

**Course Outline:****Introduction**

Probability & Statistics, Permutation & Combination, Frequency Distribution, Measure of Central Tendency

**Random Variables & Probability Distribution**

Concept of random Variables, Discrete Probability Distribution, Continuous Probability Distribution

**Mathematical Expectation**

Mean of a Random Variable, Variance, Means & Variance of Linear Combination of Random Variables

**Discrete Probability Distribution**

Discrete Uniform Distribution, Binomial Distribution, Hypergeometric Distribution, Poisson Distribution & the Poisson Process

**Continuous Probability Distribution**

Normal Distribution, Areas under the Normal Curve, Application of the Normal Distribution, Gamma & Exponential Distribution

**Functions of Random Variables**

Random Sampling, Some Important Statistics, Sampling Distribution, Sampling Distributions of Mean

**Linear Regression**

Introduction, Simple Linear Regression