



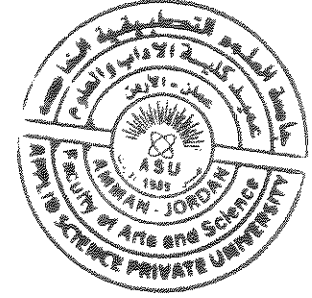
AMMAN - JORDAN

المستوى الذهبي

جامعة كل العرب

Faculty of Arts and Science
Course Syllabus
Semester: Second /academic Year 2020 / 2021

Course Title: Physics (1)
Course No.: 1501120
Prerequisite: -
Concurrent: -
Department: Basic Science and Humanities
Coordinator: Dr. Husam Miqdad



*** Instructor:**

Name	Office Number	Office Phone	Office Hours	E-mail
Dr.Husam Miqdad	217	1409	(1-2) Sun., Thu. (9:30-11) Mon., Wed.	h_miqdad@asu.edu.jo
Tasneem Alayed	215	1412	(9-10) Sun., Tue., Thu. (9-10) Mon., Wed.	t_ibrahim@asu.edu.jo

*** Course Description:**

The material in this course covers fundamental topics in classical physics (mechanics (motion in one dimension and two dimensions, circular motion) and energy). The students will learn the basic concepts of physics and its applications. This course is specified for engineering and science students. The course shall be given via Microsoft Teams, the E-learning platform.

*** Learning Outcomes :**

Upon completion of the course, this module should lead to the following learning outcomes:

A. Knowledge and Understanding (student should) :

- A1. Understand the basic concepts and principles in physics (mechanics).
- A2. Explain the basic concepts in motion.

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- A3 . Understand the basic concepts in energy.
- A4. Be able to solve problems.

B. Cognitive and Intellectual Skills :

- B1. Distinguish physical applications needs and requirements.
- B2. Analyze and compare the different applications requirements

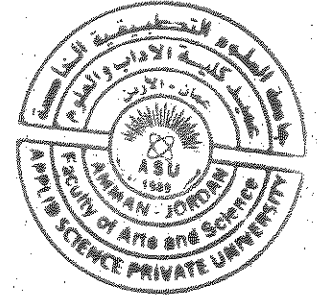
C. Subject specific skills :

- C1. Implement solution of physics (mechanics).
- C2. Learn how to implement different applications in physics.

D. Transferable Skills :

- D1. Home works and quizzes.
- D2. Case study.
- D3. Assignments.

*** Course Contents and Schedule:**



Semester Weeks	Subject
First	Ch.2:Motion in One Dimension Displacement, Velocity and Speed, Instantaneous Velocity and Speed, Acceleration.
Second	Ch.2:Motion in One Dimension One Dimensional Motion with Constant Acceleration and Freely Falling Objects.
Third	Ch.3:Vectors Coordinate System, Frames of Reference, Vector and Scalar Quantities.
Fourth	Ch.3:Vectors Some Properties of Vectors Components of a Vector, Unit vectors, scalar product and cross product.
Fifth	Ch.4:Motion in Tow Dimensions The Displacement, Velocity and Acceleration Vectors.
Sixth	Ch.4:Motion in Tow Dimensions Tow Dimensional Motion with Constant Acceleration and Projectile Motion.

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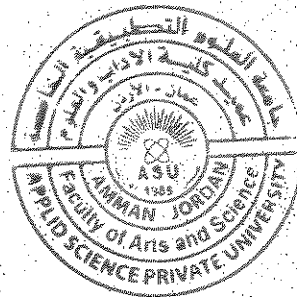


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Seventh	Ch.5:The Laws of Motion The concept of Force, Newton's First Law, Inertial Mass.
Eighth	Ch.5:The Laws of Motion Newton's Second Law, Weight, Newton's third Law.
Ninth	Ch.5:The Laws of Motion Some Applications of Newton's Laws and Forces of Friction.
Tenth	Ch.6:Circular Motion and Other Applications Newton's Second Law Applied to Uniform Circular Motion and Non uniform Circular Motion.
Eleventh	Ch.7:Energy of a System Work Done by a Constant Force, The Scalar Product of two vectors.
Twelfth	Ch.7:Energy of a System Work Done by a Varying Force, Kinetic Energy and Work-Energy Theory and Power.
Thirteenth	Ch.8:Conservation of Energy Potential energy, Conservative and No conservative Forces, Conservative Forces and Potential Energy.
Fourteenth	Ch.8:Conservation of Energy Conservation of Energy, Changes in Mechanical Energy when non conservative Forces Are Present, Relationship Between Conservative Forces and Potential Energy and Conservation Energy in General.
Fifteenth	Ch.9:Linear Momentum and Collisions Linear Momentum and its Conservation, Impulse and momentum.
Sixteen	Ch.9:Linear Momentum and Collisions Collisions, Elastic and Inelastic Collisions in One Dimension and Two Dimensional Collisions.



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*** Teaching Methods:**

- Inter active lectures
- Self reading
- Written assignments

*** Evaluation:**

Midterm Exam	30%	(20/4/2021) {Microsoft teams}
Assignment	20%	
Final Exam	50%	
<hr/>		
Total	100%	



*** Written Assignment :**

There will be homework handed on paper and **homework** problems from your textbook. To receive full credit for your hardcopy homework handed in, you must prepare and submit lucid and clearly reasoned written solutions. These problems will be graded and returned

*** Guide line for written Assignment :**

1. Introduction
2. Rationale / importance of studying the topic.
3. Objectives.
4. Review of literature.

*** Textbook :**

"Physics for Scientists and Engineers, with Modern Physics; " 9th edition, Serway/Jewett, 2014.

*** References :**

1. "Physics for Scientists and engineers"; by Lawrence S. Lerner; Jones and Bartlett Publishers, 1996.
2. " Fundamentals of Physics"; by D. Halliday and R. Resnick; 10th Edition; John Wiley and Sons; 1991.
3. "University Physics"; by H. Benson; John Wiley and sons; 1991
4. "University Physics"; 7th Edition; by F. Sears, M. Zemansky and H. Young; Addison-Wesley Publications Company; 1987.



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Subject Coordinator

Dr.Husam Miqdad

Signature:

Head of Curriculum Committee

Dr.Husam Miqdad

Signature:

Department Head

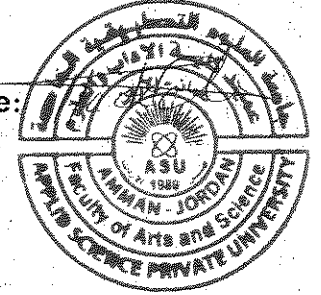
Dr.Husam Miqdad

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Signature:



Copy to:

- Department Head.
- Head of Curriculum Committee.
- Course File.

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