THE SCHOOL OF MANAGEMENT THE UNIVERSITY OF TEXAS AT DALLAS

Executive Education, Project Management

Online Business Core 2008 – 2009

OPRE 6301 Quantitative Introduction to Risk and Uncertainty

John J. Wiorkowski, Professor of Statistics

Phone: 972-883-2274 E-mail: wiorkow@utdallas.edu

Course Duration February 24 – June 9

I. Course Description

The purpose of this course is not to make you a statistician. Rather it is to make you sufficiently knowledgeable about the basics of statistics so that you are not intimidated by statistical analysis. However, statistics is very much a subject that you learn by doing so that you will be required to actually perform analysis. The choices of subject areas are those that almost all managers will encounter at some point in their careers.

II. Resources

Text:
Statistics for Management and Economics, 7th Edition, by G. Keller and B. Thomson Brooks/Cole. 2005.

You need access to a statistical package on a computer, e.g. Microsoft Data Analysis Toolpak (Add-in supplied with EXCEL) or MINITAB, SAS, SPSS, etc. The instructor will illustrate with EXCEL.

III. Grading basis

Your grade will be based solely on three take-home examinations (33% each) given when you finish each module. The exams should be written in report form with graphs, computer output, etc. used to support your answer to the questions. They may be submitted electronically if they are self-contained and readable sequentially. The release dates and due dates for the exams will be posted. All exams must be submitted before the last day of class.

GRADE EQUIVALENTS

Scaled Score	Letter Equivalent
94-100	A
87-93	B
75-86	C

IV. Course Outline

You are responsible for the material covered in the sessions, a portion of which is not in the textbook.

MODULE 1: Descriptive Statistics

Chapter 1; Appendix 1B
Chapter 5
Chapter 2
Chapter 3
Chapter 4 [Add "t" and "z"]
Chapter 17; 17.1 – 17.7
Chapter 18; 18.1 – 18.3
Chapter 19

MODULE 2: Probability and Random Variables

Chapter 6 [Add Bayes Theorem; Basic Portfolio Analysis]
Chapter 7 [Add Poisson Approximation to the Binomial]
Chapter 8: 8.2 – 8.3 [Add Normal Approximation to the Poisson]
[Add simulation of random variables using the computer]
Chapter 23 [Add Risk Criteria; Decision Simulation]

MODULE 3: Statistical Inference

Textbook Chapters:
Chapter 9
Chapter 11: 11.1 – 11.3
Chapter 10
Chapter 12: 12.1, 12.3 – 12.5
Chapter 13: 13.1 – 13.3
Chapter 15: 15.1, 15.6
Chapter 16: 16.1 – 16.3

V. Course Objectives

1) Be able to organize and summarize raw data
2) Be able to build and evaluate a regression model from raw data
3) Be able to apply the basic rules of Probability Theory
4) Be able to apply the concept of a random variable to solve business problems
5) Be able to apply the Normal, Poisson, and Binomial Distributions to solve business Problems
6) Be able to simulate data from the Normal, Poisson, and Binomial Distributions
7) Be able to identify significant changes in averages and proportions
8) Be able to determine if two populations have the same mean or the same proportion
9) Be able to determine if several populations have the same mean

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CLASS SCHEDULE

MODULE	DATES	ACTIVITY/ASSIGNMENT
1	Feb 25 – Mar 2	Lecture 1 and 2
	Mar 3 – Mar 9	Lecture 3
	Mar 10 – Mar 16	Lecture 4, Part 1
	Mar 17 – Mar 23	Lecture 4 Part 2
	March 17	Exam 1 – Released.
	March 24, Monday	**Web Conference**
2	March 24 – Mar 30	Lecture 1
	March 30	**Exam 1 Due.**
	March 31 – April 6	Lecture 2
	April 7 – April 13	Lecture 3
	April 14 – April 13	Lecture 4
	April 14	Exam 2 – Released
	April 21, Monday	**Web Conference**
3	April 21 – April 27	Lecture 1
	April 27	**Exam 2 Due**
	April 28 – May 4	Lecture 2
	May 5 – May 11	Lecture 3
	May 12 – May 18	Lecture 4
	May 12	Exam 3 – Released
	June 2, Monday	**Web Conference**
	June 9	**Exam 3 – Due**

Web Conference Schedule

Date	Time	To Discuss
March 24, Monday	5:30 – 6:30 PM	Module 1
April 21, Monday	5:30 – 6:30 PM	Module 2
June 2, Monday	5:30 – 6:30 PM	Module 3

UTD Policy on Cheating

Students are expected to be above reproach in all scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the university. "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22.