Course Code: ZOO 428 Number of Credits: 2 Effective from AY: 2020 -21

Prerequisite	Elementary knowledge of statistical approaches	
for the Course:		
Objectives:	 To understand fundamental concepts and techniques of descriptive and inferential statistics with applications in lifesciences. To understand the principles of various study designs, and explain their advantages and limitations. 	
Content:	Module 1:	
	Introduction to Biostatistics, Population and samples, Sampling	
	Types, Types of Variables, Difference between Primary and	12 hrs
	Secondary Data, Data representation, Type I and II Errors,	
	Experimental/Study designs and its types, statistical inferences and	
	Hypothesis Testing, Meaning of statistical Significance, Pre and Post-	
	Hoc tests. Differences between descriptive and Inferential statistics.	
	Module 2:	
	Data representation and plotting, Mean, Measure of Variability,	12 hrs
	Standard deviation, Ruitosis, R programming, Correlation,	
	Variance and Covariance. Probability distributions. Test of Hypothesis	
	(1 tailed and 2 tailed Test of Hypothesis, p-value, (Type -1 and Type -	
	2 error), T-test, 1 tailed and 2 tailed T-distribution. Chi-square test.	
	ANOVA.	
Pedagogy:	Lectures/Tutorials/ PBL/Videos/Assignments/Group Activities/Self-stud	dy.
Learning	After successful completion of this course, students will be able to:	
Outcome:	1. Understand the role of biostatistics in biological studies.	
	2. Use descriptive tools to summarize and display data from biological	studies.
	3. Identify appropriate tests to perform hypothesis testing, and inte	rpret the
	outputs adequately.	
D.f.	4. Get familiar with statistical software and standard packages for bios	tatistics.
References	1. Sakal, R. R.; Rohlf, F. J. Introduction To Biostatistics. Second Edition	(2009).
/Reading:	Dover Publications, Inc, Mineola, New York.	
	2. Rosner, B. Fundamentals of Biostatistics. Eight Edition (2016). Cengage	
	2 Winner L Introduction to Biostatistics (2004) University of Electida	
	4 Forthofer R · Fun Lee F Introduction to Biostatistics: A Guide to Design	
	Analysis and Discovery, First Edition (1995), Academic Press	
	5. Gurumani, N. An Introduction to Biostatistics. First Edition (2009) N	ATb
	Publishers. New Delhi.	