



Deanship of Preparatory Programs

Syllabus

2nd Semester 1435/1436

Course Code	Course Title	Credit hours :	Contact hours
PHYS 059	Introduction to Natural Sciences	4	5
Course Supervisor			
Instructor's office			
e-mail:			

Course's Objectives:

- Familiarize students with the basic physics knowledge on Physics and Chemistry.
- Develop the students understanding and appreciation of the general physical laws.
- Develop the students understanding the concept of measurements, vectors, the laws of motion, work, energy, optics, electricity, and fluid mechanics.
- Develop the students understanding some basis of the science of chemistry and atomic nature of the matter
- Develop a deep understanding of the importance of physics and chemistry in our lives

Text Book: Introduction to Natural Sciences, PEARSON

Website:

Grading:

Attendance and Participation	5 %
Homework and Assignments	5 %
Lectures Quizzes	10 %
1 st Exam	20 %
2 nd Exam	20 %
FINAL Examination	40%
Total	100%

Attendance: Attendance will be taken in the first 5 minutes of the lecture(s). If you came late, you should remind your instructor at the end of the class to consider your attendance for the second lecture, otherwise, you will be marked absent for the two lectures. Accepted excuses for absence should be submitted within two weeks after the absent lectures.

Note :

1. During the semester, the maximum percentage of unexcused absences are less than 25%, student who exceeds 25% will be considered failed.
2. Students are responsible for all materials and information covered each class meeting, even if they were absent.

Classroom Participation: It is expected that you participate in the discussion at lectures by asking and answering questions, raising issues, and making observations and constructive comments.

Cheating and Dishonesty: Each student should write and submit his own work either on exams or on exercises and other course assignments. Any kind of cheating or dishonesty throughout the course is considered a serious offence and will be dealt with strictness and no mercy.

Attention: Don't use your mobile phone throughout lectures, and make sure it is turned-off. Violating this may result in lowering your grad or expelling from the classroom.

Course Policy:

- No assignments will be accepted more than 2 weeks late. They will be penalized 50% for each week late.
- Students are expected to do their own work on assignments and exams.
- Lectures and class notes do not replace textbooks.
- Assessment tests are not allowed to be redone unless a reasonable excuse report is provided. It would be schedule in a specific time.
- Please turn off all mobile devices or set to silent mode during class.
- Eating, drinking, and reading other course materials are NOT allowed during class.

Course schedule

Number of week and date		Topics	Hours
No	Date		
1	5/4/1436 25 / 1 / 2015	- <i>Registration and Introduction</i>	
2	12/ 4 / 1436 1/2/2015	1-Models, Measurement and Vectors: 1. <i>Standards and Units</i> 2. <i>Unit Consistency and Conversions</i> 3. <i>Estimates and orders of magnitude</i> 4. <i>Precision and significant figure</i> 5. <i>vectors</i> 6. <i>Vectors and vectors addition</i> 7. <i>Component of vectors</i>	5 hours
3	19 / 4/ 1436 8/2/2015	2- Motion along a Straight Line: 1- <i>Displacement and average velocity</i> 2- <i>Instantaneous velocity</i> 3- <i>Average and instantaneous acceleration</i>	5 hours
4	26/ 4 / 1436 15/2/2015	4- <i>motion with constant acceleration</i> 5- <i>Proportional reasoning</i> 6- <i>Freely Falling objects</i>	5 hours
5	3 / 5 / 1436 22/2/2015	3 - Newton's Laws of Motion: 1- <i>Force</i> 2- <i>Newton's First Law</i> 3 - <i>Mass and Newton's Second Law</i> 4- <i>Mass and Weight</i>	5 hours

6	10 / 5 / 1436 1/3/2015	5- Newton's Third Law 6- Applications of Newton's Second Law 4- Work and Energy: 1 - An Overview of Energy 2- Work 3- Work and Kinetic Energy	5 hours
7	17 / 5 / 1436 8/3/2015	4- Potential Energy, 5- Conservation of Energy, 6 - Power	5 hours
8	24 / 5 / 1436 15/3/2015	<i>Final revision</i>	5 hours
9	28/5/1436 19/3/2015	Mid-term Holiday	Mid-term Holiday
10	9 / 6 / 1436 29/3/2015	5- Fluid Mechanics: 1-Density 2-Pressure 3-Pressure Measurements, 4-Pressure in a Liquid, 5-Atmospheric Pressure 6- Pascal's Principle,	5 hours
11	16/6 / 1436 5/4/2015	8&9 - measurements in chemistry &The Science of Chemistry 1 - Measuring global temperature 2-Classfying matter according to its composition , element , compound and mixture 3 -Physical and chemical properties 4 -Chemistry in environment 5 - Element defined from number of protons Ions 6 - The periodic low and the periodic table 7 – losing and gaining electrons	5 hours
12	23 / 6 / 1436 12/4/2015	8 – isotopes : when the number of neutrons varies 9 - Atomic mass the average mass of an elements atoms 10 - Electron Configurations and periodic table 11 - The periodic trends , atomic size , ionization energy and metallic character and the periodic table Periodic Table 10 - The Atomic Nature of the Matter: 1-Counting Atoms by The Gram 2 -Counting Molecules by The Gram 3 -Evidence of Chemical Reaction 4 -The Chemical Equation,	5 hours

13	30/ 6 / 1436 19/4/2015	<p>5 -Balanced Chemical Equation, 6 -Acids and Bases</p> <p>6- Electric Field:</p> <p>1- Electric charge 2-Conductors and insulators 3-Conservation and Quantization of Charge 4- Coulomb's Law 5-Electric Fields and Electric forces 6-Calculating of Electric Fields 7-Electric field lines</p>	5 hours
14	7 / 7 / 1436 26/4/2015	<p>8-Electric Potential Energy and Potential Difference 9-Potential 10 -Resistance and Ohm's law 11-Capacitors 12-Capacitors in Series and in parallel</p>	5 hours
15	14 / 7 / 1436 3/5/2015	Final revision	5 hours
16	21/ 7 / 1436 10/5/2015	Review sessions	
17	28/7/1436 17/5/2015	Final Examinations	