



COURSE NUMBER: DNSC 6202 (3 credit hours) – Spring 2012

COURSE TITLE: Statistics for Management (Equivalent to the two course sequence: MBAD 6221 - Judgment, Uncertainty, and Decisions, and MBAD 6222 - Data Analysis and Decisions)

COURSE

DESCRIPTION: The course provides an introduction to various decision making tools and techniques, and to the basic statistical methods which are used both in the direct solution of managerial problems and as foundations for more advanced statistical analysis. It is expected that students will develop a good understanding of probability and its role in statistics and decision making, learn to formulate hypotheses i.e., ask the right questions, and be able to collect appropriate data and analyze it using appropriate statistical techniques. Topics include descriptive statistics, frequency distributions, laws of probability, probability models, decision trees, simulation models, sampling distributions, statistical inference, hypothesis testing, regression and correlation analysis, multiple regression models, an introduction to forecasting.

PROFESSOR: Tahir Ekin
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On-campus Class Hours: 7:10 pm EST – 9:40 pm EST starting 01/18 till 04/25 at Duques 250

Virtual Class Hours: 8:00 pm EST – 9:00 pm EST on Sundays, starting 01/22 till 04/29

Office Hours: Monday 5:00 pm EST- 7:00 pm EST, Wednesday 5:30 pm EST- 6:30 pm EST, or by appointment

**LEARNING
OBJECTIVES:**

1. To develop an understanding of key probability concepts useful in decision making;
2. To develop an understanding of several decision making tools, how they may be used, and their limitations;
3. To learn to identify appropriate data (variables) relevant for analysis;
4. To learn to formulate appropriate hypotheses given the context;
5. To learn to identify and carry out the appropriate statistical tests;
6. To learn to interpret results of statistical tests, to make valid conclusions and logically present results for managerial policy decisions;
7. To provide you with a practical and theoretically sound decision-making foundation that you will use in your curriculum and in your future careers.

**METHOD OF
INSTRUCTION:**

This class is instructed for two sections, one distance and one on-campus. All the classes/virtual sessions will be recorded and will be available on Blackboard.

Instruction in class consists of lectures and discussion.

All the virtual sessions will be conducted using Elluminate Live Sessions. The links are provided under Blackboard >>Elluminate Live Sessions. On-campus students are also welcome to join the virtual sessions. These are weekly sessions in which we will go over the topics you have questions about, solve extra problems and demonstrate the use of the software.

All course related questions should be posted in Discussion Forum instead of communicating via email so that everyone can benefit from the discussion. If you do not get a response within 24 hours, please send a reminder email to (ekin@gwu.edu). There are discussion forums created in which you can collaborate with each other regarding your profiles, technical problems and class matters. For personal issues and confidential matters, you are more than welcome to email me.

TEXT BOOK:

Data Analysis and Decision Making with Microsoft® Excel, 4th Edition
S. Christian Albright | Wayne Winston | Christopher Zappe
ISBN-10: 0538476125 ISBN-13: 9780538476126
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SOFTWARE:

1. Decision Tools (Stat Tools, Precision Tree Suite, Palisade Corporation. These tools come with the text book.
2. Microsoft Excel

You can go to www.CengageBrain.com and enter the access code to access all the textbook resources including the software. The software can also be installed from <http://www.palisade.com/bookdownloads/albrightwinstonzappe/>

You can check Blackboard>> Course Documents>>Software Manuals for a number of manuals including a step by step installation guideline.

If you have any trouble installing the software, please consult Palisade Tech Support (<http://www.palisade.com/support/>, <http://www.palisade.com/academic/Updates.asp>).

**ATTENDANCE/
CLASS
POLICY:**

For on-campus students, attendance at all class sessions is mandatory. For all students, attendance at virtual sessions is strongly recommended. Although all classes and virtual sessions are recorded and posted to Blackboard, active participation in the lectures will enhance your experience.

To avoid disruptions please mute all cell phones during class lectures. The use of computers/laptops in class is allowed only for the purpose of taking notes. And, no web surfing or checking e-mail during the class – it is disrespectful and distracting to both your fellow students and me.

GRADING:	Assignments (4)	30% (7.5% each)
	Quizzes (2)	15% (7.5% each)
	Midterm Exam	25%
	Final Exam	30%

+/- grades will be used.

Note that: "Typically the grade distribution of the class has an average between 3.2 and 3.4. "

ASSIGNMENTS:

There will be four assignments consisting of problems and mini-cases. Some of these will involve the use of software. The reports accompanying these mini-cases and cases should include a description of the problem, the objectives, the analysis and the interpretation of the results.

The assignments and their due dates are posted below in the syllabus.

For assignments, working within a group which has up to 4 team members is strongly recommended. You can team up with students from the other section as well. Please email me the members in your group until 01/30. One email per group is sufficient.

Working in groups will help you to come up with different perspectives while solving cases. However, all team members are expected to understand the assignment and their submission thoroughly as some portions of the assignments may be used in the exams.

Please note that late submissions will not be accepted. So if you have only part of the assignment completed prior to the due date, submitting it will at least ensure partial credit.

QUIZZES/EXAMS: The exams and quizzes will be administered via Blackboard. Each quiz/exam will contain numerous questions and must be completed in the allotted time once you start it. You must take the quiz/exam individually and not discuss its contents with anyone until the end of the availability period of the quiz. Quizzes must be completed within the availability period. No makeup quizzes will be given, no exceptions to this rule.

Quiz 1 will be during weeks 4 and Quiz 2 will be during Weeks 11. Midterm exam will be during weeks 7, and the final exam will be during finals week (Week 14/15). Exact dates are posted below in the syllabus.

ACADEMIC INTEGRITY:

Cheating or plagiarism will not be tolerated. Any case of cheating/plagiarism will automatically result in a zero on the assignment/quiz/exam, and may be reason for a failing grade and/or grounds for dismissal, and will be referred to the graduate programs office for further action.

TENTATIVE OUTLINE

Week	Topics
Week 1- 01/18-01/25	Importance of Analytics, Introduction to Statistics, Descriptive Statistics, Measures of central tendency and variability, Cross Sectional vs Time series Data Readings: Chapters 1,2 and 3
Week 2 01/25-02/01	Basic Probability Theory; Rules of probability. Conditional Probability, Bayes Theorem; Probability Trees Readings : Chapter 4
Week 3 02/01-02/08	Random Variables; Expected Values; Probability Distributions; Joint Probability Distributions; Mean, Variance, and Covariance, Introduction to Discrete Distributions Readings: Chapters 3,4
Assignment 1	Assignment 1 will be posted on 01/18 and will be due 11:59 pm EST, 02/06.
Week 4 02/08-02/15	Discrete and Continuous Distributions; Binomial, Poisson, and Normal Distributions. Readings: Chapter 6
Quiz 1	Quiz 1 will be available from 12:00 pm EST, 02/09 until 11:59 pm EST, 02/13.
Week 5 02/15-02/22	Decision Making under Uncertainty, Value of Information Readings: Chapter 6
Week 6 02/22-02/29	Decision Making with Multiple Objectives (AHP), Decision Making in Competitive Situations – Introduction to Game Theory Readings: Files will be posted on Blackboard.
Assignment 2	Assignment 2 will be posted on 02/15 and will be due 11:59 pm EST,02/27
Week 7 02/29-03/07	Simulation Models & Midterm Review Readings: Chapters 15,16
Midterm Exam	Midterm will be available from 12:00 pm EST, 03/01 until 11:59 pm EST, 03/06.
Week 8 03/07- 03/09 03/18- 03/21	Revisiting Probability Distributions, Statistical Inference, Sampling Distributions, Estimation Readings: Chapters 7 and 8; Also review Chapters 4 and 5
Week 9 03/21-03/28	Confidence Interval Estimation, Introduction to Hypothesis Testing Readings: Chapters 7 and 8
Week 10 03/28- 04/04	Hypothesis Testing Readings : Chapter 9
Assignment 3	Assignment 3 will be posted on 03/21 and will be due 11:59 pm EST,04/02
Week 11 04/04-04/11	ANOVA and Introduction to Regression Readings: Chapters 9 and 10
Quiz 2	Quiz 2 will be available from 12:00 pm EST 04/05 until 11:59 pm EST on 04/09.
Week 12 04/11-04/18	Simple Regression and Introduction to Multiple Regression Readings: Chapters 10 and 11
Week 13 04/18-04/25	Regression Models, Special Cases Readings: Chapter 11
Assignment 4	Assignment 4 will be posted on 04/11 and will be due 11:59 pm EST, 04/23
Week 14 04/25-04/29	Forecasting & Review Readings : Chapter 12
Final Exam: 04/29- 05/15	The exact date will be posted.