

**P. G. DEPARTMENT OF MATHEMATICS, FAKIR MOHAN UNIVERSITY,
BALASORE, ODISHA-756019**

Value added Course

Sub. Code	Subject Name	Credit	Int. Mark	Ext. Mark
MV -208	Biostatistics	4	50	50

Syllabus

UNIT-I. Standard Univariate Distributions: Standard univariate discrete and continuous distributions- uniform; binomial; Poisson; geometric; negative binomial and hyper-geometric distributions. Uniform; exponential; normal; Laplace, gamma, beta, lognormal, logistic and Weibull distributions.(elementary properties and applications only)

UNIT II. Sampling Distributions, Law of large numbers and Central Limit Theorem: Concepts of random sample and statistic; distribution of sample mean from a normal population; chi-square distribution; F and t statistics, distributions (no derivations) and their applications. Chi-square test for goodness of fit, Central Limit Theorem for i.i.d case (statement and examples only).Evaluation of probabilities from the binomial and Poisson distributions using central limit theorem. Chebychev's inequality and weak law of large numbers (statement and applications only).

Unit-III: Order Statistics, Estimation: Point Estimation, Interval Estimation, Interval estimation on mean and variance

Unit-IV: Hypothesis testing Testing on the Mean and Variance,

Unit-V: Linear Regression & Correlation

References

- Dutta, N. K. (2004).Fundamentals of Biostatistics, Kanishka Publishers.
Gurumani N. (2005) .An Introduction to Biostatistics, MJP Publishers.
Daniel, W. W. (2007). Biostatistics- A Foundation for Analysis in the Health Sciences,Wiley.
Rao, K. V. (2007). Biostatistics – A Manual of Statistical Methods for use in Health Nutrition and Anthropology.
Pagano, M.&Gauvreau, K. (2007). Principles of Biostatistics.
Rohatgi, V.K.&Saleh, A.K.Md. (2001). An Introduction to Probability and Statistics, John Wiley & Sons.
Sundaram, K.R.(2010) Medical Statistics-Principles & Methods, BI Publications,New Delhi