



Course No.	Course Title	No. of Units			Pre-requisites
		Th.	Pr.	Credit	
STAT 311	Mathematical Statistics	4	3	2	STAT 101 STAT 211

#### Course Objectives:

Upon completion of the course, students should be able to:

- Apply a number of different descriptive methods in the description of one or more variables.
- Give an account of elementary probability concepts.
- Identify discrete and continuous distributions.
- Explain the concept of the central limit theorem.
- Determine whether point estimation is efficient and whether it tallies with the mathematical expectation value.
- Calculate confidence intervals.
- Calculate confidence intervals for a proportion.
- Perform hypothesis testing.
- Master various non-parametric methods.

#### Course Description:

Theory of point estimation, Classical and Bayes Approaches, Statistical prediction, Distributions for several variables, Type of Censoring samples, Record statistics, Statistical Inference using censored samples.

#### Main Text Book:

- Mathematical Statistics with Applications, by Dennis D. Wackerly, William Mendenhall III, Richard L. Scheaffer, 7<sup>th</sup> edition Duxbury Press, 2008.

#### Subsidiary Books:

- Mathematical Statistics: Basic and Selected Topics, Peter J. Bickel and Kjell A. Doksum, 2nd edition, Pearson Prentice-Hall 2007.