بسم الله الرحمن الرحيم

جامعة آل البيت

جامعة آل البيت
دائرة ضمان الجودة والتخطيط

كلية .....العلوم

قسم .....الفيزياء

توصيف مساق فيزياء عامة 1-402101

1. معلومات مدرس المساق (Instructor)

اســـم (مدرس / منسق) المساق :	د. جمال علي طلاع
الساعـــــات المكتبيـــــــــــة :	حد ثن ثل اربع 10:30-11:30 و 1:00-2:00
رقم المكتب والرقـــم الفرعـــــي :	
البريـــــــــد الالكترونـــــــــي :	jtalla@aabu.edu.jo
مساعد البحث والتدريس/المشرف/الفني (إن وجد):	

2. وصف المساق (Course Description)

General Physics I is the first of a two semester course in general physics discuss concepts and applications of the following topics: vectors, motion, gravitation, energy, momentum. There are three hours of lecture each week.

3. بيانات المساق (Course Title)

رقم المساق: 402101	**اسم المساق: فيزياء عامة1**	**المستوى: سنة اولى**
طبيعة المساق: نظري	**المتطلب السابق / المتزامن : --------**	**وقت المحاضرة: 9:15-10:30**
العام الجامعي: 2018 / 2019	**الفصل الدراسي: الصيفي**	**عدد الساعات الدراسية:3**

4. أهداف المساق (Course Objectives)

The lecture will emphasize physical concepts, principles, examples, illustrations and demonstrations. It is intended to compliment the textbook. The textbook gives excellent coverage of the material of this course. Students are expected to be prepared before coming to the lectures. After each chapter is covered in the lectures, student should reread it at least one more time to further understanding of the material.	

5. مخرجات التعلم (Intended Student Learning Outcomes)

(المعرفة والمهارات والكفايات)

يفترض بالطالب بعد دراسته لهذا المساق أن يكون قادرا على:

- Identify and define physical quantities.

- Explain major laws of Physics.
- Apply laws of Mechanics to explain physical phenomena and solve problems.
- Demonstrate the knowledge of fundamental physical principles through interpretation of everyday phenomena.
- Apply critical analytical skills to evaluate physical phenomena and their effects; develop clarity of definition, consistency of logic and adequacy of evidence.
- Demonstrate clear understanding of scientific method and its application to the fundamental principles governing physical universe.

6. محتوى المساق (Course Content)

Week	SUBJECT
1,2	**Chapter 3** Coordinate Systems. Vector and Scalar Quantities. Some Properties of Vectors. Components of a Vector and Unit Vectors. Dot product and cross product
2,3	**Chapter 2** Position, Velocity, and Speed. Instantaneous Velocity and Speed. Acceleration. One-Dimensional Motion with Constant Acceleration. Freely Falling Objects.
4,5	**Chapter 4** The Position, Velocity, and Acceleration Vectors. Two-Dimensional Motion with Constant Acceleration. Projectile Motion.
5,6	**Chapter 5** The Concept of Force. Newton's First Law and Inertial Frames. Mass. Newton's Second Law. The Gravitational Force and Weight. Newton's Third Law. Some Applications of Newton's Laws. Forces of Friction.
7,8	**Chapter 6** Uniform Circular Motion. Tangential and Radial Acceleration. Newton's Second Law Applied to Uniform Circular Motion. Nonuniform Circular Motion. Motion in the Presence of Resistive Forces.
9,10	**Chapter 7** Work Done by a Constant Force. The Scalar Product of Two Vectors. Work Done by a Varying Force. Kinetic Energy and the Work--Kinetic Energy Theorem. The Non-Isolated System--Conservation of Energy. Situations Involving Kinetic Friction. Power.
11	**Chapter 8** Potential Energy of a System. The Isolated System--Conservation of Mechanical Energy. Conservative and Nonconservative Forces. Changes in Mechanical Energy for Nonconservative Forces.
12,13	**Chapter 9** Linear Momentum and Its Conservation. Impulse and Momentum. Collisions in One Dimension. Two-Dimensional Collisions. The Center of Mass. Motion of a System of Particles
14,15	**Chapter 10:** Angular position, velocity, and acceleration; rotational kinematics; angular and rotational quantities; rotational kinetic energy; moments of inertia; torque; energy considerations in rotational energy.

7. استراتيجيات التعليم والتعلم وطرق التقويم

(Teaching and learning Strategies and Evaluation Methods)

ت	مخرجات التعلم	استراتيجيات التدريس	أنشطة التعلم	نوع التقويم/القياس (امتحان/عروض صفية/مناقشة/واجبات)
1	Identify and define physical quantities.	lecture	.....	discussion
2	Explain major laws of Physics			
3	Apply laws of Mechanics to explain physical phenomena and solve problem			
4	Connect and explain contributions of scientists to the			

	development of laws governing physical phenomena and the concepts/theories which integrate them			
5	Demonstrate your knowledge of fundamental physical principles through interpretation of everyday phenomena			
6	Apply critical analytical skills to evaluate physical phenomena and their effects; develop clarity of definition, consistency of logic and adequacy of evidence.			
	Demonstrate clear understanding of scientific method and its application to the fundamental principles governing physical universe.			

8. تقييم الطلبة (Assessment)

الأساليب المستخدمة	توقيت التقييم	توزيع الدرجات لكل أسلوب
1-أعمال الفصل: (تقرير، وظائف، حضور)	خلال الفصل	.....
2-امتحان تحريري أول	الأسبوع السابع	%25
2-امتحان تحريري ثاني	الأسبوع الثاني عشر	%25
3-امتحان تحريري نهائي	أسبوع الامتحانات النهائية	%50

9. الكتاب المقرر (Text Book)

المرجع الرئيس	**Physics for Scientists and Engineers with Modern Physics,**
المؤلف	**by R.A. Serway and J.W. Jewett**
الناشر	
السنة	
الطبعة	**9th Edition**
الموقع الالكتروني للمرجع	

10. المراجع الإضافية (References) (وتشمل الكتب والبحوث المنشورة في الدوريات او المواقع الالكترونية)

Physics, Douglas C. Giancoli, sixth edition, Prentice Hall Publisher. *ISBN 0-13-0690620-0*	−1
	−2
	−3