4. Probability and Statistics (CS 105) **(3-0-2)**

Probability-Axioms, Conditional probability, Bayes theorem, Random variables, Discrete RV-Binomial, Geomatric Poisson, Continuous RV-Uniform, Exponential, Gamma, Normal, Expectation, Mean and Variance, Jointly distributed RV's, Co-variance, Sum of RVs, Central Limit theorem, Moment generating functions.
Sample distribution, Inference concerning mean, Statistical inference-Parameter estimation, Maximum likelihood estimation, Hypothesis testing.
Curve fitting, Methods of least squares, Curvilinear multiple regression.

References:

1. Ross, S., A First Course in Probability, Sixth Edition, Pearson Education, 2006.
2. Ross, S., Introduction to Probability Models, Eighth Edition, Elsevier, 2003.
3. Trivedi, K.S., Probability and Statistics with Reliability, Queuing and Computer Science Applications, Second Edition, Wiley, 2002.