johnson, A. D., Morgan, D., Raff, M., Roberts, K., & Walter, P. (2018). <i>Essential cell biology: Fifth international student edition</i> . WW Norton & Company.	Yes
	Jawetz, M., Melinck, J., Adberg, E. A., Broks, G. O., Butel, J. S., & Ornston, N. L. (2012). <b>Medical Microbiology 25</b> .	Yes
Recommended Texts	Davis, J. (Ed.). (2011). <i>Animal Cell Culture</i> . Wiley-Blackwell.	No
Websites	لا يوجد	

## 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