

OPRE 6301
Quantitative Introduction to Risk and Uncertainty in
Business
Core Program
Fall 2008

Instructor:

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Office Hours:

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

Text:

STATISTICS FOR MANAGEMENT AND ECONOMICS, 8th EDITION, by
G. KELLER, DUXBURY PRESS, 2008. (ISBN 10 digit 0-324-56949-1 ;
ISBN 13 digit 978-0-324-56949-0)

Grades:

Course grade is based solely on three case studies (take-home examinations)
given at the end of each module described below. There is no final exam. Each
exam will be graded on the following scale:

A 94 – 100
B 87 – 93
C 75 – 86

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

A	94.67 – 100
A-	93.33 – 94
B+	91.33 – 93
B	88.67 – 91
B-	86.33 – 88.33
C+	84.33 – 86
C	79.33 – 84
C-	75 – 79
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:

Each module corresponds to approximately 12 hours of class contact.

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; Appendix 1; CD Appendices A1 – A3
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; 18.6

Illustrative Problems: 5.5, 5.6, 5.9, 5.11, 5.12
2.12, 2.14, 2.20; 2.38; 2.42a, 2.56, 2.58, 2.74, 2.84, 2.88
4.2, 4.4, 4.6, 4.8, 4.10, 4.20, 4.22, 4.60
16.2, 16.6, 16.12, 16.24a, 16.28(a,b), 16.34, 16.46, 16.48a
17.10(a,b,c), 17.12
18.4, 18.16

Module 2 – Probability and Random Variables

Textbook Chapters: Chapter 6
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 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 (Not a typo)
22.8a, 22.10(a,c), 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,
13.4, 13.14, 13.16, 13.28, 13.40, 13.50, 13.70, 13.86, 13.88
14.10, 14.12, 14.16,
15.12, 15.22, 15.28
(Note: The book uses an alpha value of .10. This is bad practice, use alpha = .05 or .01).

Tentative Class Schedule

<u>Date</u>	<u>Activity</u>	<u>Exam Schedule</u>
Saturday, July 12 Morning	Begin Module 1	
Saturday, Aug 16 Morning	Continue Module 1	
Saturday, Sept 20 Morning	Finish Module 1	Exam 1 Distributed
Saturday, Oct 18 Morning	Begin Module 2	Exam 1 Due
Saturday, Nov 15 Morning	Continue Module 2	
Saturday, Dec 13 Morning	Finish Module 2	Exam 2 Distributed
Saturday, Jan 10 Morning Afternoon	Begin Module 3 Continue Module 3	Exam 2 Due
Saturday, Feb 14 Morning	Finish Module 3	Exam 3 Distributed
		Exam 3 Due on Friday Of March Session