CSC124 PROBABILITY AND STATISTICS

Learning Outcomes
Appreciate the importance of probability and statistics in computing and research
Develop skills in presenting quantitative data using appropriate diagrams, tabulations and summaries
Use appropriate statistical methods in the analysis of simple datasets
Interpret and clearly present output from statistical analyses in a clear concise and understandable manner.

Content
Importance of probability and statistics in computing; Types of data: Qualitative, Discrete and continuous data; Summary diagrams and charts: Types of charts, frequency tables, histograms, Time series; Descriptive and inferential statistics and statistical models; Data analysis and interpretation using spreadsheet software. Elementary Statistics: Population and Sample, raw data, classification. Principles of data tabulation and graphical representation. Fundamental statistical measures: Average, median, mode, mean absolute deviation, variance, standard deviation. Probability: Basic Concepts: Permutation, Combination, Sample spaces and events, Conditional probability, Probability trees. Random variables and their distributions: binomial, Poisson, exponential, normal; Hypothesis testing : Null and Alternate, test procedure, hypothesis tests, Type I and Type II errors, Regression and correlation; Markov and Chebychev inequalities.

Pre-requisites
CSC113 Discrete Mathematics

Delivery
Lectures and Tutorials.