

Core Course**LS 637-RESEARCH METHODOLOGY - THEORY [2 CREDITS]**

S No.	Topic	Faculty	Contact hours
1.	Philosophy of Science and Framing research questions	AKM	1
2.	Research methodology: Strategies, Planning and Analysis	AK	2
3.	Ethics in Life Science Research	KN	2
4.	Biochemical calculations: quantitative methods	SLP	2
5.	Basic physicochemical principles in the context of Biology	SSK	2
6.	Bioinformatics	MJ	4
7.	Basics of Biostatistics and statistical methods	SKJ	4
8.	Computational biology	NR	2
9.	Fundamental Methods in Molecular Biology /Cell biology	PCR	2
10.	Fundamentals of Systems Biology	PKD	2
11.	Basic principles of protein structure determination: modeling, docking etc.	SGN	2
12.	Basic principles of microscopy: theory and application	SS	2
13.	Research methodologies in cancer biology	RPS	2
14.	Good laboratory practices: Handling of biohazardous substances, disposal of biohazardous waste; Biosafety issues:- Chemical, radiation, recombinant DNA, biological material	AB	1
15.	Scientific communication	AN	1
16.	Regulatory bodies in research: Institutional Ethics Committee, Institutional Biosafety Committee, Animal Ethics Committee, Review Committee on Genetic Manipulation, Genetic Engineering Approval Committee	DS	1
17.	IPR issues in Research	UPP	2

(Total contact hours: = 32)

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