The Hashemite University
Faculty of Science
Department of Physics

Course Title:	General Physics (II)	**Course Number:**	110102102
Semester:	First	**Year:**	2025/2026
Designation:	Compulsory	**Prerequisite(s):**	None
Instructor:	Dr. Feras M. O. Al-Dweri	**Instructor's e-mail:**	faldweri@hu.edu.jo
		Webpage:	
Office Hours:	Monday-Thursday-Wednesday 13:00-14:00		

Course Description (catalog): Charge and matter, electric field, Gauss's Law and its applications, electric potential, capacitance and dielectrics, current and resistance, electromotive force and circuits, magnetic force on a charge and on a wire carrying current, sources of magnetic field, Biot-Savart law, Ampere's law, electromagnetic induction, Faraday's law.

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Textbook(s) and/or Other Supplementary Materials:

Physics for Scientists and Engineers with Modern Physics, Raymond A. Serway and John W. Jewett, 9th edition, Thomson, BROOKS/COLE, 2014

References:

(1) Fundamental of Physics , by David Halliday , Robert Resnick ,and Jearl Walker ,10th Edition , John Wiley and Sons, 2012.

(2) University Physics with modern physics, by Sears and Zemansky, 13th edition, Pearson education, 2012.

Major Topics Covered:

Topics	No. of Weeks	Contact hours*	Suggested Problems (from textbook 9th edition)
23-Electric Fields	2	6	12,15,16,25,33,37,42,45,52
24-Gauss's Law	2	6	4,8,17,21,24,29,34,39,47,56
25-Electric Potential	2	6	3,5,13,16,25,34,39,44,47,64
First Exam covers Chapters: 23-25			
26-Capacitance, Dielectrics	2	6	2,5,7,11,23,25,27,32,47,63
27-Current & Resistance	2	6	5,8,15,19,26,31,39
28-DC Circuits	1	3	1,9,14,22,24,32,37,39,43,65
Second Exam covers Chapters: 26-28			
29-Magnetic Fields	2	6	2,3,8,13,19,32,44
30-Sources of the B-Field	1	3	3,7,11,15,19,25,31,39
Final Exam covers Chapters: 23-32			
Total	**14**	**42**	

*Contact hours include lectures and exams

Specific Outcomes of Instruction (Course Learning Outcomes):

After completing the course, the student will be able to:

	Course Learning Outcomes (CLO)	(SO*)
CLO1.	Develop a clear understanding of basic physical concepts in electricity and magnetism as an integral part of the student's overall education	(a), (k), (i)
CLO2.	Use algebra, trigonometry, basic calculus, and rules of vector analysis in solving problems in electricity and magnetism	(a), (k)
CLO3.	Develop the learning skills of students in using computers as educational tools, problem solving and demonstration.	(a), (e) (k)
CLO4.	Provide detailed and accurate descriptions of Ohm's law, Gauss's law, Gauss's law in magnetism , Ampere's law, Biot-Savart Law, and Faraday's law	(a), (e), (k)

(SO*) = Student Outcomes Addressed by the Course.

Student Outcomes (SO) Addressed by the Course:

#	Outcomes Description Applied and Natural Sciences Student Outcomes	Contribution
(a)	an ability to apply knowledge of mathematics, science, and applied sciences	H
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	an ability to formulate or design a system, process or program to meet desired needs	
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify and solve applied sciences problems	L
(f)	an understanding of professional and ethical responsibility	
(g)	an ability to communicate effectively	
(h)	the broad education necessary to understand the impact of solutions in a global and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern scientific and technical tools necessary for professional practice.	M
H = High, M = Medium, L = Low		

Grading Plan:

1st Exam	30 Points	**TBA**
2nd Exam	30 Points	**TBA**
Final exam	40 Points	**TBA**

General Notes:

Attendance Policy: students are expected to attend every class and arrive on time in compliance with HU regulations. In case you find yourself in a situation that prevents you from attending class or exam, you have to inform your instructor. If you miss more than 6 classes for the (Sunday, Tuesday, and Thursday model) or 4 classes for the (Monday and Wednesday Model), you cannot pass the course. Makeup excuses will be accepted only for very limited justified cases, such as illness and emergencies. Changing your section without informing your instructors is not accepted at all.

Exams: All exams will be electronic. Exams' dates and places are determined by e-learning technology center, and will be announced electronically to students (through their electronic gates) at least one week prior to exam time. Instructors are not required to announce exams' info verbally. All students are responsible to check up their electronic gates at least on weekly bases to have more details about dates and places of their exams. Make up exams will be announced by instructor on the advertising panel of physics department.

Prepared by: Dr. Feras M. O. Al-Dweri Office: Physics building 110