COURSE SYLLABUS

Course number and name	101-Phys4 General Physics
Credits hours	4 Credit hours
Contact hours	5 Contact hours; 3 for lecture, 2 for practical
Instructor name	Dr. Mohamed Eltabey Mohamed
Textbook	Physics for Scientists and Engineers with Modern Physics 9th Edition; Publisher: Brooks-Cole 2014; Serway, John W. Jewett.
Other supplemental materials	- University Physics; 11th edition; Addison Wesley, 2004; Young and Freedman - Fundamentals of Physics; John Wiley and Sons Inc., 2007; Halliday, Resnik and Walker,.
Specific course information	
Catalog description	**The course is designed to provide students with:** - The basic physics of units & measurements, dimensional analysis of physical quantities, vectors, rigid body kinematics and dynamics, rotational motion, elasticity, gravitation, oscillatory motion and sound waves. - Acquaint students with sufficient knowledge and understanding of physics behind various phenomena and scientific/Engineering applications. - Mathematical ability in simple derivation and manipulation of physical formulae. - Problem-solving skills in related fields of physics. Lab measurements, recording, data analysis and reporting.
Prerequisite	
Required / Elective	Required
Specific goals for the course	
Course Learning Outcomes (CLO)	By the end of this course, the student should be able to: **CLO#1 Define basic measurements and vector analysis in Physics**. **CLO#2 Describe the principles of kinematics, gravitation, elasticity, harmonic motion and sound waves**. **CLO#3 Discuss the velocity, acceleration, momentum in linear and rotation motion including the Newton's law of universal gravitation.** **CLO#4 Explain elastic properties of solids, simple harmonic motion and sound waves**. **CLO#5 Perform experiments to justify and prove different phenomena related to this course**.
List of topics to be covered	**1. Physics and measurements :** **2. Vectors:** **3. Particle kinematics and dynamics:** **4. Rotational motion:** **5. Gravitation:** **6. Elasticity:** **7. Simple harmonic motion:** **8. Sound waves**