

Template No ()
Course Specification

University/Academy: Al Azhar University (For Girls)
Faculty/Institute: Science
Department: physics – biophysics branch

1-Course data		
Code: B ph 302	Course Title: fundamentals of biophysics	Academic year: 3rd
Credit/ Taught Hours: Theoretical: four Practical: Two		Department/program: biophysics

2- Course aim	Fundamental of biological system
3- Intended Learning Outcomes (ILOs):	
3.A- Knowledge and understandings:	a1. Macromolecules structures, enzyme mechanisms, cellular behavior in nerve, muscle and visual cells.
3.B- Intellectual Skills:	b1. Predict appropriate solutions for biophysical problems and Design models based on experimental data derived from biological systems.
3.C- Professional Skills:	c1. Apply mathematical tools and techniques to analyze and interpret experimental results. .
3.D- General Skills:	d1. Think independently, set tasks and solve problems on scientific basis. d2. Work in group effectively; manage time, collaborate and communicate with other positively

		Theoretical part content			
		Topic	No. of Hours	Week(s) No.	No. of Lecture(s)
4- Course content: (theoretical and then practical)		Some fundamental of biological system	4	1	
		Some physical forces exemplified in mechanical forces	4	2	
		Energy, work, and power of the body	4	2	
		Molecular transport in living systems	4	2	
		Bioelectric phenomena	4	2	
		Sound and hearing	4	2	
		Ultrasound in medicine	2	1	
		Light and vision			
5- Teaching and learning methods:	Board and data show				
6- Students assessment:					
6.A- Assessment methods:	Written exam Oral exam Practical exam Attendance of student				
7.B- Assessment schedule	Assessment 1 Practical examination 14 th Week Assessment 2 Final-term examination Week according to faculty's exam schedule				
7.C- Assessments weights	Semester Work 4% Oral exam 6% Mid Term Exam 10% Final Practical exam 30% Final Exam 50%				
7- List of Books and references					

7.A- Notes:	Fundamental of biophysics AndreyB.Rubin (2008) Medical biophysics
7.B- Essential books:	
7.C- Recommended books:	

Matrix between course specification ILOs and ILOs of biophysics program

Knowledge & understanding		Intellectual skills		Professional practical skills		General & transferable skills	
ILOs of course	ILOs of Program	ILOs of course	ILOs of Program	ILOs of course	ILOs of Program	ILOs of course	ILOs of Program
a1	A9	b1	B5	c1	C2	d1	D3
						d2	D4

محتوى المقرر Course content	المستهدف من التدريس (ILO's)																وسائل التعليم و التعلم Teaching and learning methods	أساليب التقويم Assessment tools	الأدلة و الشواهد Criteria
	المعلومات و المفاهيم				المهارات الذهنية				المهارات المهنية				المهارات العامة						
	a1	a2	a3	a4	b1	b2	b3	b5	c1	c2	c3	c4	d1	d2	d3	d4			
Fundamental of biological system	x								x					x			Lectures	Mid Term Exam Written and Oral Exams Essay	• researches Discussions Oral Discussions
Physical forces	x				X									x			Lab.photos		
Energy of the body					X									x			Lectures-lab.		
Molecular transport	x								x					x			Lectures-lab.		
Bioelectric phenomena	x													x			Lectures-lab.		
Sound	x													x			Lectures-lab.		
light					X									x			lab.-photos		
ultrasonic									x					x			Lectures-lab-photos		

Course coordinator: Prof. gehan kamal

Head of Department: