



Bioelectrochemistry

Biotechnology

Instructor Name: Prof. Mainak Das

Institute: IIT Kanpur

Department: Others

About Instructor: Instructor is a faculty at Biological Sciences and Bio-engineering & Design program. He works in the areas of bio-electricity, green energy, physiology, and sensor.

Pre Requisites: : 10+2 in science

Core/Elective: : Core_Elective

UG/PG: : Both

Industry Support : Biosensor industry, Bio-electrochemical process industry, MEMS fabrication industry working towards biosensor development

Course Intro: : Bio-electro-chemistry is an interdisciplinary subject which falls at the cross-road of basic electrochemistry and its application in biochemistry, analytical chemistry, medicinal chemistry, bio-energy devices and biosensors. The subject has a broad horizon and myriad of applications; yet the governing principles are the basic laws of electrochemistry. Here we will be discussing the basic principles of electrochemistry and the myriad of applications of these principals in biology with special reference to bio-sensors, bio-fuel cells and diagnostics.

COURSE PLAN

SL.NO	Week	Module Name
1	1	Fundamentals of electrochemistry with special references to bio-electrochemistry
2	2	Electrodes & potentiometry
3	3	Redox titrations
4	4	Electro-analytical techniques