BE226: Synthetic Biology and Genetic Engineering

(2:0)- January semester

Course Instructors: Prof. Deepak Saini (DBG)
Dr. Saravanan Palani (BC)

Course Code: BE226
No. of Credits: 2
PhD, Int-PhD, and Masters (M.Sc and M.Tech)
Class Timing: Wednesday and Friday 09:00 to 10:00 am at Biochemistry Lecture Hall (BCLH)
Instructors: Saravanan Palani (BC) and Deepak Saini (DBG)

Course Description:

Part I (DS): Concepts and practice of synthetic Biology; genetic engineering; synthetic biology in healthcare; basic research; environment; engineering. Impact of synthetic biology of culture and life. Evidences from Genetically engineered machines development through seminar series.

Part II (SP): Genetic Code Expansion and Protein Engineering**:** This part of the course explores the principles and applications of genetic code expansion, a powerful tool in synthetic biology and protein engineering. The course will cover the significant aspects of the molecular and cellular mechanisms underlying genetic code expansion, learn about the various methods for incorporating non-natural amino acids into proteins, and explore the diverse applications of this technology in areas such as drug discovery, receptor-ligand interaction, and biotechnology.