

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Biology		Module Delivery
Module Type	Supportive		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	BME112		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	BME	College	Type College Code
Module Leader	Ass. Prof. lyden Kamil Muhammed	e-mail	aydin@kecbu.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant professor doctor	Module Leader's Qualification	Ph.D
Module Tutor	Dr. Muntaha R. Ibraheem	e-mail	muntaha@kecbu.uobaghdad.edu.iq
Peer Reviewer Name	Msc. Muhammed Rasheed	e-mail	mohammed.abd@kecbu.uobaghdad.edu.iq
Scientific Committee Approval Date	20\6\202	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

<b>Module Aims</b> أهداف المادة الدراسية	<p>The goal of Biology is to explain the physical and chemical factors that are responsible for the origin, development and progression of life. Biology course present tremendous challenges to both students &amp; teachers for acquisition of the basic facts is essential to the study of Biology, but also important for students to develop the ability to solve practical, real life problems related to the knowledge they have acquired.</p>
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<p>Graduates will be able to:</p> <ol style="list-style-type: none"><li>1 Apply their knowledge and understanding of physical and biological laws, mathematics and numerical analysis in order to model Biomedical Engineering and similar systems;</li><li>2 Explain the role of Biomedical Engineers in society and the constraints within which their engineering judgment will be exercised.</li><li>3- Design, from requirement, market need or specification, a biomedical engineering device implant or system, up to the preliminary design stage, and present this design via a series of poster, written and oral presentations from both group and individual work;</li><li>4. Use laboratory and workshop equipment to generate data, including both engineering and physiological measurements, with appropriate rigor;</li></ol>
<b>Indicative Contents</b> المحتويات الإرشادية	

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>Staff involved in the degree program utilize a wide range of teaching methods that they deem the most appropriate for a particular course. These include:</p> <ul style="list-style-type: none"><li>• Lectures where the students write information presented to them via slide show, overhead or written by the lecturer;</li></ul>
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	<ul style="list-style-type: none"> <li>• Lectures where the students have some printed notes/handouts and may annotate, or expand these during a spoken lecture;</li> <li>• Small group and large group tutorial sessions;</li> <li>• Question and answer sessions during lectures or staff Office Hours;</li> <li>• Laboratory sessions.</li> </ul>
	<p>1. Seminar presented and discussed.</p> <p><b>Assessment Methods to be used are:</b></p> <ul style="list-style-type: none"> <li>• Written examinations (Summative assessment);</li> <li>• Oral presentations of individual and group work;</li> <li>• Individual written project report(s) of both individual and group projects;</li> <li>• Homework;</li> <li>• Take home exams;</li> </ul>

<b>Student Workload (SWL)</b>			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	93	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	6
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	150		

<b>Module Evaluation</b>					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	5	5%	3-10	2,4,6,8 and10
	<b>Assignments</b>	2	5%	3-12	,5,7,9,11
	<b>Projects / Lab.</b>	4	10%	2-7	2.4.6,7

	<b>Report</b>	7	5%	2	5,8,12
<b>Summative assessment</b>	<b>Midterm Exam</b>	4 hr.	25%	7	1-7\7-12
	<b>Final Exam</b>	3 hr	50%	16	All
<b>Total assessment</b>			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

#### المنهاج الاسبوعي النظري

	<b>Material Covered</b>
<b>Week 1</b>	Introduction to Biology, sub-disciplines of biology, Life process, Hierarchal structure of life.
<b>Week 2</b>	Cell, Cell membrane structure, functions.
<b>Week 3</b>	Cell organelles and functions
<b>Week 4</b>	Nucleus, chromatine, chromosome, DNA, RNA, Gene Expression, Regulation of gene Expression, Growth factor.
<b>Week 5</b>	Cell Division , Cell cycle phases
<b>Week 6</b>	Transportation across cell membranes.
<b>Week 7</b>	Passive transport, simple diffusion, Facilitated diffusion., Active transport, primary & secondary transport.
<b>Week 8</b>	Mid Exam
<b>Week 9</b>	Introduction of nervous system, Function and division of the nervous system.
<b>Week 10</b>	Neuron cell, Classification of neuron.,
<b>Week 11</b>	Excitation & conduction.
<b>Week 12</b>	Action potential, refractory period,
<b>Week 13</b>	Types of impulse, types of nerve fibers.
<b>Week 14</b>	Synaptic transmission, types of synapse.
<b>Week 15</b>	Neuroglia cells, types of glial cells.
<b>Week 16</b>	<b>Final Exam</b>

### Delivery Plan (Weekly Lab. Syllabus)

#### المنهاج الاسبوعي للمختبر

	<b>Material Covered</b>
<b>Week 1</b>	Introduction to laboratory biology, terminology
<b>Week 2</b>	Equipment and microscopes

<b>Week 3</b>	Laboratory biosafety
<b>Week 4</b>	Specimens and collections, preparation slides and models for testing
<b>Week 5</b>	Cells and tissues (Muscles, epithelial, connective, nervous tissues)
<b>Week 6</b>	Blood sampling and venipuncture technique and Complete blood picture
<b>Week 7</b>	Final exam

<b>Learning and Teaching Resources</b>		
مصادر التعلم والتدريس		
	Text	Available in the Library?
<b>Required Texts</b>	<p>1.Lisa A.Michael, L.Cavin ,Steven A. Wasserman .Biology.11<sup>th</sup> edition. 2016</p> <p>2-Jane B. Reece, Steven A. Wasserman , Lisa A.Michael . Campbell. Biology 10<sup>th</sup> Edition.2014</p> <p>3. Abraham L. Kiersenbaum, Laura L. Tres.Histology and cell biology . 4<sup>th</sup> . edition. 2016</p>	
<b>Recommended Texts</b>	<p>1-Golgi apparatus and neurodegenerative diseases Author links open overlay panel<a href="#">JieFanZhipingHuLiuwangZengWeiLuXiangqiTangJieZhangTingLi</a></p> <p>2- Morphometric alterations of Golgi apparatus in Alzheimer's disease are related to tau hyperphosphorylation Neurobiology of Disease, Volume 97, Part A, 2017, pp. 11-23</p> <p>3- Nerve cell death in degenerative diseases of the central nervous system: clinical aspects. <a href="#">Agid Y, Blin J.</a></p> <p>4- Functional Architecture of the Cell's Nucleus in Development, Aging, and Disease☆ Author links open overlay panelBrianBurke*Colin L.Stewart†</p>	
<b>Websites</b>		

## Grading Scheme

### مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
<b>Success Group (50 - 100)</b>	<b>A</b> - Excellent	امتياز	90 - 100	Outstanding Performance
	<b>B</b> - Very Good	جيد جدا	80 - 89	Above average with some errors
	<b>C</b> - Good	جيد	70 - 79	Sound work with notable errors
	<b>D</b> - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	<b>E</b> - Sufficient	مقبول	50 - 59	Work meets minimum criteria
<b>Fail Group (0 - 49)</b>	<b>FX</b> – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	<b>F</b> – 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.