Prince Sultan University

General Sciences Department

First Semester 2017 - 2018

INSTITUTIONAL COURSE SYLLABUS

Course Code: PHY205	Course Title: Physics II
Course Instructor: Dr. Hazem Abu-Farsakh	Email: hfarsakh@psu.edu.sa
Credit Hours: 4	Lectures: 9:00 – 10:00 Sun., Tues., Thurs. (sec. 291) 1:00 – 2:15 Mon., Wed. (sec. 288)
Office Hours: 11:00 -12:00 Sunday, Tuesday, Thursday 2:15 - 3:00 pm Monday, Wednesday	
Office : A-342 (old building)	

I. Course Description: This course goes deeper into a number of areas of physics. Topics include: electric field, electrostatic forces, Gauss's law, electric potential, capacitors and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic fields, magneto-static forces, and optics, Faraday's law, induction, alternating current circuits, geometrical optics, and optical instruments.

II. Course Learning Outcomes:

Skills	Course Learning Outcomes	Measured by
Knowledge	1. Describe basic concepts of electricity, magnetism and optics. 2. Describe the image formation and its application in optical instrument.	Quizzes and Exams
Cognitive Skills	1. Calculate electric forces, fields and potentials associated with different change arrangements. 2. Analyse electric circuits to determine unknown variables. 3. Apply the knowledge of magnetic forces and fields to relevant problems.	Quizzes and Exams
Interpersonal Skills & Responsibility	1. Demonstrate basic experimental skills by setting up laboratory equipment safely, carrying out experimental procedure, and reporting the results of the experiment.	Lab reports and lab exam

Communication, Information Technology, Numerical		
Psychomotor		

III. Course Content or your weekly schedule

Week #	Date	Chapter & Topic/ Sections	Notes
1	September 17 – 21	*Ch. 19: "Electric charges, Forces and Fields"* *Sections: 1, 2, 3, 4, 5, 6, 7.*	
2	September 24 – 28	*Ch. 19: continued*	
3	October 01-05	*Ch. 20: "Electric Field and Electric potential Energy"* *Sections: 1, 2, 3, 4, 5, 6.*	
4	October 08 – 12	*Ch. 20: continued*	
5	October 15 – 19	*Ch. 21: "Electric Current and Direct Current Circuits"* *Sections: 1, 2, 3, 4, 5, 6, 7, 8*	
6	October 22 – 26	*Ch. 21: continued*	Quiz 1
7	October 29 – Nov.02	*Ch. 22: "Magnetism"* *Sections: 1, 2, 3, 4, 5, 6, 7, 8.*	
	First Major Exam (Monday, October 30 , 6:00 PM , Auditorium)		
8	Nov. 05 – 09	*Ch. 22: continued*	
9	Nov. 12 – 16	*Ch. 23: "Magnetic Flux and Faradays' Law of Induction"* *Sections: 1, 2, 3, 4, 5, 6, 10*	
10	Nov. 19 – 23	*Ch. 23: continued*	
11	Nov. 26 – 30	*Ch. 24: "Alternating Current Circuits"* *Sections: 1*	
12	Dec. 03 – 07	*Ch. 26: "Geometrical Optics"* *Sections: 1, 2, 3, 4, 5, 6, 7.*	Quiz 2
13	Dec. 10 – 14	*Ch. 26: continued*	
	Second Major Exam (Monday, December 11 , 6:00 PM , Auditorium)		
14	Dec. 17 – 21	*Ch. 26: continued*	
15	Dec. 24 – 28	*Ch. 27: "Optical Instruments"* *Sections: 1, 2, 3, 4, 5*	
	Dec. 30 – Jan. 11	**Final Exams**	

IV. Course Components

Component	Contact Hours
Lecture	45
Tutorial	0
Practical/Field	15

V. Teaching Strategies

Domain	Strategy
Knowledge	Discussions Examples In class quizzes
Cognitive Skills	Discussions and questions Exercises Quizzes
Interpersonal Skills & Responsibility	Questions during the class directed to students Lab experiments and demonstrations Individual discussions
Numerical & Communication Skills	Individual discussions

VI. Course Requirements

1- Two major exams during the semester and one final comprehensive exam at the end of the semester
2- Quizzes
3- Weekly lab report
4- Final lab exam.

VII. Student Assessment

A. Assessment Task

Domain	Assessment Task
Knowledge	Major Exams and Quizzes
Cognitive Skills	Major Exams and Quizzes
Interpersonal Skills & Responsibility	Lab Reports and Lab Practical Exam
Numerical & Communication Skills	Lab Reports and Lab Practical Exam

B. Schedule of Assessment

Assessment	Assessment Task	Week Due	Proportion of Final Assessment
1	First Major Exam	7	15%
2	Second Major Exam	13	15%
3	Final Exam	16	40%
4	Lab Final Exam	15	10%
5	Lab Reports	Weekly	10%
6	Quizzes and participation	6 and 12	10%

VIII. Learning Resources

A. References :

Textbook: James S. Walker, Physics, Technology Update, Fourth Edition, Pearson International Edition, 2013
Lab Manual: General Physics Laboratory Manual: Electricity, Magnetism, and optics. By Dr. Muaffaq Nofal.

Additional Reading:

1- *Principles of Physics, Serway & Jewett. Fourth Edition. Brooks/Cole, 2005*
2- *College Physics, Nicholas Giordano. Second Edition Brooks/Cole, 2013*

B. Facilities Required

Classrooms (capacity 30 students)
Physics lab (capacity 15 students)
Computer with data show and Star board
Lab Equipment's

C. Learning Management System

LMS will be used for several purposes:
1- Exchanging information (announcements and other details)
2- Downloading files (lectures, presentations, homeworks, exercises, solutions, …)
3- Communicating (email, forums, announcements, calendar, …).
Please make sure that you can login to the LMS website (https://lms.psu.edu.sa) (note the https not http), and that the course is among your courses and you can access it. If you have any access issues please contact the responsible person.