



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Practical Physics - 2
2	Course number	0302112
3	Credit hours (theory, practical)	1 hour/week duration/semester
	Contact hours (theory, practical)	3 hours/week duration
4	Prerequisites/corequisites	None
5	Program title	
6	Program code	
7	Awarding institution	
8	Faculty	
9	Department	
10	Level of course	Undergraduate/ Bachelor
11	Year of study and semester (s)	2017/2 st semester
12	Final Qualification	Bachelor
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	Mixed: English and Arabic
15	Date of production/revision	12/2/2017

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Name of the instructor: Dr. Ola Hassouneh.

Office hours: Every day:12-1 pm.

Phone number: 0791517629.

Email: O.hassouneh@ju.edu.jo

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

18. Course Description:

As stated in the approved study plan.

Students perform 12 experiments of 3 hours' / week duration. These experiments are: 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.

19. Course aims and outcomes:**A-Aims:**

The aim of the course is to engage each student in significant experiences with experimental processes and to give such students a good basic understanding of the main physics topics and an introduction to the methods of experimental physics. It will provide a good foundation of basic physics that is applicable to other areas of science and technology.

The main goals of this course, particularly, are (1) to introduce students to the fundamentals of Electricity, Magnetism and Practical activities such as problem solving, laboratory work, and report writing are important elements of this course. (2) To teach students the fundamental concepts in electricity, including Coulomb's Law, Gauss's Law and electric fields, electric potential, capacitance, currents, resistance, electromotive force and D.C. circuits and in magnetism including magnetic fields and forces, the laws of Biot and Savart, Ampère's law, displacement current, electromagnetic induction, Faraday's and Lenz's laws. (3) To teach students how to collect and analyze experimental data including rigorous error analysis and (4) to prepare students for intermediate and advanced science courses that build on electricity and magnetism.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to

- 1) Students completing this course should understand that physics is an experimental science and that observation and experimentation are as important as concepts and theories.
- 2) State the basic laws of physics- electricity and magnetism, and identify how they can be applied in various contexts.
- 3) Perform algebraic calculations and give quantitative predictions of outcomes in simple physical systems.
- 4) Students will learn to present well-organized, logical and scientifically technical reports.
- 5) Identify relevant physical concepts and formulate solutions to simple problems and to present the solutions in a clear manner.
- 6) Perform simple physical experiments, using a variety of physics apparatus, including the gathering, interpretation and analysis of data.
- 7) Laboratory investigations should encourage students to add some of their own ideas to experiments and their interpretation.
- 8) Laboratory investigations should engage students in the process of formulating and asking an interesting question of nature. Students then select the methods and apparatus needed to make progress toward finding an answer.

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Specific Charge of Copper Ions	1	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABOROTARY EXPERIMENTS: PHYSICS LAB 112.
Electric Field Mapping	2	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABOROTARY EXPERIMENTS: PHYSICS LAB 112.
Ohm's Law	3	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABOROTARY EXPERIMENTS: PHYSICS LAB 112.
Power Transfer	4	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABOROTARY EXPERIMENTS: PHYSICS LAB 112.
Wheatstone Bridge	5	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABOROTARY EXPERIMENTS: PHYSICS LAB 112.
Potentiometer	6	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABOROTARY EXPERIMENTS: PHYSICS LAB 112.

RC Time Constant	7	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABORATORY EXPERIMENTS: PHYSICS LAB 112.
Kirchhoff's Laws	8	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABORATORY EXPERIMENTS: PHYSICS LAB 112.
Joule Heat	9	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABORATORY EXPERIMENTS: PHYSICS LAB 112.
Electromagnetic Induction	10	Dr. Ola Hassouneh	1-8	Written reports & written Exams	LABORATORY EXPERIMENTS: PHYSICS LAB 112.

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

The usual trend used to evaluate students attending to this course by:

- 1) handling a written reports after each experiments.
- 2) Taking written exams such as the mid-term exam and final-exam.

22. Evaluation Methods and Course Requirements:

Grading Policy:	
1. Laboratory Activities (written reports).	20%
2. Midterm Exam	30%
3. Final Exam	50%

23. Course Policies:

A- Attendance policies:

The students should attend to all the laboratory sessions.

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

Absence from exams is not allowed, and the students should return to their own instructor in any critical cases, such as a medical, psychological, or compassionate reasons.

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 to the student.

D- Honesty policy regarding cheating, plagiarism, misbehavior:

Any of the above misbehavior is not allowed during the lab's sessions.

E- Grading policy:

(1) Course work consists of laboratory work (20%), (2) Mid term exam (30%), (3) Final exam (50%).

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

None

24. Required equipment:

Provide better equipped and more work stations, a computers for students, a new development labs to enhance experiments and the learning environment.

25. References:

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

**LABORATORY EXPERIMENTS: PHYSICS LAB- 112. N.SALEH, B.BULOS, I.SHAHIN, A.HINDELEH.
Copyright 1998. The University of Jordan.**

B- Recommended books, materials, and media:

Name of Course Coordinator: Ola hassouneh. -Signature: ----- Date: -----

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:

Head of Department
Assistant Dean for Quality Assurance
Course File