

LS580 - Research Design, Ethics and Scientific Publishing**(1 credit)**

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Topics	Faculty	Total Lectures 22
Background and Introduction to the course	SJ	1
Research Methodology		
a. Experimental design and interpretation of results	SJ	2
b. Model organisms for basic and applied research in life science such as Dictyostelium, Arabidopsis, Saccharomyces, and Drosophila.	SS/AN/KN/ACM	4
c. Use of Radioisotopes: Irradiation, Calculation of activity/specific activity; Radiation safety; Disposal of radioactive waste.	PCR	1
Regulatory guidelines and Ethics in Research		
a. Safety issues and Biosafety regulation related to recombinant DNA research.	AM	1
b. Ethical issues and regulations for using transgenic plants and genetically modified crops.	AN	2
c. Ethical issues related to the use of small and large animals for research.	DS	1
d. Ethical issues related to the use of human - subjects, embryos, tissues, and stem cells - for research.	SJ	1
Scientific Publishing		
a. Literature databases including hands-on assignments on literature search; Citations and indices; journal Impact factor, H-index.	SG	1
b. Essentials of effective scientific writing.	SLP	2
c. Ethics in scientific publishing, and awareness of misconduct in publishing.	KN	1
Translational Research and Protection of Intellectual Property		
a. An overview and implications of translational research.	AP	1
b. Rationale and implications of Intellectual property rights (IPR) and Patenting.	AP	2
c. Fundamentals of IPR; Basics understanding about Patentability.	UPP	1
d. Innovation & Knowledge management; Translating Ideas to Entrepreneurship and Startups	UPP	1

AM: Prof. Alok Mondal; ACM: Dr. Amal Chandra Mondal; AN: Prof. Ashis Nandi; AP: Prof. Ashwani Pareek; DS: Prof. Deepak Sharma; KN: Prof. K. Natrajan; PCR: Prof. Pramod Rath; SG: Prof. S. Gourinath, SJ: Dr. Sushil Jha; SLP: Dr. Snehlata Panwar; SS: Prof. Shweta Saran, UPP: Prof. Unnat P. Pandit.