PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada–520010
Re-accredited at 'A+' by the NAAC

PHYSICS IN EVERY DAY LIFE (Openelective)

Offered to : M.Sc.(PHYSICS)	Course Code : 22OE3PH3
Course Type : openelective (OE)	Course : PHYSICS IN EVERY DAY LIFE
Year of Introduction : 2022	Year of offering : 2022
Year of Revision : xxxx	Percentage of Revision : xxx
Semester : III	Credits : 3
Hours Taught: 60 hrs. per Semester	Max.Time : 3 Hours

Course Description:

Physics In Every Day Life course is intended for students with little or no background in Science. It introduces physics through a set of modules that are closely connected to our everyday life.

CourseObjectives:

1. Introduces physics through a set of modules that closely connected to our everyday life
2. Explain physics related phenomenon using basic physics principles and terminology
3. Make a correct judgement/decisions on physics related issues in their daily life based on basic physics principles
4. Get some idea about the physics involved in eyes
5. Get some idea about the physics involved in physical activities

CourseOutcomes: Attheendofthiscourse,studentsshouldbeableto:

CO1: Apply Newton's laws of motion to verbally and mathematically explain various physical situations
CO2: Apply physical principles and laws that describe phenomena related to optics
CO3: Explain physical principles and laws related to atmospheric physics
CO4: Explain the physics phenomena occurring in human body
CO5: Explain Physics involved in sports

CO-POMATRIX								
	CO-PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
22OE3PH3	**CO1**	H					M	
	CO2	H					M	
	CO3	H					M	
	CO4	H					M	
	CO5	H					M	

Syllabus		
Unit	**LearningUnits**	**Lecture Hours**
I	Transportation Concept of force, Inertia, Newton's laws of motion, momentum, impulse - Law of conservation of linear momentum and energy and its applications. Friction and its uses, various methods for reducing the friction.	8
II	Optics Transmit information, reflection, refraction, lenses (plano convex lens, plano concave lens, combination of lenses, cameras, microscope, telescope, the eye, principles –types –applications of interference, diffraction and polarization	8
III	Physics in Earth's Atmosphere Sun, Earth's atmosphere as an ideal gas; Pressure, temperature and density, Pascal's Law and Archimedes' Principle, Coriolis acceleration and weather systems, Rayleigh scattering, Red sunset, Reflection, refraction and dispersion of light, Total internal reflection, Rainbow.	8
IV	Physics in Human Body The eyes as an optical instrument, Vision defects, Rayleigh criterion and resolving power, Sound waves and hearing, Sound intensity, Decibel scale, and temperature control.	8
V	Physics in Sports The sweet spot, Dynamics of rotating objects, Running, Jumping and pole vaulting, Motion of a spinning ball, Continuity and Bernoulli equations, Banana shot: Magnus force, Turbulence and drag.	8

ReferenceBooks:

1. University Physics by F. W. Sears, M. Zemansky, R. A. Freedman, and H. D. Young, Pearson Education
2. Fundamentals of Physics by D. Halliday, R. Resnick, J. Walker, John Wiley & Sons