Republic of Iraq

Ministry of Higher Education and Scientific Research
Supervision and Scientific Evaluation Apparatus

University: Shatt Al-Arab
College: Engineering
Department: Oil and Gas Engineering
Stage: 1st stage
Lecturer name: Mustfa Kamel
Academic title: Assistant Lecturer

Course Weekly Outline

Name	**Mustfa Kamel**			
E-mail address				
Course name	Physics			
Course objective	The course aims to provide basic information about general physics			
Course description	The course provides general information about physics in all its branches and focuses on branches of interest to the study of civil engineering, such as classical mechanics, laws and the equation of motion. All phenomena in the natural world are measured in terms of a few basic relationships between measurable properties of matter and energy. These relationships are called laws of physics, and they are formulas characterized by a high degree of generality, as they are derived from a huge number of phenomena. The goal of physics can be summarized as expressing these basic relationships (these laws) in a mathematical form, so that the student can use the logical rules of mathematics to apply the laws to specific cases and thus obtain quantitative results. Most of the laws of physics are important in the field of civil engineering, which requires the engineer to know these laws in order to reflect them on the engineering reality related to mathematics, engineering foundations, fluid movement, hydraulic facilities, and others.			
References	Fundamentals of Physics by Halliday and Fundamentals University Physics by Alonso			
External sources	University Physics Volume 1 by Samuel J. Ling			
Course assessment	**Lab.**	**Quizzes and assessment**	**Mid-term exam**	**Final exam**
	10	**30**	**10**	**50**
General notes				

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Week No.	Theoretical	Experimental	Aims
1	Introduction to physics		Understanding and comprehending the physical foundations of theoretical and experimental concepts based on observation and measurement, using theories and laws as the most common and reliable mathematical models, and analysing the results so that the student can understand and build the learning curriculum for physics, especially what is appropriate for the study of civil engineering.
2	units and dimensions		
3	vectors		
4	Statics		
5	Kinematics		
6	Body dynamics		
7	Newton's laws of motion		
8	Work, energy and power		
9	Momentum		
10	Rotational motion		
11	Harmonic motion		
12	Flexibility		
13	Fluids		
14	The heat		
15	The sound		