



Bioenergetics Of Life Processes

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 : Bio-mimetics design, Solar panel development, Biosensor industry, Bio-electrochemical process industry

Course Intro: : Bioenergetics is a fundamental process in the evolution. The primitive self assembly of molecules to the supra-assembly of large polymers are govern by the basic laws of energetics. In this course, we will be discussing the basic energy harvesting processes which govern the self assembly of biomolecules and their utilization to generate energy to run the biological machinery of evolution.

COURSE PLAN

SL.NO	Week	Module Name
1	1	Introduction to Bioenergetics
2	2	Chemosynthesis and energy dynamics
3	3	Photosynthesis & photosynthetic electron transfer
4	4	Mitochondrial electron transport chain and ATP synthesis