

Course Syllabus

1	Course title	Practical Physics for Biological Sciences Students	
2	Course number	0332113	
3	Credit hours	(0, 1)/week	
	Contact hours (theory, practical)	(0, 3)/week	
4	Prerequisites/corequisites	0342103	
5	Program title	Physics	
6	Program code	0302	
7	Awarding institution	University of Jordan	
8	School	Science	
9	Department	Physics	
10	Course level	First Year	
11	Year of study and semester(s)	First , second Semester	
12	Other department(s) involved in teaching the course	Non	
13	Main teaching language	English	
14	Delivery method	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online	
15	Online platforms(s)	<input checked="" type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....	
16	Issuing/Revision Date	10/10/2022	

**17 Course Coordinator:**

Name: Ahmad S Masadeh

Contact hours: Sunday Monday 11 -12

Office number: 12

Phone number: 22065

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18 Other instructors:

None

19 Course Description:

Students perform 11 experiments of 3-hr/week duration. These experiments are: Collection and Analysis of Data, Measurements and Uncertainties, Vectors: Force Table, Kinematics of Rectilinear Motion, Force and Motion, Collision in Two Dimensions, Rotational Motion, Simple Harmonic Motion: Simple Pendulum, The Behavior of Gases with Changes in Temperature and Pressure, The Falling Sphere Viscometer, Specific Heat Capacity of Metals.

20 Course aims and outcomes:



A- Aims:

B- Students Learning Outcomes (SLOs):

For purposes of mapping the course SLOs to the physics program SLOs, at the successful completion of the physics program, graduates are expected to be able to:

SLO (1) Master professionally a broad set of knowledge concerning the fundamentals in the basic areas of physics: Classical Mechanics, Electrostatics and Magnetism, Quantum Mechanics, Thermal Physics, Optics, Theory of Special Relativity, Mathematical Physics, Electronics.

SLO (2) Apply knowledge of mathematics and fundamental concepts in the basic areas of physics to identify and solve physics related problems.

SLO (3) Utilize computers and available software in both data collections and data analysis.

SLO (4) Utilize standard laboratory equipment, modern instrumentation, and classical techniques to design and conduct experiments as well as to analyze and interpret data.

SLO (5) Develop a recognition of the need and ability to engage in life-long learning.

SLO (6) Demonstrate ability to use techniques, skills, and modern scientific tools necessary for professional practice.

SLO (7) Communicate clearly and effectively in both written and oral forms.

SLO (8) Apply proficiently team-work skills and employ team-based learning strategies.

SLO (9) Apply professional and ethical responsibility to society.

Upon successful completion of this course, students will be able to:

Course SLOs	Program SLOs	SLO (1)	SLO (2)	SLO (3)	SLO (4)	SLO (5)	SLO (6)	SLO (7)	SLO (8)	SLO (9)
1. understand that physics is an experimental science and that observation and experimentation are as important as concepts and theories		✓		✓				✓		
2. Analyze elementary motion in one dimension experiment		✓	✓			✓				
3. State the basic laws of physics in classical mechanics and thermal physics, and identify how they can be applied in various contexts										
4. Perform simple physical experiments, using a variety of physics apparatus, including the gathering, interpretation and analysis of data.										
5. Laboratory investigations should encourage students to add some of their own ideas to experiments and their interpretation.										
6. Laboratory investigations should engage students in the process of formulating and asking an interesting question of nature										

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21. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods
Experimental Error	1	A. Masadeh	1-7	Lab Report+ Quiz
Collection & Analysis of Data	2	Ola hassouneh	1-7	Lab Report+ Quiz
Measurements & Uncertainties	3	A. Masadeh	1-7	Lab Report+ Quiz
Vectors	4	A. Masadeh	1-7	Lab Report+ Quiz
Specific Heat Capacity	5	A. Masadeh	1-7	Lab Report+ Quiz
Motion In One Dimension	6	A. Masadeh	1-7	Lab Report+ Quiz
Gas Laws	7	A. Masadeh	1-7	Lab Report+ Quiz
Joule Heat	8	A. Masadeh	1-7	Lab Report+ Quiz
Simple Pendulum	9	A. Masadeh	1-7	Lab Report+ Quiz
Measurement of Resistance Ohm's Law	10	A. Masadeh	1-7	Lab Report+ Quiz
Measurement of Resistance Wheatstone Bridge	11	A. Masadeh	1-7	Lab Report+ Quiz
Potentiometer	12	A. Masadeh	1-7	Lab Report+ Quiz

22 Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform



Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Quizzes (10%)

Midterm Exam (20%)

Lab Reports(30%)

Final exam.....(40%)

23 Course Requirements

White board and overhead projector.

24 Course Policies:

A- Attendance policies:

Regular attendance according to the rules of the host institution

B- Absences from exams and handing in assignments on time:

Based on the rules of the host institution.

C- Health and safety procedures:

Based on the rules of the host institution

D- Honesty policy regarding cheating, plagiarism, misbehavior:

According to the rules of the host institution

E- Grading policy:

Grading the exam based on a key solution.

F- Available university services that support achievement in the course:

e-learning.

25 References:

A- Required book (s), assigned reading and audio-visuals:

LABORATORY EXPERIMENTS: PHYSICS LAB- 111

B- Recommended books, materials, and media:

26 Additional information:

Name of Course Coordinator: -: Ahmad Masadeh Signature: <i>Ahmad Masadeh</i> Date: -10-10-2022
Head of Curriculum Committee/Department: ----- Signature: ----- ---
Head of Department: ----- Signature: ----- -
Head of Curriculum Committee/Faculty: ----- Signature: ----- -
Dean: ----- Signature: -----