

LS479- BIOSTATISTICS (2 credit)
(Dr. S. K. Jha*, Guest Faculties)

Updated April 2021

Topics	Faculty	Total Lectures 28
Introduction:		
Application of statistics in Biology Population and sample: Sampling distribution, discrete and continuous distribution, Normal distribution. Introduction to probability. Types of Data, Types of groups, one sample, two samples, and more than two samples.	GF	6
Descriptive Statistics:		
Mean, Median and Mode Frequency, tabulation, variance, population variance, sample variance, standard deviation, standard error of mean, Graphical representation of data.	GF	2
Hypothesis testing:		
Types of testing, Type I error, Type II error, One tail and two tail, power of testing, effect size (Cohen's D),	GF	2
Study design and determination of Sample size:		
Factors associated with sample size determination, Calculating sample size for single group experiment, for continuous variables, for repeat studies. Various study design (observational design, experimental design, etc.)	SKJ	2
Inferential Statistics		
What is inferential statistics Parametric Method One-sample t-test, two-sample t-test, paired t-test. One-way ANOVA, Two-way ANOVA ANOVA on ranks,	GF	8
Non-parametric Method		
Signed-ranked test Kruskal-Wallis test. Mann-Whitney test. Spearman Rank Correlation. Pearson correlation Regression analysis	GF	6
	Total contact hours	28 ± 2

GF: Guest Faculty, **SKJ:** Dr. Sushil Jha, SLS, JNU.