Ministry of Higher Education and Scientific Research - Iraq
Al-Nahrain University
College of Science
Department of Medical Physics

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Biophysics			**Module Delivery**	
Module Type	Core			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	MPHY1207				
ECTS Credits	8				
SWL (hr/sem)	200				
Module Level	1		**Semester of Delivery**	2	
Administering Department	MPHY		**College**	College of Science	
Module Leader	Dr. Ahmed Mohammed Abid Al-Asady		**e-mail**	ahmed.m.abid@nahrainuniv.edu.iq	
Module Leader's Acad. Title	Dr.		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Dr. Zaid Malk Abbas		**e-mail**	zaid.malk@nahrainuniv.edu.iq	
Module Reviewer	Dr. Zaid Malk Abbas		**e-mail**	zaid.malk@nahrainuniv.edu.iq	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**		

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	At the end of the course, the students will be able to: • Explain the scope of biology and physics. • Describe life activities from biophysics point of view. • Manipulate basic biological tool, record data and draw conclusions • Develop scientific attitude, skill and conduct biophysics experiments using scientific procedures. • Understand the basic concepts of the relation between physics and biology.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	• To make students know about the relation between sound in medicine. • To make the students understand all about physics and its involvement with medicine.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to medical physics: History and milestones in the field of medical physics Basic concepts of medical physics and applications. The relation of sound in medicine and laser in medicine.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials, and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	65	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	135	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	9
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Sound in medicine
Week 2	Laser in medicine
Week 3	Power, energy and work of the body
Week 4	Physics of the Skeleton
Week 5	Heat and cold in medicine
Week 6	Pressure in the body
Week 7	Electricity in human body
Week 8	Mid exam
Week 9	Physics of hearing and ear
Week 10	Physics of eye and vision part 1
Week 11	Physics of eye and vision part 2
Week 12	Light and UV in medicine
Week 13	x-ray in medicine part 1
Week 14	x-ray in medicine part 2
Week 15	**final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1-2	Laboratory safety roles
Week 2-3	introduction
Week 3-4	Sound in medicine part 1
Week 4-5	Sound in medicine part 2
Week 5-6	Sound in medicine part 3
Week 6-7	Mid exam
Week 7-8	Light Reflection and Refraction part 1
Week 8-9	Light Reflection and Refraction part 2
Week 9-10	Light Reflection and Refraction part 3
Week 10-11	Viscosity part 1
Week 11-12	Viscosity part 2
Week 12-13	Viscosity part 3
Week 13-14	Second Exam.
Week 15	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Medical Physics by John R. Cameron, International Publication.	No (Available as an e-book)
Recommended Texts	Elements of Biophysics Randall 1998	No (Available as an e-book)
Websites		

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	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.

ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي