NO	Information of the Engineering Physics subject	
1	Course name:	Engineering Physics
2	Code:	E.Ph.11011
3	Classification:	supporting subject
4	Credit value:	3.5
5	Semester/ Year Offered:	2
6	Pre-requisite:	-
7	Mode of delivery:	Lecture, Practical, Tutorial, Class work
8	Assessment system and breakdown of marks: Practical and Practical Exam	20%
	Tutorial	20%
	Mid-term Examination	60%
9	Academic staff teaching unit:	Engineering Physics
10	Course outcome: In this course, students will be able ; (a) To apply motion theory to solve the mechanic problems (b) To apply Newton's law, work and energy, rotational motion and torque in solving mechanic problems (c) To apply pressure, measurement, fluid motion ,wave mechanics theory and solving in problems (d) To apply fundamental laws in solving thermodynamic problems (e) To interpret the practical skill in applying fundamental theory of physics	

11	Synopsis: The course introduces students majoring in science and engineering. That course has two main objectives: to provide the student with a clear and logical presentation of basic concept and principles of physics and to strength an understanding of the concept, and principles. At the same time that course attempt to motivate the student through practical examples that demonstrate the role of physics in engineering subject.
12	Topic: Chapter 2 Motion in One Dimension 2.1 Position, Velocity, and Speed 2.2 Instantaneous Velocity and Speed 2.3 Analysis Model: Particle Under Constant Velocity 2.4 Acceleration 2.5 Motion Diagrams 2.6 Analysis Model: Particle Under Constant Acceleration 2.7 Freely Falling Objects Chapter 4 Motion in Two Dimensions 4.1 The Position, Velocity, and Acceleration Vectors 4.2 Two-Dimensional Motion with Constant Acceleration 4.3 Projectile Motion 4.4 Analysis Model: Particle in Uniform Circular Motion 4.5 Tangential and Radial Acceleration Chapter 5 The Laws of Motion 5.1 The Concept of Force 5.2 Newton's First Law and Inertial Frames 5.3 Mass 5.4 Newton's Second Law 5.5 The Gravitational Force and Weight 5.6 Newton's Third Law 5.7 Analysis Models Using Newton's Second Law

	5.8 Forces of Friction
	Chapter 7 Energy of a system
	7.1 Systems and Environments
	7.2 Work Done by a Constant Force
	7.3 The Scalar Product of Two Vectors
	7.4 Work Done by a Varying Force
	7.5 Kinetic Energy and the Work – Kinetic Energy Theorem
	Chapter 9 Linear Momentum and Collisions
	9.1 Linear Momentum
	9.2 Analysis Model: Isolated System
	9.3 Analysis Model: Non-isolated System
	9.4 Collisions in One Dimension
	9.5 Collisions in Two Dimension
	9.6 The Center of mass
	9.7 Systems of Many Particles
	Chapter 10 Rotation of a Rigid Object About a Fixed Axis
	10.1 Angular Position, Velocity, and Acceleration
	10.2 Analysis Model: Rigid Object Under Constant Angular Acceleration
	10.3 Angular and Translational Quantities
	10.4 Rotational Kinetic Energy
	10.5 Calculation of Moments of Inertia
	10.6 Torque
	10.7 Analysis Model: Product and Torque
	Chapter 11 Angular Momentum
	11.1 The Vector Product and Torque
	11.2 Analysis Model:Nonisolated System(Angular Momentum)
	Chapter 12 Static Equilibrium and Elasticity
	12.1 Analysis Model: Rigid Object in Equilibrium

12.2 More on the Center of Gravity

12.3 Examples of Rigid Objects in Static Equilibrium

12.4 Elastic Properties of Solids

Chapter 14 Fluid Mechanics

14.1 Pressure

14.2 Variation of Pressure with Depth

14.3 Pressure Measurements

14.4 Buoyant Forces and Archimedes's Principle

14.5 Fluid Dynamics

14.6 Bernoulli's Equation

Chapter 15 Oscillatory Motion

15.1 Motion of an object Attached to a spring

15.2 Analysis Model: Particle in simple harmonic motion

15.3 Energy of simple harmonic oscillator

15.5 The pendulum

Chapter 17 Sound Waves

17.1 Pressure Variations in Sound Waves

17.2 Speed of Sound Waves

17.3 Intensity of Periodic Sound Waves

17.4 The Doppler Effect

Chapter 20 The First Law of Thermodynamics

20.1 Heat and Internal Energy

20.2 Specific Heat and Calorimetry

20.3 Latent Heat

20.4 Work and Heat in Thermodynamic Processes

20.5 The First Law of Thermodynamics

20.6 Some Applications of the First Law of Thermodynamics

Chapter 21 The Kinetic Theory of Gases

21.1 Molecular Model of an Ideal Gas

	21.2 Molar Specific Heat of an Ideal Gas 21.3 Adiabatic Processes for an Ideal Gas 21.4 The Equipartition of Energy 21.5 Distribution of Molecular Speeds Chapter 22 Heat Engines, Entropy, and the Second Law of Thermodynamics 22.1 Heat Engines and the Second Law of Thermodynamics 22.2 Heat Pumps and Refrigerators 22.3 Reversible and Irreversible Processes 22.4 The Carnot Engine
13	Main references: Physics for Scientists and Engineers with Modern Physics Eighth Edition Part I and Part II , Serway | Jewett
14	Additional references: University Physics with Modern Physics 14TH Edition Part I and Part II Sears and Zemanskys