



Deanship of Preparatory Programs

Syllabus

Course Code	Course Title	Credit hours :	Contact hours
PHYS 049	Introduction to Natural Sciences	3	4
Course Supervisor	Ahmad AlAmmari		
Instructor's office	SR 038		
e-mail:	amsa99@gmail.com		

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:

Lectures quizzes (four quizzes)	20 %
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 is 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	30/4 /1440 6 / 1/ 2019	<i>Registration and Introduction</i> chapter 1: Models, Measurement and Vectors 1-Standards and Units 2-Unit Consistency and Conversions	4 hours
2	7/ 5/ 1440 13 / 1/ 2019	3-Estimates and orders of magnitude 4-Vectors 5-Vectors addition 6-Component of vectors Quiz 1	4 hours
3	14/ 5/ 1440 20 / 1/ 2019	chapter 2 : Motion along a Straight Line 1-Displacement and average velocity 2-Instantaneous velocity 3-Average and instantaneous acceleration	4 hours
4	21/ 5/ 1440 27 / 1/ 2019	4-motion with constant acceleration 5-Proportional reasoning 6-Freely Falling objects	4 hours

5	28/ 5/ 1440 3 / 2/ 2019	chapter 3: Newton's Laws of Motion 1- Force 2- Newton's First Law 3 - Mass and Newton's Second Law 4- Mass and Weight 5- Newton's Third Law 6- Applications of Newton's Second Law Quiz 2	4 hours
6	5/ 6/ 1440 10 / 2/ 2019	chapter 4: Work and Energy 1 - An Overview of Energy 2- Work 3- Work and Kinetic Energy	4 hours
7	12/ 6/ 1440 17 / 2/ 2019	4- Potential Energy, 5- Conservation of Energy, 6 - Power Mid-Term 1	4 hours
8	19/ 6/ 1440 24 / 2/ 2019	chapter 5 :Fluid Mechanics 1-Density 2-Pressure 3-Pressure Measurements, 4-Pressure in a Liquid, 5-Atmospheric Pressure 6- Pascal's Principle, Quiz 3	4 hours
9	26/ 6/ 1440 3 / 3/ 2019	Chapter 8: measurements in chemistry 1 - Measuring global temperature 2-Classfying matter according to its composition , element , compound and mixture 3 -Physical and chemical properties	4 hours
10	3/ 7/ 1440 10 / 3/ 2019	Chapter 9: The Science of Chemistry Element defined from number of protons Ions 2 - The periodic low and the periodic table 3 – losing and gaining electrons 4 – isotopes : when the number of neutrons varies 5 - Atomic mass the average mass of an elements atoms	4 hours
11	10/ 7/ 1440 17 / 3/ 2019	6 - Electron Configurations and periodic table 7 - The periodic trends , atomic size , ionization energy and metallic character and the periodic table Periodic Table Quiz 4	4 hours

12	17/ 7/ 1440 24 / 3/ 2019	chapter 10 : The Atomic Nature of the Matter 1-Counting Atoms by The Gram 2 -Counting Molecules by The Gram	4 hours
13	24/ 7/ 1440 31 / 3/ 2019	3 -Evidence of Chemical Reaction 4 -The Chemical Equation, 5 -Balanced Chemical Equation, 6 -Acids and Bases Mid-Term 2	4 hours
14	2/ 8/ 1440 7/4/2019	Chapter 6 : Electric Field Electric Charge 1 -Electric Charge 2-Conductors and insulators 3-Conservation and Quantization of Charge	4 hours
15	9/ 8/ 1440 14/4/2019	4- Coulomb's Law 5-Electric Fields and Electric forces 6-Calculating of Electric Fields 7 -Electric field lines	4 hours
16	16/ 8/ 1440 21/4/2019	Final Examinations	