

**PROGRAM OUTCOME OF
THREE-YEAR UNDERGRADUATE PHYSICS PROGRAM
UNDER THE UNIVERSITY OF CALCUTTA**

SYLLABUS: CCF, 2022

In the current curriculum of the undergraduate program in Physics (Hons.) of the University of Calcutta, a student gains a thorough understanding of the fundamental concepts of physics and receives ample exposure to handle advanced experimental set-ups. This symbiosis between the theoretical and the experimental components of the program enables the students to directly verify or put to test in the laboratory what they are learning in the theoretical class. The program instills in the student the ability to think independently and analyze a situation logically and rationally. The students acquire mastery over problem-solving as they are taught how to approach and tackle challenging problems in physics. The theoretical aspect of the curriculum prepares the student sufficiently in the core courses of Physics like Classical Mechanics, Electromagnetism, Quantum Mechanics, Thermodynamics, Nuclear Physics, etc. The students can successfully implement their knowledge of physics gained in this program to explain different natural phenomena around us. To ensure all-round development of the students and to make them fit for the real-world challenges in today's technology-driven world, they further receive ample training in programming language like Python, graphical tool like Gnuplot, technical writing software like LaTeX. After completing the undergraduate program, the motivated student is thoroughly prepared to pursue higher studies in premier institutions across the country by appearing in competitive examinations like JAM, JEST, etc. and subsequently, carry out research in cutting edge areas of physics and allied disciplines. To cater to the needs of all kinds of students, the program educates the students to develop an aptitude for logical thinking which help them immensely to appear for various job-oriented examinations like civil services, banks, railways, information-technology sector, etc. Further, students take courses like constitutional values which make them responsible citizens and dutiful towards our country and environmental sciences which is highly relevant in today's scenario where protecting our environment and the Earth's resources is a significant challenge. They also opt for course in other departments which help them to take up interdisciplinary subjects in higher studies and also prepare them for job opportunities in interdisciplinary fields.