Form: Course Syllabus	Form Number	EXC-01-02-02A
	Issue Number and Date	2/3/24/2022/2963 05/12/2022
	Number and Date of Revision or Modification	2023/10/15
	Deans Council Approval Decision Number	265/2024/24/3/2
	The Date of the Deans Council Approval Decision	2024/1/23
	Number of Pages	06

1.	Course Title	General physics for life sciences
2.	Course Number	0329103
3.	Credit Hours (Theory, Practical)	3 theory
	Contact Hours (Theory, Practical)	3 theory
4.	Prerequisites/ Corequisites	No prerequisites
5.	Program Title	Physics
6.	Program Code	
7.	School/ Center	Faculty of Science
8.	Department	Department of Physics
9.	Course Level	1st year
10.	Year of Study and Semester (s)	Fall Semester 2025/2026
11.	Program Degree	BSc
12.	Other Department(s) Involved in Teaching the Course	-
13.	Learning Language	English
14.	Learning Types	☑ Face to face learning ☐Blended ☐Fully online
15.	Online Platforms(s)	☐Moodle ☑Microsoft Teams
16	Issuing Date	October 2025
17.	Revision Date	January 2026

18. Course Coordinator:

Name: Ammar Alhusseini — Contact hours: 10:30-11:30 Sunday, Tuesday and Thursday

Office number: Physics 009 — Phone number: 065355000 Ext.: 22057

Email: a.taha@ju.edu.jo

19. Other Instructors:

Faculty Members of the Department of Physics Nidal Ershaidat , Issa Al-Shakhra, Mousa Abdulqader, Eman Daar.

20. Course Description:

Motion in One Dimension; Vectors;The Laws of Motion; Energy of a System, Conservation of Energy.Thermodynamics, Heat, pressure, Fluids, and Sound.

21. Program Intended Learning Outcomes: (To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

SO1: Identify, formulate, and solve broadly-defined technical or scientific problems by applying knowledge of Mathematics and Science and/or technical topics to areas relevant to the discipline.

SO2: Formulate or design a system, process, procedure or program to meet desired needs

SO3: Develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions

SO4: Communicate effectively with a range of audiences in oral or written forms and exhibit ethical and professional values.

SO5: Reflect the impact of technical and/or scientific solutions in economic, environmental, and societal contexts.

SO6: Function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

PILO's	*National Qualifications Framework Descriptors*		
	Competency (C)	Skills (B)	Knowledge (A)
1.	☐	☐	☒

2.	☐	☐	☒
3.	☐	☐	☒
4.	☐	☐	☒
5.	☐	☐	☒
6.	☐	☐	☒

* Choose only one descriptor for each learning outcome of the program, whether knowledge, skill, or competency.

22. Course Intended Learning Outcomes: (Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

1. Analyzing Motion in a straight line.
2. Understanding vector algebra.
3. Understanding Newton's Laws of Motion.
4. Understanding Torques.
5. Studying the basic concepts in Work, Energy and Power.
6. Apply Temperature and the Behavior of Gasses.
7. Apply thermodynamics' law.
8. Studying the basic concepts in fluids.
9. Studying the basic concepts of sound.

Course ILOs #	The learning levels to be achieved						Competencies
	Remember	Understand	Apply	Analyse	Evaluate	Create	
1.	✓	✓					
2.		✓	✓	✓	✓		
3.	✓	✓	✓	✓			
4.	✓	✓	✓	✓			

5.		✓	✓	✓	✓		
6.		✓	✓	✓	✓		
7.	✓	✓	✓				
8.	✓	✓	✓				
9.	✓	✓	✓				

23. The matrix linking the intended learning outcomes of the course -CLO's with the intended learning outcomes of the program -PILOs:

PILO's * / CLO's	1	2	3	4	5	6	Descriptors**		
							A	B	C
1. Analyzing Motion in a straight line.	✓	✓					✓		
2. Understanding vector algebra.	✓	✓					✓		
3. Understanding Newton's Laws of Motion.	✓	✓					✓		
4 .Understanding Torques.	✓	✓					✓		
5. Studying the basic concepts inWork, Energy and Power.	✓						✓		
6. Apply Temperature and the Behavior of Gasses..	✓	✓					✓		
7. Apply Apply thermodynamics' law.	✓	✓					✓		
8. Studying the basic concepts in fluids.	✓	✓					✓		
9. Studying the basic concepts of sound.	✓	✓					✓		

***Linking each course learning outcome (CLO) to only one program outcome (PLO) as specified in the course matrix.**

****Descriptors are determined according to the program learning outcome (PLO) that was chosen and according to what was specified in the program learning outcomes matrix in clause (21).**

24. Topic Outline and Schedule:

Week	Lecture	Topic	ILO/s Linked to the Topic	Learning Types (Face to Face/ Blended/ Fully Online)	Platform Used	Synchronous / Asynchronous Lecturing	Evaluation Methods	Learning Resources
1	1.1	1.1 Measurement, Standard, Units, and Errors. 1.2 Displacement, Average Velocity. 1.3 Instantaneous Velocity. 1.4 Acceleration. 1.5 Finding the Motion of an object. 1.6 The Acceleration of Gravity and Falling Object.	ILO (1,2)	Face To Face	Teams	Synchronous	Discussion	
	1.2		ILO (1,2,)	Face To Face	Teams	Synchronous	Discussion	
	1.3		ILO (1,2)	Face To Face	Teams	Synchronous	Discussion	
2	2.1		ILO (1,2)	Face To Face	Teams	Synchronous	Discussion	
	2.2		ILO (1,2)	Face To Face	Teams	Synchronous	Discussion	
	2.3		ILO (1,2)	Face To Face	Teams	Synchronous	Discussion	
3	3.1	2.1 An Introduction to Vectors	ILO (1,2)	Face To Face	Teams	Synchronous	Discussion	
	3.2		ILO (1,2)	Face To Face	Teams	Synchronous	Discussion	
	3.3		ILO (1,2)	Face To Face	Teams	Synchronous	Discussion	
4	4.1	3.1 Force, Weight, and Gravitational mass.	ILO (1,2,3)	Face To Face	Teams	Synchronous	Discussion	
	4.2			Face To	Teams	Synchronous	Discussion	

		3.2 Density.	ILO (1,2,3)	Face				
	4.3	3.3 Newton's First Law. 3.4 Equilibrium. 3.5 Newton's Third Law. 3.6 Newton's Second Law. 3.7 The Significance of Newton's Laws of Motion. 3.8 Some Examples of Newton's Laws. 3.12 Friction.	ILO (1,2,3)	Face To Face	Teams	Synchronous	Discussion,	
5	5.1	3.1 Force, Weight, and Gravitational mass. 3.2 Density. 3.3 Newton's First Law. 3.4 Equilibrium. 3.5 Newton's Third Law. 3.6 Newton's Second Law. 3.7 The Significance	ILO (1,2,3)	Face To Face	Teams	Synchronous	Discussion	
	5.2		ILO (1,2,3)	Face To Face	Teams	Synchronous	Discussion	
	5.3		ILO (1,2,3)	Face To Face	Teams	Synchronous	First exam	

		of Newton's Laws of Motion. 3.8 Some Examples of Newton's Laws. 3.12 Friction.						
6	6.1	4.1 Torque. 4.2 Equilibrium of Rigid Bodies. 4.3 The Center of Gravity. 4.5 Levers; mechanical Advantage. 4.7 Levers in the Body.	ILO (1,2,4)	Face To Face	Teams	Synchronous	Discussion	
	6.2		ILO (1,2,4)	Face To Face	Teams	Synchronous	Discussion	
	6.3		ILO (1,2,,4)	Face To Face	Teams	Synchronous	Discussion	
7	7.1	6.1 Work. 6.2 Kinetic Energy. 6.3 Potential Energy and Conservation Force. 6.4 Dissipative Force. 6.5 Observation on Work and Energy. 6.6 Solving Problems Using Work and Energy. 6.9 Power.	ILO (1,2,5)	Face To Face	Teams	Synchronous	Discussion	
	7.2		ILO (1,2,5)	Face To Face	Teams	Synchronous	Discussion	
	7.3		ILO (1,2,5)	Face To Face	Teams	Synchronous	Discussion	

8	8.1	10.1 Temperature Scale. 10.2 Molecular Masses. 10.3 Pressure. 10.4 The Ideal Gas Law. 10.5 Gas Mixtures. 10.6 Temperature and Molecular Energies. 10.7 Diffusion. 10.8 Dilute Solutions; Osmotic Pressure.	ILO (1,2,5)	Face To Face	Teams	Synchronous	Discussion	
	8.2		ILO (1,2,5)	Face To Face	Teams	Synchronous	First exam	
	8.3		ILO (1,2,5)	Face To Face	Teams	Synchronous	Discussion	
9	9.1		ILO(6)	Face To Face	Teams	Synchronous	Discussion	
	9.2		ILO(6)	Face To Face	Teams	Synchronous	Discussion	
	9.3		ILO(6)	Face To Face	Teams	Synchronous	Discussion, homework	
10	10.1		ILO(6)	Face To Face	Teams	Synchronous	Discussion	
	10.2		ILO(6)	Face To Face	Teams	Synchronous	Discussion	
	10.3		ILO(6)	Face To Face	Teams	Synchronous	Second exam	
11	11.1	11.1 Mechanical Work.	ILO(6,7)	Face To Face	Teams	Synchronous	Discussion	
	11.2		ILO(6,7)	Face To	Teams	Synchronous	Discussion	

		11.2 The First Law of Thermodynamics.		Face				
	11.3		ILO(6,7)	Face To Face	Teams	Synchronous	Discussion	
12	12.1		ILO(6,7)	Face To Face	Teams	Synchronous	Discussion	
	12.2		ILO(6,7)	Face To Face	Teams	Synchronous		
	12.3		ILO(6,7)	Face To Face	Teams	Synchronous	Discussion	
13	13.1	12.1Thermal Expansion. 12.2 Heat capacity.	ILO(6,7,8)	Face To Face	Teams	Synchronous	Discussion	
	13.2		ILO(6,7,8)	Face To Face	Teams	Synchronous	Discussion	
	13.3		ILO(6,7,8)	Face To Face	Teams	Synchronous	Discussion, homework	
14	14.1	13.2 The Equation of Continuity; Streamline Flow. 13.3 Bernoulli's Equation	ILO(6,9)	Face To Face	Teams	Synchronous	Discussion	
	14.2		ILO(6,9)	Face To Face	Teams	Synchronous	Discussion	
	14.3		ILO(6,9)	Face To Face	Teams	Synchronous	Discussion	
15	15.1	Review	ILO(1-9)	Face To Face	Teams	Synchronous	Discussion	
	15.2	Review	ILO(1-9)	Face To Face	Teams	Synchronous	Discussion	
	15.3	Review	ILO(1-9)	Face To Face	Teams	Synchronous	Final exam	

25. Evaluation Methods:

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

Evaluation Activity	*Mark wt.	CILO's					
		1	2	3	4	5	6
First Exam	20%	✓	✓	✓	✓		
Second Exam	30%			✓	✓	✓	✓
Final Exam	50%	✓	✓	✓	✓	✓	✓
Total 100%	100%						

*** According to the instructions for granting a Bachelor's degree.**

****According to the principles of organizing semester work, tests, examinations, and grades for the bachelor's degree.**

First exam specifications table*

	No. of questions/ cognitive level						No. of questions per CLO	Total exam mark	Total no. of questions	CILO/ Weight	CILO no.
	Create **%10**	Evaluate **%10**	analyse **%10**	Apply %20	Understand **%20**	Remember %30					
		1			1	1	3	100	10	20%	1
		1		1		1	3	100	10	20%	2
		1		1		1	3	100	10	20%	3
	1			1		1	3	100	10	20%	4
		1		1		1	3	100	10	20%	5
											6

Final exam specifications table

	No. of questions/ cognitive level						No. of questions per CLO	Total exam mark	Total no. of questions	CILO/ Weight	CILO no.
	Create **%10**	Evaluate **%10**	analyse **%10**	Apply %20	Understand **%20**	Remember %30					
		1			1	1	3	100	20	15%	1
		1		1		1	3	100	20	15%	2
		1		1		1	3	100	20	15%	3
	1			1		1	3	100	20	15%	4

		1	1	1		1	4	100	20	20%	5
	1		1	1		1	4		20	20%	6

26. Course Requirements:

(e.g.: students should have a computer, internet connection, webcam, account on a specific software/platform…etc.): The students are expected to have internet connection and a calculator

27. Course Policies:

A- Attendance policies: Students are expected to attend all class sessions. If a student cannot attend a class session, the teacher must be notified prior to that. For the university's rules and regulations, the student's total absences must not exceed 15 % of the total class hours. Please refer to the University of Jordan student Handbook for further explanation. B- Absences from exams and submitting assignments on time: a. Failure in attending a course exam other than the final exam will result in zero mark unless the student provides an official acceptable excuse to the instructor who approves a make up exam. b. Failure in attending the final exam will result in zero mark unless the student presents an official acceptable excuse to the Dean of his/her faculty who approves an incomplete exam, normally scheduled to be conducted during the first two weeks of the successive semester. C- Health and safety procedures: We don't have any policy at the moment considering the safety procedures, nevertheless, the instructor in each session has to give a general safety instructions for the student. D- Honesty policy regarding cheating, plagiarism, misbehavior: Cheating, plagiarism, misbehavior are attempts to gain marks dishonestly and includes; but not limited to:

- Copying from another student's work.
- Using materials not authorized by the institute.
- Collaborating with another student during a test, without permission.
- Knowingly using, buying, selling, or stealing the contents of a test.
- Plagiarism which means presenting another person's work or ideas as one's own, without attribution.
- Using any media (including mobiles) during the exam.

E- Grading policy:

Grades will be awarded based on the statistical distribution of marks out of 100%

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

- Faculty members website

E-Learning website

28. References:

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

Joseph W. Kane and Morton M. Sternheim, "**Physics**", 3rd edition, John Wiley & Sons, 1988.

B- Recommended books, materials and media:

1. Raymond A. Serway and John W. Jewett Jr., "**Physics For Scientists and Engineers**

   (Any edition).

2. David Halliday, Robert Resnick, and Jearl Walker, **"FUNDAMENTALS OF PHYSICS",** 4th edition (Wiley, New York, 1993).

29. Additional information:

Name of the Instructor or the Course Coordinator: …… Ammar Alhusseini ……	Signature: …	Date: 5/10/2025
Name of the Head of Quality Assurance Committee/ Department ……	Signature: ……..……	Date: ……..……
Name of the Head of Department ……	Signature: ……..……	Date: ……..……
Name of the Head of Quality Assurance Committee/ School or Center ……	Signature: ……..……	Date: ……..……
Name of the Dean or the Director ……	Signature: ……..……	Date: ……..……