

# Course Outline

1. Introduction to probability
  - (a) Definition of terms, addition and multiplication of probabilities
  - (b) Conditional probabilities, independent events, Mutually exclusive events
  - (c) Bayes Theorem
2. Probability distributions
  - (a) Normal distribution
  - (b) Binomial distribution
  - (c) Poisson distribution
3. Statistical tests
  - (a) z test
  - (b) t test
  - (c) Chi-square test
  - (d) F test
4. Confidence intervals
5. Estimation
6. Hypothesis testing

# References

1. George G. Roussas (1997) A Course in Mathematical Statistics Second Edition University of California Davis, California
2. Robert V. Hogg and Allen T. Craig (2004) Introduction to Mathematical Statistics 5th Edition Pearson Education Asia limited and Higher Education Press.
3. Dass H. K (2013) Advanced Engineering Mathematics S. Chand and Company Limited New Delhi.