

**Faculty of Arts and Science  
 Course Syllabus**

**Semester: Second**

**Academic Year: 2020/2021**

**Course Title: General Physics Lab (1)**  
**Course No.: 1501121**  
**Prerequisite: 1501120**  
**Concurrent: -**  
**Department: Basic Science and Humanities**  
**Coordinator: Dr. Abeer Adaileh**

**Instructors:**

| Name              | Office Number | Office Phone | Office Hours                                      | E-mail               |
|-------------------|---------------|--------------|---------------------------------------------------|----------------------|
| Dr. Hussam Miqdad | 217           | 1409         | 1:00-2:00 Sun, Thu.<br>9:30-11:00 Mon, Wed.       | H_miqdad@asu.edu.jo  |
| Dr. Abeer Adaileh | A225          | 1281         | 9:00-10:00 Sun, Tue, Thu.<br>9:30-11:00 Mon, Wed. | A_adayleh@asu.edu.jo |

**Course Description:**

This course contains 10 experiments relate to the theoretical course that is taught to students in General Physics 1. Students learn how measure physical quantities and analyze the data., in addition to calculate the percentage error and difference. The experiments emphasize on mechanics such as motion at constant acceleration, Newton's laws of motion, projectile motion, conservation of mechanical energy, and simple harmonic motion.



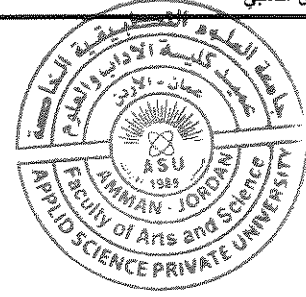
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### Learning Outcomes:

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

#### *A. Knowledge and Understanding (student should):*

- A1) Understand the basic concepts in Physics lab.
- A2) Recognize lab equipment and components.
- A3) Realize the importance of Physics in our life.

#### *B. Cognitive and Intellectual Skills:*

- B1) Summarize conclusions based on observations and data.
- B2) Develop scientific and logical thinking.
- B3) Develop the ability to learn faster, easier and better.

#### *C. Subject specific skills:*

- C1) Compare experimental measured values to the accepted theoretical values.
- C2) Recognize safety instructions and procedures in the lab.

#### *D. Transferable Skills:*

- D1) Acquire experimental work skills.
- D2) Acquire data analysis skills.
- D3) Demonstrate communication skills with others.

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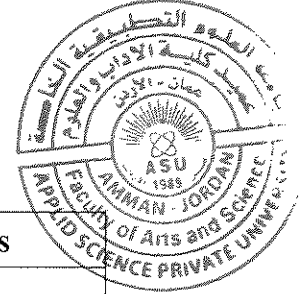
رمز النموذج: UF 28 / 1

رقم القرار 24 / 233

تاريخ الاعتماد 2017/9/18



Course Contents and Schedule:



| Week       | Topics                                | Topic Details                                                                                    |
|------------|---------------------------------------|--------------------------------------------------------------------------------------------------|
| 1          | Introduction                          |                                                                                                  |
| 2          | Measurements and Uncertainties        | -Instruments to measure dimensions<br>-The density                                               |
| 3          | Instantaneous and Average Velocity    | - Instantaneous Velocity<br>- Average Velocity                                                   |
| 4          | Force Table                           | -Add vectors<br>- The equilibrium                                                                |
| 5          | Projectile Motion                     | Initial velocity in projectile motion                                                            |
| 6          | Newton's Second Law of Motion         | - The acceleration proportional to the net force.<br>- The acceleration proportional to the mass |
| 7          | Midterm Exam                          |                                                                                                  |
| 8          | Friction                              | -Coefficient of Static Friction<br>-Coefficient of Kinetic Friction                              |
| 9          | Conservation of Mechanical Energy (1) | -Kinetic energy<br>-Potential energy<br>-Mechanical energy<br>-The work<br>-Smooth surface       |
| 10         | Simple pendulum                       | -Period of oscillation                                                                           |
| 11         | The Helical Spring                    | -Hook's Law<br>- Period of oscillation                                                           |
| 12         | Viscosity                             | - Coefficient of viscosity                                                                       |
| 13         | Revision and Experiments Makeup       |                                                                                                  |
| Final Exam |                                       |                                                                                                  |



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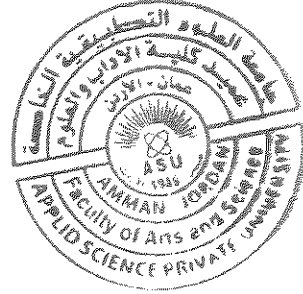


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### Teaching Methods:

- Traditional lectures
- Experimental demonstration
- Group work and discussions



### Evaluation:

|              |                 |
|--------------|-----------------|
| Midterm Exam | 30% (12/4/2021) |
| Reports      | 20%             |
| Final Exam   | 50%             |
| Total        | 100%            |

### Textbook:

- Lab Manual of Physics 1501121

### References:

- Physics for Scientists and Engineers, with Modern Physics; 9<sup>th</sup> edition, Serway/Jewett, 2014.

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Subject Coordinator

Dr. Abeer Adaileh

Signature:

د. عبير عضايلة  
A.A.

Head of Curriculum Committee

Dr. Husam Miqdad

Signature:

د. حسام ميقداد  
H.M.

Department Head

Dr. Husam Miqdad

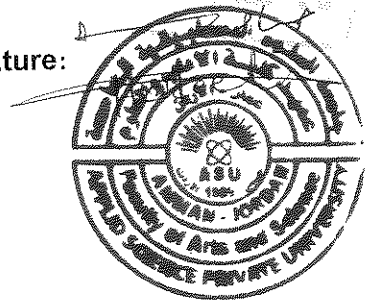
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د. حسام ميقداد  
H.M.

Dean Faculty

Dr. Hadeel Ail saed

Signature:



Copy to:

- Department Head.
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