الجامعة الاردنية

The University of Jordan

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 ModificaAon	15/10/2023
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	Number of Pages	06

1.	Course Title	Practical Physics 2
2.	Course Number	0329112
3.	Credit Hours (Theory, Practical)	1
	Contact Hours (Theory, Practical)	3
4.	Prerequisites/ Corequisites	0329102
5.	Program Title	BSc. In 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)	1nd 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**	Sep 2025
17.	**Revision Date**	Nov 2025

18. Course Coordinator:

Name: Dr Ala'a Azzam Contact hours:Sun 12:30-1:30

Office number: 303 Phone number:22023

Email:alaa.azzam@ju.edu.jo

19. Other Instructors:

Faculty Members of the Department of Physics

Dr Mahmoud AlHussein

Hassan Juwhari

Nada Tala

Alya Jarad

Rawan AlQudah Zainab banister

20. Course Description:

12 experiments each of 3 hrs/week duration: electric field mapping; specific charge of copper ions; power transfer; potentiometer; capacitors: RC time constant; Kirchhoff's laws; magnetic field of a

current; lenses; Young's double slit experiment; electromagnetic induction; Ohm's law; Wheatstone bridge

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: Iden6fy, formulate, and solve broadly-defined technical or scien6fic problems by applying knowledge of Mathema6cs 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 scien6fic judgment to draw conclusions

SO4: Communicate effec6vely with a range of audiences in oral or wriTen forms and exhibit ethical and professional values.

SO5: Reflect the impact of technical and/or scien6fic solu6ons in economic, environmental, and societal contexts.

SO6: Func6on effec6vely on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

PILO's	*NaAonal QualificaAons 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) understand that physics is an experimental science and that observa6on and experimenta6on are as important as concepts and theories.
2) State the basic laws of physics- electricity and magne6sm, and iden6fy how they can be applied in various contexts.
3) Perform algebraic calcula6ons and give quan6ta6ve predic6ons of outcomes in simple physical systems.
4) learn to present well-organized, logical and scien6fically technical reports.
5) Iden6fy relevant physical concepts and formulate solu6ons to simple problems and to present the solu6ons in a clear manner.
6) Perform simple physical experiments, using a variety of physics apparatus, including the gathering, interpreta6on and analysis of data.
7) Laboratory inves6ga6ons should encourage students to add some of their own ideas to experiments and their interpreta6on.
8) Laboratory inves6ga6ons should engage students in the process of formula6ng and asking an interes6ng ques6on of nat

Course ILOs #	The learning levels to be achieved						Competencies
	Remember	Understand	Apply	Analyse	Evaluate	Create	
1.	✓	✓					
2.		✓	✓	✓	✓		
3.	✓	✓	✓	✓			
4.	✓	✓	✓	✓			
5.		✓	✓	✓	✓		
6.		✓	✓	✓	✓		
7		✓	✓	✓	✓		
8	✓	✓	✓	✓			

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
understand that physics is an experimental science and that observa6on and experimenta 6on are as important as concepts and theories.	✓	✓					✓		
State the basic laws of physics- electricity and magne6sm, and iden6fy how they can be applied in various contexts.	✓	✓					✓		

Perform algebraic calcula6ons and give quan6ta6ve predic6ons of outcomes in simple physical systems.	✓	✓					✓		
learn to present well-organized, logical and scien6fically technical reports.	✓	✓					✓		
Iden6fy relevant physical concepts and formulate solu6ons to simple problems and to present the solu6ons in a clear manner.	✓						✓		
Perform simple physical experiments, using a variety of physics apparatus, including the gathering, interpreta6on and analysis of data.	✓	✓					✓		

Laboratory inves6ga6ons should encourage students to add some of their own ideas to experiments and their interpreta6on.	✓	✓					✓		
Laboratory inves6ga6ons should engage students in the process of formula6ng and asking an interes6ng ques6on of nat	✓	✓					✓		

***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
1	**Electric Field Mapping**	1-8	**Face to Face**	Microsoft Teams
2	**Specific Charge of Copper Ions**	1-8	**Face to Face**	Microsoft Teams
3	**Wheatstone Bridge**	1-8	**Face to Face**	Microsoft Teams
4	**Ohm's Law**	1-8	**Face to Face**	Microsoft Teams
5	**PotenAometer**	1-8	**Face to Face**	Microsoft Teams
6	**Power Transfer**	1-8	**Face to Face**	Microsoft Teams

7	**Kirchhoff's Laws**	1-8	**Face to Face**	Microsoft Teams
8	**RC Time Constant**	1-8	**Face to Face**	Microsoft Teams
9	**MagneAc Field of a Current**	1-8	**Face to Face**	Microsoft Teams
10	**ElectromagneAc InducAon**	1-8	**Face to Face**	Microsoft Teams

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**
Mid term Exam	15%	✓	✓	✓	✓	✓	✓
Reports	45%	✓	✓	✓	✓	✓	✓
Final Exam	40%						
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 quesAons/ cogniAve level						No. of quesAons per CLO	Total exam mark	Total no. of quesAons	CILO/ Weight	CILO no.
	Create **10%**	Evaluate **10%**	analyse **10%**	Apply 20%	Understand **20%**	Remember 30%					
		1			1	1	0	15	10	0%	1
		1		1		1	10	15	10	100%	2
		1		1		1	10	15	10	100%	3
	1			1		1	0	15	10	0%	4
		1		1		1	10	15	10	100%	5
			1				0	15	10	0%	6
			1				0	15	10	0%	7
			1				0	15	10	0%	8

Final exam specifications table

	No. of quesAons/ cogniAve level						No. of quesAons per CLO	Total exam mark	Total no. of quesAons	CILO/ Weight	CILO no.
	Create **10%**	Evaluate **10%**	analyse **10%**	Apply 20%	Understand **20%**	Remember 30%					
											1
											2
											3
											4
											5
											6
											7

											8

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

28. References:

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

Physics 112 manual, UJ, Physics department

B- Recommended books, materials, and media:

- Raymond A. Serway and John W. JeweD Jr., "Physics For ScienIsts and Engineers with Modern Physics", 10th ediIon, (Thomson Learning, Belmont, CA, USA, 2019).
- "University Physics with Modern Physics" Hugh D. Young and Roger A. Freedman, 15th ediIon, (Pearson, Pearson EducaIon Limited, 2020).

29. Additional information:

Name of the Instructor or the Course Coordinator: …… Ala'a Azzam ……	Signature: … Ala'a …	Date: 21/12/2025
Name of the Head of Quality Assurance CommiTee/ Department ……	Signature: ……	Date: ……
Name of the Head of Department ……	Signature: ……	Date: ……
Name of the Head of Quality Assurance CommiTee/ School or Center ……	Signature: ……	Date: ……
Name of the Dean or the Director ……	Signature: ……	Date: ……