



Decision Sciences Course Coverage

- 1) Probability and Decision Making
- 2) Geometric distribution; Random variables, their distributions and expectations
- 3) Bayes Rule and Conditional Probability
- 4) Binomial Probabilities
- 5) Risk: Risk aversion and certainty equivalents; Exponential utility; Constant absolute risk aversion
- 6) Risk, Variance, covariance, and standard deviations
- 7) The Normal Distribution
- 8) Central Limit Theorem and the LLN
- 9) Uses and abuses of probability
- 10) Decision Trees and Cost Concepts Decision trees; Sunk cost; Fixed vs. variable costs
- 11) Solving Decision Trees; Framing
- 12) Value of Information
- 13) Options Value and Flexibility
- 14) Selection Bias; Catch-up
- 15) Market Entry with Cost Uncertainty
- 16) Adverse Selection
- 17) Aggregation of Information in Markets

References:

Required:

Sandholm, W. and B. Saraniti: Chapters 2, 3 and 4 of Vital Statistics: Probability and Statistics for Economics and Business Decisions, 2007, Manuscript.

Kirkwood, G. W.: Decision Tree Primer, Arizona State University, 2002.

McKeon, Scott: Excel Basics, Kellogg School of Management.

Optional:

Savage, S.: The Flaw of Averages, Wiley, 2009.