OPRE 6301
Executive MBA Program
Fall 2015

Instructor:

John J. Wiorkowski, Professor of Statistics
972-883-4908
wiorkow@utdallas.edu
www.utdallas.edu/~wiorkow/

Office Hours:

MA 3.208 Mondays and Wednesdays 5:00 – 6:45
Otherwise by Appointment

Text:

STATISTICS FOR MANAGEMENT AND ECONOMICS, 10th EDITION, by G. KELLER, DUXBURY PRESS, 2014. (ISBN 10 digit 1-285-47245-0; ISBN 13 digit 978-1-285-47245-0)

Student Learning Objectives/Outcomes:

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**

Grades:

Course grade is based solely on three examinations given at the end of each module described below. There is no final exam. Each exam will have two grades. The first is the raw score which will then be converted to a scaled score. The scaled scores correspond to the grades below:

A 94 – 100
B 87 – 93
C 75 – 86

The final grade is the arithmetic average of the scaled scores on the three exams and will be converted to course grades using the following scale:

A 94.67 – 100
A- 93.33 – 94.33
B+ 91.33 – 93
B 88.67 – 91
B- 86.33 – 88.33
C+ 84.33 – 86
C 75.00 – 84
F <75

Textbook practice problems for each section are suggested below. These are designed to help you understand the techniques and concepts introduced in the course and their completion does not count toward your grade.

Supplementary Materials:

Lecture notes for the course and EXCEL files that will be used in the lectures can be downloaded from my web site www.utdallas.edu/~wiorkow/

Class Procedure:

You are expected to complete the module online lectures before the first module in class lecture. The in class lectures will divided into three parts with a 5 to seven minute break between parts.

This course assumes that you are using a computer statistical package to implement the statistical procedures. All lectures use Microsoft EXCEL for illustrative purposes.

You are responsible for the material covered in the class sessions, a small portion of which is not covered in the text book. Conversely, you are not responsible for material in the text book not covered in the lectures.

Module 1 – Descriptive Statistics

Textbook Chapters: **Chapter 1**
Chapter 5
Chapter 2
Chapter 3
Chapter 4; 4.1 – 4.4 [Add "t" and "z"]
Chapter 16
Chapter 17; 17.1 – 17.2
Chapter 18; 18.1 – 18.2

Illustrative Problems: **5.12**
2.14, 2.20; 2.30; 2.46
3.4,3.8,3.14a,3.20,3.48,3.56,3.60
4.2, 4.4, 4.6, 4.8, 4.10, 4.12, 4.30,4.36, 4.38
16.2, 16.6, 16.12, 16.24a b d, 16.28(a,b), 16.34, 16.46, 16.48
17.10(a,b,c), 17.12 a,b,c,d
18.4, 18.16

Module 2 – Probability and Random Variables

Textbook Chapters: **Chapter 6**
Chapter 7
Chapter 8: 8.1 – 8.2
[Add simulation of random variables using the computer]
Chapter 22 [Add Risk Criteria; Decision Simulation]

Illustrative Problems: **6.8, 6.28, 6.36, 6.40, 6.42, 6.44, 6.56, 6.58, 6.62, 6.66, 6.70, 6.80**
6.96, 6.100
7.20, 7.30, 7.36, 7.54, 7.62, 7.70, 7.72, 7.74, 7.90, 7.92, 7.98,
7.112, 7.118, 7.122, 7.130
8.34, 8.36, 8.38, 8.40, 8.42, 8.54, 8.56, 8.64,
9.30, 9.32, 9.36, 9.38, 9.42
22.8a, 22.14a, 22.16

Module 3 – Statistical Estimation and Inference

Textbook Chapters: **Chapter 9**

Chapter 11: 11.1 – 11.2
Chapter 10
Chapter 12: 12.1, 12.3
Chapter 13: 13.1 – 13.3, 13.5
Chapter 14: 14.1 – 14.2
Chapter 15: 15.1 – 15.2

Illustrative Problems: 9.22, 9.28, 9.30, 9.32, 9.36
11.10, 11.16, 11.42
10.26, 10.32, 10.36, 10.38, 10.52, 10.56
12.16, 12.24, 12.30, 12.34, 12.70,
13.6, 13.14. 13.16, 13.28, 13.32, 13.52, 13.88, 13.90, 13.92
14.10, 14.12, 14.16,
15.12, 15.22, 15.28
(Note: The book sometimes uses an alpha value of .10. This is bad practice, use alpha = .05 or .01).

Tentative Class Schedule and Assignments

(Class notes are available for download as WORD files at www.utdallas.edu/~wiorkow and on UTD E-Learning)

Date	Activity
FRI Aug 21 (PM)	**Introduction to Course**
Aug 22-28	**Complete Module 1 Online Lectures 1 – 3 Using E-Learning**
SAT, Aug 29 (PM)	**Module 1, In Class Lecture 4**
SAT, Sep 12 (PM)	**Module 1, In Class Lecture 4 REG Exam 1 Distributed**
FRI, Sep 25 (AM)	**Exam 1 Due**
Sep 25 – Oct 9	**Complete Module 2 Online Lectures 1 - 2 Using E-Learning**
SAT, Oct 10 (PM)	**Module 2, In Class Lecture 4 (not Lecture 3)**
FRI, Oct 23 (PM)	**Module 2, In Class Lecture 3 Exam 2 Distributed**
FRI, Nov 6 (AM)	**Exam 2 Due**
Nov 6 – Nov19	**Complete Module 3 Online Lectures 1 – 2 Using E-Learning**
FRI, Nov 20 (PM)	**Module 3, In Class Lecture 3**
SAT, Dec 5 (PM)	**Module 3, In Class Lecture 4 Exam 3 Distributed**
FRI, Dec 17 (AM)	**Exam 3 Due**