



# EXPERIMENTAL PHYSICS - II

## PROF. AMAL KUMAR DAS

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IIT Kharagpur

**INTENDED AUDIENCE :** B. Sc in Physics / all science, All Engineering Students/Faculty.

**INDUSTRIES APPLICABLE TO :** Experimental physics has the most striking impact on the industry where ever the instrument s are used .The industries of electronics, telecommunication and instrumentation will specially recognize this course.

## COURSE OUTLINE :

Experimental Physics is a fundamental subject to learn by all under graduate students of science and engineering. There is no books available on this subject, which will cover all the experiments discussed in this course. So the video course on Experimental Physics in teaching form will be easily understandable to students and NPTEL is the suitable platform to spread over the distant students not only the knowledge but also the evaluation of the knowledge providing the certificate. Of course, the online video course on Experimental Physics will definitely compensate the crisis of specialized teacher of this subject in many colleges in our country.

## ABOUT INSTRUCTOR :

Prof. Amal Kumar Das did Ph. D on experimental physics and material science from Institute of Physics, Bhubaneswar after completion of B. Sc (Hons) in Physics and M. Sc in Physics in 1994, After completing post-doctoral research on experimental physics from Paul Drude Institute, Berlin, Germany, Prof. Das joined as a Faculty in Department of Physics, Indian Institute of Technology Kharagpur in 2004 and teaching different subject to UG and PG students including experiments in teaching laboratory of all levels starting from 1st year of B. tech/ B Sc/integrated M. Sc to Ph. D. Prior to join here, Prof. Das took experimental physics laboratory for four years to B. Sc students in an undergraduate college named Malda College under North Bengal University, West Bengal.

## COURSE PLAN :

**Week 1:** Summary of previous course on Experimental Physics-I

**Week 2:** Basic apparatus : Spectrometer, light source, prism, lens, mirror, grating etc

**Week 3:** Experiment on reflection, refraction and dispersion

**Week 4:** Experiments on Interference

**Week 5:** Experiments on Interference

**Week 6:** Experiments on Interference

**Week 7:** Experiments on diffraction

**Week 8:** Experiments on diffraction

**Week 9:** Experiments on diffraction

**Week 10:** Experiments on polarization

**Week 11:** Experiments on quantum physics

**Week 12:** Experiments on atomic physics