

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

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Grading: 35% First Midterm, Feb 27
35% Second Midterm, April 11
40% Third Midterm, May 16 or 18, see overleaf
Project 10%, due May 9
Worst of first two exams will count for 15%

Exams are open book and are not comprehensive in nature. Second midterm is computer based. Make-up exams can be given for justified reasons. 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
Jan 23,25	Review of Probability & Statistical Concepts: Probability, Normal Distribution, Regression.
Jan 30, Feb 1	Statistical Analyses for Comparing Two Populations - Confidence Intervals, Hypothesis Tests
Feb 6,8	Labor Day, Analysis of Variance (ANOVA)
Feb 13,15	Quality Control: X-Bar Charts, R Charts, p Charts
Feb 20	President's day, no classes
Feb 22	Review
Feb 27	Exam 1
Feb 29	Forecasting
Mar 5,7	Exponential Smoothing, Index Numbers
Mar 12,14	Decision Analysis
Mar 19,21	Linear Programming - Graphical Method, Solver, Sensitivity Analysis
Mar 26,28	Spring Break
Apr 2,4	Project Scheduling (CPM and PERT)
Apr 9	Review
Apr 11	Exam 2 (using a computer)
Apr 16,18	Inventory Models
Apr 23,25	Queuing Theory
Apr 30,May 2	Queuing Theory
May 7,9	Queuing, Simulation; Review
May 16,18	Exam 3: 11:30 Class F May 18 12:00-1:50 2:30 Class W May 16 2:30-4:20