



# GENERAL MEDICAL PHYSICS COURSE # 109

PHYSICS DEPARTMENT, FACULTY OF SCIENCES

**COURSE NAME: General Medical Physics**

**COURSE NUMBER: PHYS 109**

**SEMESTER/YEAR: First Semester**

**DATE: 2017-2018**

**INSTRUCTOR: Dr Feras R. A. Afaneh**



**GENERAL MEDICAL PHYSICS**  
**COURSE SYLLABUS**





### ***Instructor Information***

**Name of the instructor:** Dr Feras R. A. Afaneh

**Office location:** Room 206

**Building:** Physics

**Office hours:**

	Time				
	Sun.	Mon.	Tue.	Wed.	Thu.
		12:30-14:00		12:30-14:00	

**Contact number(s):** Office: (05) 3903333 Ext. 4539

**E-mail address:** [afaneh@hu.edu.jo](mailto:afaneh@hu.edu.jo)

**Instructor's profile:** Professor of Atomic and Molecular Physics.

### ***Course Information***

**Course name:** General Medical Physics

**Course number:** PHYS 109

**Course meeting times:**

	Time				
Section	Sun	Mon.	Tue.	Wed.	Thu.
1	11:00-12:00		11:00-12:00		11:00-12:00
2		12:30-14:00		12:30-14:00	

**Places:**

Room: 301

Building: East Complex

Room: 229

Building: Physics

**Course prerequisites and requirements:** None

#### **Description of the course:**

Physics & Measurement, Motion in One Dimension, Vectors, Scalar product, Vector product, Motion in Two Dimensions, The Laws of Motion, Energy of a System, Conservation of Energy, Linear momentum and Collisions, Angular Momentum, Temperature And Behavior Of Gases, Thermal Properties Of Matter, The Mechanics Of Non-Viscous Fluids.

#### **Course Objectives:**

1. Develop a clear understanding of basic physical concepts in General Medical Physics as an integral part of the student's overall education.
2. Develop the ability to deal with the physical concepts quantitatively( numerically)
3. Form a good foundation for follow-up courses in Medical Physics and Science
4. Develop the learning skills of the student in using computers and internet websites as educational tools, problem solving and demonstration.
5. Enhance the self learning ability of the student.



### **Learning Resources**

#### **Main text book:**

Physics, 4<sup>th</sup> Edition, KANE and STERNHEIM, John Wiley & sons, 2008.

#### **Subsidiary books:**

1. **Fundamental of Physics**, by David Halliday , Robert Resnick ,and Jearl Walker , 5<sup>th</sup> Edition , John Wiley and Sons , 1995
2. **Physics**, by Douglas C. Giancoli, 5<sup>th</sup> edition , Prentice Hall, 1999
3. **Physics for Scientists and Engineers**, by Lawrence S. Lerner , Jones and Bartlett Publishing , 1996
4. **University Physics: Models and Applications** by W.P Curmett and A.P Western NCP Publishers 1994.
5. <https://www.class-central.com/report/physics-free-online-courses/>
6. <http://www.freebookcentre.net/Physics/Introductory-Physics-Books.html>

### **Course Evaluation**

Assessment Type	Material included in the exam (Note: the dates will be announced later)	Weight
<b>First exam</b>	Chapters 1, 2, 3, 4	25%
<b>Second exam</b>	Chapters 6, 10, 12,13	25%
<b>Participation</b>	HWs	10%
<b>Final Exam</b>	All chapters	40%

#### **Attendance**

Attendance will be strictly enforced according to the current university regulations.

### **Detailed Course Schedule**

Number of Lectures	Part/ Chapter	sections
17	<b>Part one: the general laws of motion</b> Chapter one: motion in a straight line Chapter two: motion in two dimensions Chapter three: Newton's laws of motion	1, 2, 3, 3, 4, 5, 6 1, 2, 3 1, 2, 3, 4, 5, 5, 6, 7, 8, 9, 10,



	Chapter four: statics	11, 12, 13
<b>FIRST EXAMINATION</b>		
5	<b>Part Two: additional topics in mechanics</b> Chapter 6: work, energy and power	1, 2, 3, 4, 6, 9
7	<b>Part three: Heat</b> Chapter 10: temperature and behavior of gases Chapter 12: thermal properties of matter	1, 2, 3, 4, 5, 6, 7, 8
<b>SECOND EXAMINATION</b>		
5	<b>Part four: Fluids</b> Chapter 13: the mechanics of non-viscous fluids	1, 2, 3, 4, 5, 6, 7, 8
<b>FINAL EXAMINATION</b>		