

**MSIS 361B: QUANTITATIVE BUSINESS ANALYSIS:  
STATISTICS AND MANAGEMENT SCIENCE**

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Grading: 40% First Midterm, July 16  
40% Second Midterm, July 29  
40% Third Midterm, August 7  
Worst exam will count for 20% less

Exams are open book and are not comprehensive in nature. Please consult the University Catalog regarding academic dishonesty. Homework will not be graded but it is nearly impossible to do well in this course without successfully completing the homework problems.

CONCEPTS:

1. Comparing Sample Populations
2. Forecasting
3. Quality Control
4. Mathematical Models
5. Optimization Theory

OBJECTIVES:

1. Use, development, and limits of advanced statistics and mathematical models for decision making.
2. Quantitative techniques for frequently used mathematical models
3. Familiarity with computer programs doing statistical analyses and solving particular mathematical models.

TEXTS:

1. Keller & Warrack *Statistics for Management and Economics*, 8th Edition (you should have this book from your MSIS361A class).
2. Lawrence J.A. and B.A. pasternack *Applied management Science*, 2nd edition (2002), Wiley.

## Tentative Schedule

Day	TOPIC
July 7	Review of Probability & Statistical Concepts: Probability, Normal Distribution, Regression.
July 8-9	Statistical Analyses for Comparing Two Populations - Confidence Intervals, Hypothesis Tests, Sample Sizes
July 10	Analysis of Variance (ANOVA)
July 14	Quality Control: X-Bar Charts, R Charts, p Charts
July 15	Review
July 16	Exam 1
July 17,21	Forecasting, Exponential Smoothing, Index Numbers
July 22	Decision Analysis
July 23	Linear Programming - Graphical Method Sensitivity Analysis
July 24	Project Scheduling (CPM and PERT)
July 28	Review
July 29	Exam 2
July 30	Inventory Models
July 31	Queuing Theory
August 4	Queuing Theory
August 5	Simulation
August 6	Review
August 7	Exam 3