

**COURSE OUTCOME OF  
THE FOUR-YEAR U.G. PHYSICS PROGRAM  
UNDER THE UNIVERSITY OF CALCUTTA  
SYLLABUS: CCF, 2022 [Effective for Semesters 1 & 2]**

After completion of the two semesters of the Four-Year Undergraduate Physics (Major) Programme the students will be able to

**CO 1 [DSC-1 (Level-100)]:** connect mathematics to physical phenomena, learn preliminaries like SI system of units, plotting of functions, calculus of functions of one or more than one variable, ordinary differential equations, vectors, curvilinear coordinates and their uses; learn Newton's laws, work, kinetic energy, conservative forces, dynamics of system of particles, central force, scattering, mechanics of continuum - use of mechanics in physical phenomena, acquire the skill of doing practical experiments using Sextant, slide callipers, screw gauge etc. and get practical experience of finding some physical quantities.

**CO 2 [SEC-1 (Level-100)]:** acquire knowledge on computer programming (python) and graph plotting using GNUPLOT.

**CO 3 [DSC-2 (Level-100)]:** apply knowledge of electricity and magnetism to explain natural physical processes, have an idea about electrostatics, Lorentz force, magnetostatics and explore the world of thermodynamics by knowing kinetic theory, the laws of thermodynamics, entropy and get some hands on experience of experiments from the fields of electricity and thermal physics.

**CO 4 [SEC-2 (Level-100)]:** use LATEX for scientific writings such as articles, research papers, reports etc.